



PHOENIX
TECHNOLOGY SERVICES

Legend Natural Gas iV, LP

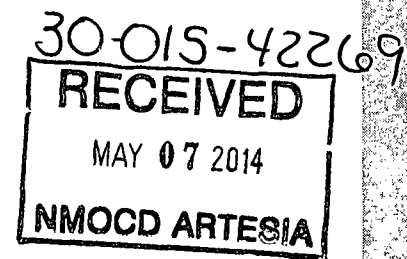
Eddy County, NM (Nad27)

Sec 31 T24S R 28E

Buckshot State Com 6H

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	TFace	VSec	Target	Annotation
1	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	500.00	0.00	0.00	0.00	0.00	0.00		Begin 1 1/100' Build
3	1224.59	7.25	97.56	1222.66	-6.02	45.36	1.00	97.56	1.05		Hold 7.25° Inc.
4	6521.57	7.25	97.56	6477.34	-83.98	707.64	0.00	0.00	16.45		Begin 1 1/100' Drop
5	7246.16	0.00	0.00	7200.00	-100.00	753.00	1.00	180.00	17.50		Begin Vertical Hold
6	7468.70	0.00	0.00	7422.54	-100.00	753.00	0.00	0.00	17.50		KOP 12 1/100' Build
7	8215.78	89.65	0.00	7900.00	374.55	753.04	12.00	0.00	486.35		BHL Buckshot State Com 6H Hold 89.65° Inc.
8	9908.34	89.65	0.00	7910.34	2067.07	753.18	0.00	0.00	2158.66		T1 Buckshot State Com 6H Begin 2 1/100' Build
9	9936.74	90.22	0.00	7910.37	2095.47	753.18	2.00	0.00	2188.66		Hold 90.22° Inc.
10	12650.59	59.22	0.00	7900.00	4819.30	753.40	0.00	0.00	4877.83		BHL Buckshot State Com 6HTD at 1260.59

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL Buckshot State Com 6H	7900.00	4819.30	753.40	429327.50	563852.40	32° 10' 48.61177 N	104° 7' 37.01976 W	Point
T1 Buckshot State Com 6H	7910.00	2067.07	753.18	426575.27	563852.18	32° 10' 21.37462 N	104° 7' 37.08375 W	Point

- plan hits target center
- plan misses target center by 0.34' at 9908.34' MD (7910.34' TVD, 2067.07' N, 753.18' E)

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well Buckshot State Com 6H, Grid North
Latitude: 32° 10' 0.83227 N
Longitude: 104° 7' 45.89248 W

Grid East: 563099.00
Grid North: 424508.20
Scale Factor: 1.000

Geomagnetic Model: IGRF2010_14

Sample Date: 16-Apr-14

Magnetic Declination: 7.48°

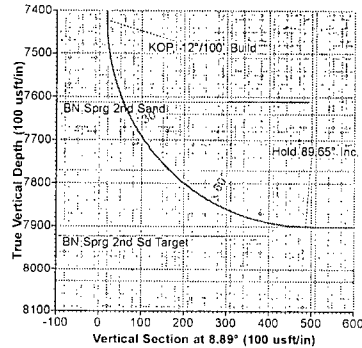
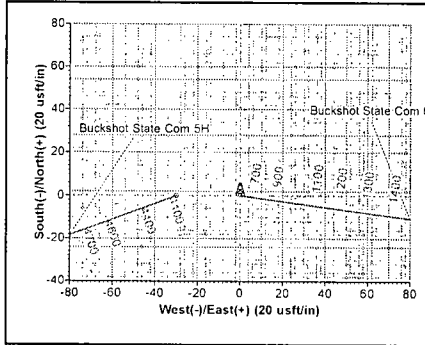
Dip Angle from Horizontal: 59.97°

Magnetic Field Strength: 48240

To convert a Magnetic Direction to a Grid Direction, Add 7.38°
To convert a Magnetic Direction to a True Direction, Add 7.48° East
To convert a True Direction to a Grid Direction, Subtract 0.11°

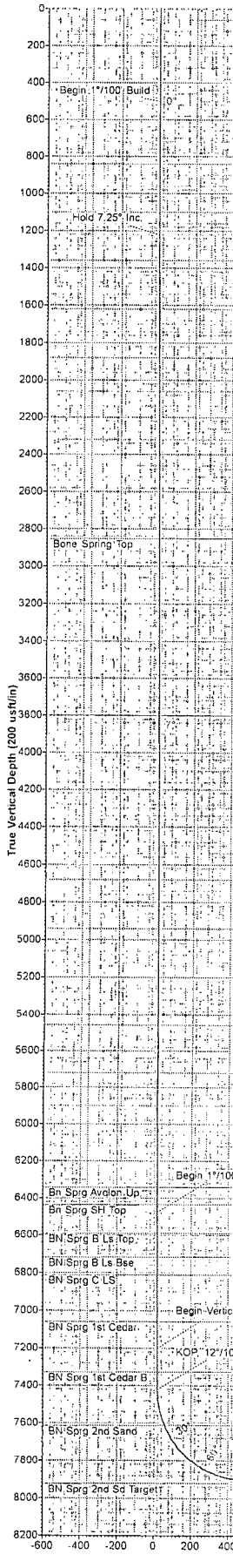
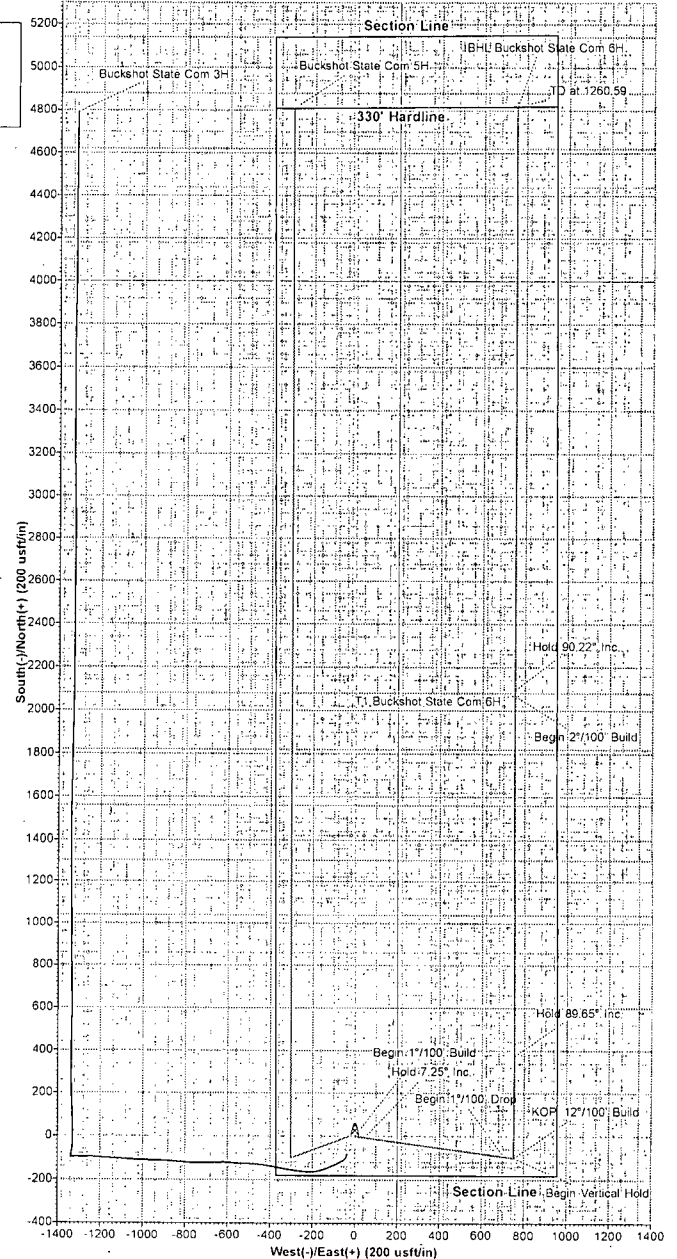
WELL DETAILS

+N/-S	+E/-W	Northing	Ground Level	Easting	Latitude	Longitude
0.00	0.00	424508.20	3053.00	563099.00	32° 10' 0.83227 N	104° 7' 45.89248 W



FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
2852.17	2867.21	Bone Spring Top	-0.20	356.76
6341.46	6394.59	BN Sprg Avalon Up	-0.20	356.76
6435.46	6479.36	BN Sprg SH Top	-0.20	356.76
6591.48	6636.49	BN Sprg B Ls Top	-0.20	356.76
6717.48	6783.07	BN Sprg B Ls Bse	-0.20	356.76
6811.49	6857.35	BN Sprg C Ls	-0.20	356.76
7059.50	7105.64	BN Sprg 1st Cedar	-0.20	356.76
7328.50	7374.66	BN Sprg 1st Cedar B	-0.20	356.76
7613.36	7665.00	BN Sprg 2nd Sand	-0.20	356.76



Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well Buckshot State Com 6H
Company:	Legend Natural Gas IV, LP	TVD Reference:	WELL (copy) @ 3078.00usft (TBD)
Project:	Eddy County, NM (Nad27)	MD Reference:	WELL (copy) @ 3078.00usft (TBD)
Site:	Sec 31 T24S R 28E	North Reference:	Grid
Well:	Buckshot State Com 6H	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 6H		
Well Position	+N/-S	-10.00 usft	Northing: 424,508.20 usft
	+E/-W	-2,473.20 usft	Easting: 563,099.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,053.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010_14	4/16/2014	7.49
			Dip Angle
			59.97
			Field Strength
			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
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			8.89

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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,224.59	7.25	97.56	1,222.66	-6.02	45.36	1.00	1.00	0.00	97.56	
6,521.57	7.25	97.56	6,477.34	-93.98	707.64	0.00	0.00	0.00	0.00	
7,246.16	0.00	0.00	7,200.00	-100.00	753.00	1.00	-1.00	0.00	180.00	
7,468.70	0.00	0.00	7,422.54	-100.00	753.00	0.00	0.00	0.00	0.00	
8,215.79	89.65	0.00	7,900.00	374.55	753.04	12.00	12.00	0.00	0.00	BHL Buckshot State C
9,908.34	89.65	0.00	7,910.34	2,067.07	753.18	0.00	0.00	0.00	0.00	T1 Buckshot State Cc
9,936.74	90.22	0.00	7,910.37	2,095.47	753.18	2.00	2.00	0.00	0.00	
12,660.59	90.22	0.00	7,900.00	4,819.30	753.40	0.00	0.00	0.00	0.00	BHL Buckshot State C

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Project: Eddy County, NM (Nad27)
Site: Sec 31 T24S R 28E
Well: Buckshot State Com 6H
Wellbore: Wellbore #1
Design: Plan#1 041614

Local Co-ordinate Reference: Well Buckshot State Com 6H
TVD Reference: WELL (copy) @ 3078.00usft (TBD)
MD Reference: WELL (copy) @ 3078.00usft (TBD)
North Reference: Grid
Survey Calculation Method: 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)
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
Begin 1°/100' Build									
600.00	1.00	97.56	599.99	-0.11	0.87	0.02	1.00	1.00	0.00
700.00	2.00	97.56	699.96	-0.46	3.46	0.08	1.00	1.00	0.00
800.00	3.00	97.56	799.86	-1.03	7.78	0.18	1.00	1.00	0.00
900.00	4.00	97.56	899.68	-1.84	13.84	0.32	1.00	1.00	0.00
1,000.00	5.00	97.56	999.37	-2.87	21.61	0.50	1.00	1.00	0.00
1,100.00	6.00	97.56	1,098.90	-4.13	31.11	0.72	1.00	1.00	0.00
1,200.00	7.00	97.56	1,198.26	-5.62	42.34	0.98	1.00	1.00	0.00
1,224.59	7.25	97.56	1,222.66	-6.02	45.36	1.05	1.00	1.00	0.00
Hold 7.25° Inc.									
1,300.00	7.25	97.56	1,297.47	-7.28	54.79	1.27	0.00	0.00	0.00
1,400.00	7.25	97.56	1,396.67	-8.94	67.29	1.56	0.00	0.00	0.00
1,500.00	7.25	97.56	1,495.87	-10.60	79.79	1.85	0.00	0.00	0.00
1,600.00	7.25	97.56	1,595.07	-12.26	92.30	2.15	0.00	0.00	0.00
1,700.00	7.25	97.56	1,694.27	-13.92	104.80	2.44	0.00	0.00	0.00
1,800.00	7.25	97.56	1,793.47	-15.58	117.30	2.73	0.00	0.00	0.00
1,900.00	7.25	97.56	1,892.68	-17.24	129.81	3.02	0.00	0.00	0.00
2,000.00	7.25	97.56	1,991.88	-18.90	142.31	3.31	0.00	0.00	0.00
2,100.00	7.25	97.56	2,091.08	-20.56	154.81	3.60	0.00	0.00	0.00
2,200.00	7.25	97.56	2,190.28	-22.22	167.31	3.89	0.00	0.00	0.00
2,300.00	7.25	97.56	2,289.48	-23.88	179.82	4.18	0.00	0.00	0.00
2,400.00	7.25	97.56	2,388.68	-25.54	192.32	4.47	0.00	0.00	0.00
2,500.00	7.25	97.56	2,487.88	-27.20	204.82	4.76	0.00	0.00	0.00
2,600.00	7.25	97.56	2,587.09	-28.86	217.33	5.05	0.00	0.00	0.00
2,700.00	7.25	97.56	2,686.29	-30.52	229.83	5.34	0.00	0.00	0.00
2,800.00	7.25	97.56	2,785.49	-32.18	242.33	5.63	0.00	0.00	0.00
2,867.21	7.25	97.56	2,852.17	-33.30	250.74	5.83	0.00	0.00	0.00
Bone Spring Top									
2,900.00	7.25	97.56	2,884.69	-33.84	254.84	5.92	0.00	0.00	0.00
3,000.00	7.25	97.56	2,983.89	-35.50	267.34	6.21	0.00	0.00	0.00
3,100.00	7.25	97.56	3,083.09	-37.16	279.84	6.50	0.00	0.00	0.00
3,200.00	7.25	97.56	3,182.29	-38.82	292.34	6.80	0.00	0.00	0.00
3,300.00	7.25	97.56	3,281.50	-40.48	304.85	7.09	0.00	0.00	0.00
3,400.00	7.25	97.56	3,380.70	-42.14	317.35	7.38	0.00	0.00	0.00
3,500.00	7.25	97.56	3,479.90	-43.81	329.85	7.67	0.00	0.00	0.00
3,600.00	7.25	97.56	3,579.10	-45.47	342.36	7.96	0.00	0.00	0.00
3,700.00	7.25	97.56	3,678.30	-47.13	354.86	8.25	0.00	0.00	0.00
3,800.00	7.25	97.56	3,777.50	-48.79	367.36	8.54	0.00	0.00	0.00
3,900.00	7.25	97.56	3,876.70	-50.45	379.87	8.83	0.00	0.00	0.00
4,000.00	7.25	97.56	3,975.91	-52.11	392.37	9.12	0.00	0.00	0.00
4,100.00	7.25	97.56	4,075.11	-53.77	404.87	9.41	0.00	0.00	0.00
4,200.00	7.25	97.56	4,174.31	-55.43	417.37	9.70	0.00	0.00	0.00
4,300.00	7.25	97.56	4,273.51	-57.09	429.88	9.99	0.00	0.00	0.00
4,400.00	7.25	97.56	4,372.71	-58.75	442.38	10.28	0.00	0.00	0.00
4,500.00	7.25	97.56	4,471.91	-60.41	454.88	10.57	0.00	0.00	0.00
4,600.00	7.25	97.56	4,571.11	-62.07	467.39	10.86	0.00	0.00	0.00
4,700.00	7.25	97.56	4,670.32	-63.73	479.89	11.16	0.00	0.00	0.00

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Project:	Eddy County, NM (Nad27)	MD Reference:	WELL (copy) @ 3078.00usft (TBD)
Site:	Sec 31 T24S R 28E	North Reference:	Grid
Well:	Buckshot State Com 6H	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)	
4,800.00	7.25	97.56	4,769.52	-65.39	492.39	11.45	0.00	0.00	0.00	
4,900.00	7.25	97.56	4,868.72	-67.05	504.90	11.74	0.00	0.00	0.00	
5,000.00	7.25	97.56	4,967.92	-68.71	517.40	12.03	0.00	0.00	0.00	
5,100.00	7.25	97.56	5,067.12	-70.37	529.90	12.32	0.00	0.00	0.00	
5,200.00	7.25	97.56	5,166.32	-72.03	542.41	12.61	0.00	0.00	0.00	
5,300.00	7.25	97.56	5,265.52	-73.69	554.91	12.90	0.00	0.00	0.00	
5,400.00	7.25	97.56	5,364.73	-75.35	567.41	13.19	0.00	0.00	0.00	
5,500.00	7.25	97.56	5,463.93	-77.01	579.91	13.48	0.00	0.00	0.00	
5,600.00	7.25	97.56	5,563.13	-78.67	592.42	13.77	0.00	0.00	0.00	
5,700.00	7.25	97.56	5,662.33	-80.33	604.92	14.06	0.00	0.00	0.00	
5,800.00	7.25	97.56	5,761.53	-82.00	617.42	14.35	0.00	0.00	0.00	
5,900.00	7.25	97.56	5,860.73	-83.66	629.93	14.64	0.00	0.00	0.00	
6,000.00	7.25	97.56	5,959.93	-85.32	642.43	14.93	0.00	0.00	0.00	
6,100.00	7.25	97.56	6,059.14	-86.98	654.93	15.22	0.00	0.00	0.00	
6,200.00	7.25	97.56	6,158.34	-88.64	667.44	15.51	0.00	0.00	0.00	
6,300.00	7.25	97.56	6,257.54	-90.30	679.94	15.81	0.00	0.00	0.00	
6,384.59	7.25	97.56	6,341.46	-91.70	690.52	16.05	0.00	0.00	0.00	
Bn Sprg Avqlon Up										
6,400.00	7.25	97.56	6,356.74	-91.96	692.44	16.10	0.00	0.00	0.00	
6,479.36	7.25	97.56	6,435.46	-93.28	702.36	16.33	0.00	0.00	0.00	
Bn Sprg SH Top										
6,500.00	7.25	97.56	6,455.94	-93.62	704.94	16.39	0.00	0.00	0.00	
6,521.57	7.25	97.56	6,477.34	-93.98	707.64	16.45	0.00	0.00	0.00	
Begin 1°/100' Drop										
6,600.00	6.46	97.56	6,555.21	-95.21	716.92	16.66	1.00	-1.00	0.00	
6,636.49	6.10	97.56	6,591.48	-95.73	720.88	16.76	1.00	-1.00	0.00	
BN Sprg B Ls Top										
6,700.00	5.46	97.56	6,654.67	-96.58	727.22	16.90	1.00	-1.00	0.00	
6,763.07	4.83	97.56	6,717.48	-97.32	732.82	17.03	1.00	-1.00	0.00	
BN Sprg B Ls Bse										
6,800.00	4.46	97.56	6,754.29	-97.71	735.79	17.10	1.00	-1.00	0.00	
6,857.35	3.89	97.56	6,811.49	-98.26	739.93	17.20	1.00	-1.00	0.00	
BN Sprg C LS										
6,900.00	3.46	97.56	6,854.05	-98.62	742.64	17.26	1.00	-1.00	0.00	
7,000.00	2.46	97.56	6,953.91	-99.30	747.76	17.38	1.00	-1.00	0.00	
7,100.00	1.46	97.56	7,053.85	-99.75	751.15	17.46	1.00	-1.00	0.00	
7,105.64	1.41	97.56	7,059.50	-99.77	751.29	17.46	1.00	-1.00	0.00	
BN Sprg 1st Cedar										
7,200.00	0.46	97.56	7,153.84	-99.98	752.82	17.50	1.00	-1.00	0.00	
7,246.16	0.00	0.00	7,200.00	-100.00	753.00	17.50	1.00	-1.00	-211.36	
Begin Vertical Hold										
7,300.00	0.00	0.00	7,253.84	-100.00	753.00	17.50	0.00	0.00	0.00	
7,374.66	0.00	0.00	7,328.50	-100.00	753.00	17.50	0.00	0.00	0.00	
BN Sprg 1st Cedar B										
7,400.00	0.00	0.00	7,353.84	-100.00	753.00	17.50	0.00	0.00	0.00	
7,468.70	0.00	0.00	7,422.54	-100.00	753.00	17.50	0.00	0.00	0.00	
KOP, 12°/100' Build										
7,500.00	3.76	0.00	7,453.82	-98.97	753.00	18.52	12.00	12.00	0.00	
7,600.00	15.76	0.00	7,552.19	-82.06	753.00	35.23	12.00	12.00	0.00	
7,665.00	23.56	0.00	7,613.36	-60.21	753.00	56.81	12.00	12.00	0.00	
BN Sprg 2nd Sand										
7,700.00	27.76	0.00	7,644.90	-45.06	753.00	71.78	12.00	12.00	0.00	
7,800.00	39.76	0.00	7,727.89	10.40	753.01	126.58	12.00	12.00	0.00	

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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)	
7,900.00	51.76	0.00	7,797.53	81.91	753.01	197.23	12.00	12.00	0.00	
8,000.00	63.76	0.00	7,850.79	166.33	753.02	280.64	12.00	12.00	0.00	
8,100.00	75.76	0.00	7,885.33	259.98	753.03	373.17	12.00	12.00	0.00	
8,200.00	87.76	0.00	7,899.64	358.77	753.04	470.77	12.00	12.00	0.00	
8,215.78	89.65	0.00	7,900.00	374.54	753.04	486.36	12.00	12.00	0.00	
Hold 89.65° Inc.										
8,300.00	89.65	0.00	7,900.51	458.76	753.05	569.57	0.00	0.00	0.00	
8,400.00	89.65	0.00	7,901.12	558.76	753.05	668.37	0.00	0.00	0.00	
8,500.00	89.65	0.00	7,901.73	658.76	753.06	767.17	0.00	0.00	0.00	
8,600.00	89.65	0.00	7,902.34	758.76	753.07	865.97	0.00	0.00	0.00	
8,700.00	89.65	0.00	7,902.95	858.75	753.08	964.76	0.00	0.00	0.00	
8,800.00	89.65	0.00	7,903.56	958.75	753.09	1,063.56	0.00	0.00	0.00	
8,900.00	89.65	0.00	7,904.18	1,058.75	753.09	1,162.36	0.00	0.00	0.00	
9,000.00	89.65	0.00	7,904.79	1,158.75	753.10	1,261.16	0.00	0.00	0.00	
9,100.00	89.65	0.00	7,905.40	1,258.75	753.11	1,359.96	0.00	0.00	0.00	
9,200.00	89.65	0.00	7,906.01	1,358.74	753.12	1,458.76	0.00	0.00	0.00	
9,300.00	89.65	0.00	7,906.62	1,458.74	753.13	1,557.56	0.00	0.00	0.00	
9,400.00	89.65	0.00	7,907.23	1,558.74	753.13	1,656.36	0.00	0.00	0.00	
9,500.00	89.65	0.00	7,907.84	1,658.74	753.14	1,755.16	0.00	0.00	0.00	
9,600.00	89.65	0.00	7,908.45	1,758.74	753.15	1,853.96	0.00	0.00	0.00	
9,700.00	89.65	0.00	7,909.06	1,858.74	753.16	1,952.76	0.00	0.00	0.00	
9,800.00	89.65	0.00	7,909.67	1,958.73	753.17	2,051.56	0.00	0.00	0.00	
9,900.00	89.65	0.00	7,910.28	2,058.73	753.18	2,150.36	0.00	0.00	0.00	
9,908.34	89.65	0.00	7,910.34	2,067.07	753.18	2,158.60	0.00	0.00	0.00	
Begin 2°/100' Build.										
9,936.74	90.22	0.00	7,910.37	2,095.47	753.18	2,186.66	2.00	2.00	0.00	
Hold 90.22° Inc.										
10,000.00	90.22	0.00	7,910.13	2,158.73	753.18	2,249.16	0.00	0.00	0.00	
10,100.00	90.22	0.00	7,909.75	2,258.73	753.19	2,347.96	0.00	0.00	0.00	
10,200.00	90.22	0.00	7,909.37	2,358.73	753.20	2,446.76	0.00	0.00	0.00	
10,300.00	90.22	0.00	7,908.99	2,458.73	753.21	2,545.56	0.00	0.00	0.00	
10,400.00	90.22	0.00	7,908.60	2,558.73	753.22	2,644.36	0.00	0.00	0.00	
10,500.00	90.22	0.00	7,908.22	2,658.73	753.22	2,743.16	0.00	0.00	0.00	
10,600.00	90.22	0.00	7,907.84	2,758.73	753.23	2,841.96	0.00	0.00	0.00	
10,700.00	90.22	0.00	7,907.46	2,858.73	753.24	2,940.76	0.00	0.00	0.00	
10,800.00	90.22	0.00	7,907.08	2,958.73	753.25	3,039.56	0.00	0.00	0.00	
10,900.00	90.22	0.00	7,906.70	3,058.72	753.26	3,138.36	0.00	0.00	0.00	
11,000.00	90.22	0.00	7,906.32	3,158.72	753.26	3,237.16	0.00	0.00	0.00	
11,100.00	90.22	0.00	7,905.94	3,258.72	753.27	3,335.96	0.00	0.00	0.00	
11,200.00	90.22	0.00	7,905.56	3,358.72	753.28	3,434.76	0.00	0.00	0.00	
11,300.00	90.22	0.00	7,905.18	3,458.72	753.29	3,533.57	0.00	0.00	0.00	
11,400.00	90.22	0.00	7,904.80	3,558.72	753.30	3,632.37	0.00	0.00	0.00	
11,500.00	90.22	0.00	7,904.42	3,658.72	753.31	3,731.17	0.00	0.00	0.00	
11,600.00	90.22	0.00	7,904.04	3,758.72	753.31	3,829.97	0.00	0.00	0.00	
11,700.00	90.22	0.00	7,903.66	3,858.72	753.32	3,928.77	0.00	0.00	0.00	
11,800.00	90.22	0.00	7,903.28	3,958.72	753.33	4,027.57	0.00	0.00	0.00	
11,900.00	90.22	0.00	7,902.90	4,058.72	753.34	4,126.37	0.00	0.00	0.00	
12,000.00	90.22	0.00	7,902.51	4,158.72	753.35	4,225.17	0.00	0.00	0.00	
12,100.00	90.22	0.00	7,902.13	4,258.72	753.35	4,323.97	0.00	0.00	0.00	
12,200.00	90.22	0.00	7,901.75	4,358.71	753.36	4,422.77	0.00	0.00	0.00	
12,300.00	90.22	0.00	7,901.37	4,458.71	753.37	4,521.57	0.00	0.00	0.00	
12,400.00	90.22	0.00	7,900.99	4,558.71	753.38	4,620.37	0.00	0.00	0.00	
12,500.00	90.22	0.00	7,900.61	4,658.71	753.39	4,719.17	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 6H
Wellbore: Wellbore #1
Design: Plan#1 041614

Local Co-ordinate Reference: Well Buckshot State Com 6H
TVD Reference: WELL (copy) @ 3078.00usft (TBD)
MD Reference: WELL (copy) @ 3078.00usft (TBD)
North Reference: Grid
Survey Calculation Method: 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)
12,600.00	90.22	0.00	7,900.23	4,758.71	753.40	4,817.97	0.00	0.00	0.00
12,660.59	90.22	0.00	7,900.00	4,819.30	753.40	4,877.83	0.00	0.00	0.00
TD at 1260.59									

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 - Point	0.00	0.00	7,900.00	4,819.30	753.40	429,327.50	563,852.40	32° 10' 48.61177 N	104° 7' 37.01976 W
T1 Buckshot State Com	- plan misses target center by 0.34usft at 9908.34usft MD (7910.34 TVD, 2067.07 N, 753.18 E) - Point	0.00	0.00	7,910.00	2,067.07	753.18	426,575.27	563,852.18	32° 10' 21.37462 N	104° 7' 37.08375 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,867.21	2,852.17	Bone Spring Top		-0.20	356.76
6,384.59	6,341.46	Bn Sprg Avqlon Up.		-0.20	356.76
6,479.36	6,435.46	Bn Sprg SH Top		-0.20	356.76
6,636.49	6,591.48	BN Sprg B Ls Top		-0.20	356.76
6,763.07	6,717.48	BN Sprg B Ls Bse		-0.20	356.76
6,857.35	6,811.49	BN Sprg C LS		-0.20	356.76
7,105.64	7,059.50	BN Sprg 1st Cedar		-0.20	356.76
7,374.66	7,328.50	BN Sprg 1st Cedar B		-0.20	356.76
7,665.00	7,613.36	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)	
500.00	500.00	0.00	0.00	Begin 1°/100' Build
1,224.59	1,222.66	-6.02	45.36	Hold 7.25° Inc.
6,521.57	6,477.34	-93.98	707.64	Begin 1°/100' Drop
7,246.16	7,200.00	-100.00	753.00	Begin Vertical Hold
7,468.70	7,422.54	-100.00	753.00	KOP, 12°/100' Build
8,215.78	7,900.00	374.54	753.04	Hold 89.65° Inc.
9,908.34	7,910.34	2,067.07	753.18	Begin 2°/100' Build
9,936.74	7,910.37	2,095.47	753.18	Hold 90.22° Inc.
12,660.59	7,900.00	4,819.30	753.40	TD at 1260.59