

proposed
30-015-42443



PHOENIX
TECHNOLOGY SERVICES

Legend Natural Gas iV, LP

Eddy County, NM (Nad27)

Sec 20 T24S R 28E

Browning Fed Com 6H

Wellbore #1

Plan: Plan#1 012414

Standard Planning Report

29 January, 2014



PHOENIX
TECHNOLOGY SERVICES



Planning Report



Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well Browning Fed Com 6H
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 20, T24S R 28E	North Reference:	Grid
Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 012414		

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 20, T24S R 28E		
Site Position:	Northing:	440,189.30 usft	Latitude: 32° 12' 36.02364 N
From:	Map	Easting:	567,954.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Grid Convergence:	0.12 °

Well	Browning Fed Com 6H		
Well Position	+N/-S	51.20 usft	Northing: 440,240.50 usft
	+E/-W	2,631.00 usft	Easting: 570,585.40 usft
Position Uncertainty:	0.00 usft	Wellhead Elevation:	Ground Level: 3,053.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	JGRF2010_14	1/24/2014	7.51
			Dip Angle (°)
			60.02
			Field Strength (nT)
			48,291

Design	Plan#1 012414		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			346.02

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	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	12.00	270.00	2,091.25	0.00	-125.21	1.00	1.00	0.00	270.00	
7,005.96	12.00	270.00	6,890.00	0.00	-1,145.21	0.00	0.00	0.00	0.00	
7,605.96	0.00	0.00	7,485.62	0.00	-1,207.81	2.00	-2.00	0.00	180.00	
8,352.04	89.53	359.33	7,963.07	473.52	-1,213.32	12.00	12.00	0.00	359.33	BHL Browning Fed Co
10,223.31	89.53	359.33	7,978.42	2,344.59	-1,235.07	0.00	0.00	0.00	0.00	T1 Browning Fed Con
10,253.67	90.14	359.33	7,978.51	2,374.95	-1,235.42	2.00	2.00	0.00	0.00	
12,970.01	90.14	359.33	7,972.00	5,091.10	-1,267.00	0.00	0.00	0.00	0.00	BHL Browning Fed Co



Planning Report



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Project:	Eddy County, NM (Nad27)	MD Reference:	WELL @ 3078.00usft (TBD)
Site:	Sec 20 T24S R 28E	North Reference:	Grid
Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 012414		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld 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
Begin 1°/100' Build									
1,000.00	1.00	270.00	999.99	0.00	-0.87	0.21	1.00	1.00	0.00
1,100.00	2.00	270.00	1,099.96	0.00	-3.49	0.84	1.00	1.00	0.00
1,200.00	3.00	270.00	1,199.86	0.00	-7.85	1.90	1.00	1.00	0.00
1,300.00	4.00	270.00	1,299.68	0.00	-13.96	3.37	1.00	1.00	0.00
1,400.00	5.00	270.00	1,399.37	0.00	-21.80	5.27	1.00	1.00	0.00
1,500.00	6.00	270.00	1,498.90	0.00	-31.39	7.58	1.00	1.00	0.00
1,600.00	7.00	270.00	1,598.26	0.00	-42.71	10.31	1.00	1.00	0.00
1,700.00	8.00	270.00	1,697.40	0.00	-55.76	13.47	1.00	1.00	0.00
1,800.00	9.00	270.00	1,796.30	0.00	-70.54	17.04	1.00	1.00	0.00
1,900.00	10.00	270.00	1,894.93	0.00	-87.05	21.02	1.00	1.00	0.00
2,000.00	11.00	270.00	1,993.26	0.00	-105.27	25.42	1.00	1.00	0.00
2,100.00	12.00	270.00	2,091.25	0.00	-125.21	30.24	1.00	1.00	0.00
Hold 12° 270 Azm									
2,200.00	12.00	270.00	2,189.06	0.00	-146.00	35.26	0.00	0.00	0.00
2,300.00	12.00	270.00	2,286.88	0.00	-166.79	40.28	0.00	0.00	0.00
2,400.00	12.00	270.00	2,384.69	0.00	-187.58	45.30	0.00	0.00	0.00
2,500.00	12.00	270.00	2,482.51	0.00	-208.37	50.32	0.00	0.00	0.00
2,600.00	12.00	270.00	2,580.32	0.00	-229.16	55.34	0.00	0.00	0.00
2,700.00	12.00	270.00	2,678.13	0.00	-249.95	60.36	0.00	0.00	0.00
2,800.00	12.00	270.00	2,775.95	0.00	-270.74	65.38	0.00	0.00	0.00
2,900.00	12.00	270.00	2,873.76	0.00	-291.53	70.41	0.00	0.00	0.00
3,000.00	12.00	270.00	2,971.58	0.00	-312.33	75.43	0.00	0.00	0.00
3,100.00	12.00	270.00	3,069.39	0.00	-333.12	80.45	0.00	0.00	0.00
3,200.00	12.00	270.00	3,167.21	0.00	-353.91	85.47	0.00	0.00	0.00
3,300.00	12.00	270.00	3,265.02	0.00	-374.70	90.49	0.00	0.00	0.00
3,400.00	12.00	270.00	3,362.84	0.00	-395.49	95.51	0.00	0.00	0.00
3,500.00	12.00	270.00	3,460.65	0.00	-416.28	100.53	0.00	0.00	0.00
3,600.00	12.00	270.00	3,558.47	0.00	-437.07	105.55	0.00	0.00	0.00
3,680.29	12.00	270.00	3,637.00	0.00	-453.77	109.58	0.00	0.00	0.00
Bell Canyon									
3,700.00	12.00	270.00	3,656.28	0.00	-457.86	110.57	0.00	0.00	0.00
3,800.00	12.00	270.00	3,754.10	0.00	-478.65	115.59	0.00	0.00	0.00
3,900.00	12.00	270.00	3,851.91	0.00	-499.45	120.62	0.00	0.00	0.00
4,000.00	12.00	270.00	3,949.73	0.00	-520.24	125.64	0.00	0.00	0.00
4,100.00	12.00	270.00	4,047.54	0.00	-541.03	130.66	0.00	0.00	0.00
4,200.00	12.00	270.00	4,145.36	0.00	-561.82	135.68	0.00	0.00	0.00
4,300.00	12.00	270.00	4,243.17	0.00	-582.61	140.70	0.00	0.00	0.00
4,400.00	12.00	270.00	4,340.99	0.00	-603.40	145.72	0.00	0.00	0.00
4,500.00	12.00	270.00	4,438.80	0.00	-624.19	150.74	0.00	0.00	0.00
4,600.00	12.00	270.00	4,536.62	0.00	-644.98	155.76	0.00	0.00	0.00
4,700.00	12.00	270.00	4,634.43	0.00	-665.78	160.78	0.00	0.00	0.00
4,800.00	12.00	270.00	4,732.24	0.00	-686.57	165.81	0.00	0.00	0.00

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Site:	Sec 20 T24S R 28E	North Reference:	Grid
Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1.012414		

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)
4,900.00	12.00	270.00	4,830.06	0.00	-707.36	170.83	0.00	0.00	0.00
5,000.00	12.00	270.00	4,927.87	0.00	-728.15	175.85	0.00	0.00	0.00
5,100.00	12.00	270.00	5,025.69	0.00	-748.94	180.87	0.00	0.00	0.00
5,200.00	12.00	270.00	5,123.50	0.00	-769.73	185.89	0.00	0.00	0.00
5,300.00	12.00	270.00	5,221.32	0.00	-790.52	190.91	0.00	0.00	0.00
5,400.00	12.00	270.00	5,319.13	0.00	-811.31	195.93	0.00	0.00	0.00
5,500.00	12.00	270.00	5,416.95	0.00	-832.10	200.95	0.00	0.00	0.00
5,600.00	12.00	270.00	5,514.76	0.00	-852.90	205.97	0.00	0.00	0.00
5,700.00	12.00	270.00	5,612.58	0.00	-873.69	210.99	0.00	0.00	0.00
5,800.00	12.00	270.00	5,710.39	0.00	-894.48	216.02	0.00	0.00	0.00
5,900.00	12.00	270.00	5,808.21	0.00	-915.27	221.04	0.00	0.00	0.00
6,000.00	12.00	270.00	5,906.02	0.00	-936.06	226.06	0.00	0.00	0.00
6,100.00	12.00	270.00	6,003.84	0.00	-956.85	231.08	0.00	0.00	0.00
6,189.11	12.00	270.00	6,091.00	0.00	-975.38	235.55	0.00	0.00	0.00
Bone Spring Top									
6,200.00	12.00	270.00	6,101.65	0.00	-977.64	236.10	0.00	0.00	0.00
6,285.21	12.00	270.00	6,185.00	0.00	-995.36	240.38	0.00	0.00	0.00
Bn Sprg Avqton Up.									
6,300.00	12.00	270.00	6,199.47	0.00	-998.43	241.12	0.00	0.00	0.00
6,400.00	12.00	270.00	6,297.28	0.00	-1,019.23	246.14	0.00	0.00	0.00
6,455.94	12.00	270.00	6,352.00	0.00	-1,030.86	248.95	0.00	0.00	0.00
Bn Sprg SH Top									
6,500.00	12.00	270.00	6,395.10	0.00	-1,040.02	251.16	0.00	0.00	0.00
6,554.09	12.00	270.00	6,448.00	0.00	-1,051.26	253.88	0.00	0.00	0.00
BN Sprg B Ls Top									
6,600.00	12.00	270.00	6,492.91	0.00	-1,060.81	256.18	0.00	0.00	0.00
6,700.00	12.00	270.00	6,590.73	0.00	-1,081.60	261.21	0.00	0.00	0.00
6,776.96	12.00	270.00	6,665.00	0.00	-1,097.60	265.07	0.00	0.00	0.00
BN Sprg B Ls Bse									
6,800.00	12.00	270.00	6,688.54	0.00	-1,102.39	266.23	0.00	0.00	0.00
6,895.55	12.00	270.00	6,782.00	0.00	-1,122.26	271.02	0.00	0.00	0.00
BN Sprg C Ls									
6,900.00	12.00	270.00	6,786.35	0.00	-1,123.18	271.25	0.00	0.00	0.00
7,000.00	12.00	270.00	6,884.17	0.00	-1,143.97	276.27	0.00	0.00	0.00
7,005.96	12.00	270.00	6,890.00	0.00	-1,145.21	276.57	0.00	0.00	0.00
Begin 2°/100' Drop									
7,100.00	10.12	270.00	6,982.29	0.00	-1,163.25	280.92	2.00	-2.00	0.00
7,160.55	8.91	270.00	7,042.00	0.00	-1,173.26	283.34	2.00	-2.00	0.00
BN Sprg 1st Cedar									
7,200.00	8.12	270.00	7,081.02	0.00	-1,179.10	284.75	2.00	-2.00	0.00
7,300.00	6.12	270.00	7,180.24	0.00	-1,191.49	287.74	2.00	-2.00	0.00
7,400.00	4.12	270.00	7,279.84	0.00	-1,200.41	289.90	2.00	-2.00	0.00
7,431.23	3.49	270.00	7,311.00	0.00	-1,202.49	290.40	2.00	-2.00	0.00
BN Sprg 1st Cedar B									
7,500.00	2.12	270.00	7,379.69	0.00	-1,205.85	291.21	2.00	-2.00	0.00
7,600.00	0.12	270.00	7,479.66	0.00	-1,207.81	291.68	2.00	-2.00	0.00
7,605.96	0.00	0.00	7,485.62	0.00	-1,207.81	291.69	2.00	-2.00	1,509.87
KOP, 12°/100' Build									
7,700.00	11.28	359.33	7,579.06	9.23	-1,207.92	300.67	12.00	12.00	-0.71
7,800.00	23.28	359.33	7,674.37	38.89	-1,208.27	329.53	12.00	12.00	0.00
7,900.00	35.28	359.33	7,761.43	87.71	-1,208.83	377.04	12.00	12.00	0.00
8,000.00	47.28	359.33	7,836.43	153.56	-1,209.60	441.14	12.00	12.00	0.00
8,006.79	48.10	359.33	7,841.00	158.58	-1,209.66	446.02	12.00	12.00	0.00

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Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 012414		

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)	
BN Sprg 2nd Sand										
8,100.00	59.28	359.33	7,896.11	233.57	-1,210.53	519.00	12.00	12.00	0.00	
8,200.00	71.28	359.33	7,937.84	324.24	-1,211.58	607.24	12.00	12.00	0.00	
8,300.00	83.28	359.33	7,959.81	421.60	-1,212.72	701.99	12.00	12.00	0.00	
8,352.04	89.53	359.33	7,963.07	473.52	-1,213.32	752.52	12.00	12.00	0.00	
Hold 89.53°, 359.33 Azm										
8,400.00	89.53	359.33	7,963.47	521.47	-1,213.88	799.18	0.00	0.00	0.00	
8,500.00	89.53	359.33	7,964.29	621.46	-1,215.04	896.49	0.00	0.00	0.00	
8,600.00	89.53	359.33	7,965.11	721.45	-1,216.20	993.80	0.00	0.00	0.00	
8,700.00	89.53	359.33	7,965.93	821.44	-1,217.36	1,091.12	0.00	0.00	0.00	
8,800.00	89.53	359.33	7,966.75	921.43	-1,218.53	1,188.43	0.00	0.00	0.00	
8,900.00	89.53	359.33	7,967.57	1,021.42	-1,219.69	1,285.74	0.00	0.00	0.00	
9,000.00	89.53	359.33	7,968.39	1,121.41	-1,220.85	1,383.05	0.00	0.00	0.00	
9,100.00	89.53	359.33	7,969.21	1,221.40	-1,222.01	1,480.36	0.00	0.00	0.00	
9,200.00	89.53	359.33	7,970.03	1,321.39	-1,223.18	1,577.67	0.00	0.00	0.00	
9,300.00	89.53	359.33	7,970.85	1,421.38	-1,224.34	1,674.98	0.00	0.00	0.00	
9,400.00	89.53	359.33	7,971.67	1,521.37	-1,225.50	1,772.29	0.00	0.00	0.00	
9,500.00	89.53	359.33	7,972.49	1,621.36	-1,226.66	1,869.60	0.00	0.00	0.00	
9,600.00	89.53	359.33	7,973.31	1,721.35	-1,227.83	1,966.91	0.00	0.00	0.00	
9,700.00	89.53	359.33	7,974.13	1,821.34	-1,228.99	2,064.23	0.00	0.00	0.00	
9,800.00	89.53	359.33	7,974.95	1,921.33	-1,230.15	2,161.54	0.00	0.00	0.00	
9,900.00	89.53	359.33	7,975.77	2,021.32	-1,231.31	2,258.85	0.00	0.00	0.00	
10,000.00	89.53	359.33	7,976.59	2,121.31	-1,232.48	2,356.16	0.00	0.00	0.00	
10,100.00	89.53	359.33	7,977.41	2,221.30	-1,233.64	2,453.47	0.00	0.00	0.00	
10,200.00	89.53	359.33	7,978.23	2,321.29	-1,234.80	2,550.78	0.00	0.00	0.00	
10,223.31	89.53	359.33	7,978.42	2,344.59	-1,235.07	2,573.46	0.00	0.00	0.00	
Begin 2°/100' Build										
10,253.67	90.14	359.33	7,978.51	2,374.95	-1,235.42	2,603.01	2.00	2.00	0.00	
Hold 90.14°, 359.33 Azm										
10,300.00	90.14	359.33	7,978.40	2,421.28	-1,235.96	2,648.09	0.00	0.00	0.00	
10,400.00	90.14	359.33	7,978.16	2,521.27	-1,237.12	2,745.41	0.00	0.00	0.00	
10,500.00	90.14	359.33	7,977.92	2,621.26	-1,238.29	2,842.72	0.00	0.00	0.00	
10,600.00	90.14	359.33	7,977.68	2,721.25	-1,239.45	2,940.04	0.00	0.00	0.00	
10,700.00	90.14	359.33	7,977.44	2,821.25	-1,240.61	3,037.35	0.00	0.00	0.00	
10,800.00	90.14	359.33	7,977.20	2,921.24	-1,241.77	3,134.66	0.00	0.00	0.00	
10,900.00	90.14	359.33	7,976.96	3,021.23	-1,242.94	3,231.98	0.00	0.00	0.00	
11,000.00	90.14	359.33	7,976.72	3,121.23	-1,244.10	3,329.29	0.00	0.00	0.00	
11,100.00	90.14	359.33	7,976.48	3,221.22	-1,245.26	3,426.61	0.00	0.00	0.00	
11,200.00	90.14	359.33	7,976.24	3,321.21	-1,246.42	3,523.92	0.00	0.00	0.00	
11,300.00	90.14	359.33	7,976.00	3,421.21	-1,247.59	3,621.23	0.00	0.00	0.00	
11,400.00	90.14	359.33	7,975.76	3,521.20	-1,248.75	3,718.55	0.00	0.00	0.00	
11,500.00	90.14	359.33	7,975.52	3,621.19	-1,249.91	3,815.86	0.00	0.00	0.00	
11,600.00	90.14	359.33	7,975.28	3,721.19	-1,251.07	3,913.18	0.00	0.00	0.00	
11,700.00	90.14	359.33	7,975.04	3,821.18	-1,252.24	4,010.49	0.00	0.00	0.00	
11,800.00	90.14	359.33	7,974.80	3,921.17	-1,253.40	4,107.80	0.00	0.00	0.00	
11,900.00	90.14	359.33	7,974.56	4,021.16	-1,254.56	4,205.12	0.00	0.00	0.00	
12,000.00	90.14	359.33	7,974.32	4,121.16	-1,255.72	4,302.43	0.00	0.00	0.00	
12,100.00	90.14	359.33	7,974.09	4,221.15	-1,256.89	4,399.75	0.00	0.00	0.00	
12,200.00	90.14	359.33	7,973.85	4,321.14	-1,258.05	4,497.06	0.00	0.00	0.00	
12,300.00	90.14	359.33	7,973.61	4,421.14	-1,259.21	4,594.37	0.00	0.00	0.00	
12,400.00	90.14	359.33	7,973.37	4,521.13	-1,260.37	4,691.69	0.00	0.00	0.00	
12,500.00	90.14	359.33	7,973.13	4,621.12	-1,261.54	4,789.00	0.00	0.00	0.00	
12,600.00	90.14	359.33	7,972.89	4,721.12	-1,262.70	4,886.32	0.00	0.00	0.00	

Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well Browning Fed Com 6H
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 20 T24S R 28E	North Reference:	Grid
Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan#1 012414		

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)
12,700.00	90.14	359.33	7,972.65	4,821.11	-1,263.86	4,983.63	0.00	0.00	0.00
12,800.00	90.14	359.33	7,972.41	4,921.10	-1,265.02	5,080.94	0.00	0.00	0.00
12,900.00	90.14	359.33	7,972.17	5,021.09	-1,266.19	5,178.26	0.00	0.00	0.00
12,970.01	90.14	359.33	7,972.00	5,091.10	-1,267.00	5,246.39	0.00	0.00	0.00
TD at 12970.01									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL Browning Fed Com	0.00	0.00	7,972.00	5,091.10	-1,267.00	445,331.60	569,318.40	32° 13' 26.88560 N	104° 6' 33.03007 W
- plan hits target center									
- Point									
T1 Browning Fed Com 6	0.00	0.00	7,978.00	2,344.59	-1,235.07	442,585.09	569,350.33	32° 12' 59.70462 N	104° 6' 32.72508 W
- plan misses target center by 0.42usft at 10223.30usft MD (7978.42 TVD, 2344.59 N, -1235.07 E)									
- Point									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,680.29	3,636.00	Bell Canyon		0.00	359.33	
6,189.11	6,090.00	Bone Spring Top		0.00	359.33	
6,285.21	6,184.00	Bn Sprg Avqon Up		0.00	359.33	
6,455.94	6,351.00	Bn Sprg SH Top		0.00	359.33	
6,554.09	6,447.00	BN Sprg B Ls Top		0.00	359.33	
6,776.96	6,665.00	BN Sprg B Ls Bse		0.00	359.33	
6,895.55	6,781.00	BN Sprg C Ls		0.00	359.33	
7,160.55	7,041.00	BN Sprg 1st Cedar		0.00	359.33	
7,431.23	7,310.00	BN Sprg 1st Cedar B		0.00	359.33	
8,006.79	7,840.00	BN Sprg 2nd Sand		0.00	359.33	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
900.00	900.00	0.00	0.00	Begin 1°/100' Build
2,100.00	2,091.25	0.00	-125.21	Hold 12° 270' Azm
7,005.96	6,890.00	0.00	-1,145.21	Begin 2°/100' Drop
7,605.96	7,485.62	0.00	-1,207.81	KOP, 12°/100' Build
8,352.04	7,963.07	473.52	-1,213.32	Hold 89.53°, 359.33 Azm
10,223.31	7,978.42	2,344.59	-1,235.07	Begin 2°/100' Build
10,253.67	7,978.51	2,374.95	-1,235.42	Hold 90.14°, 359.33 Azm
12,970.01	7,972.00	5,091.10	-1,267.00	TD at 12970.01



PHOENIX
TECHNOLOGY SERVICES

Legend Natural Gas iV, LP

Eddy County, NM (Nad27)

Sec 20 T24S R 28E

Browning Fed Com 6H

Wellbore #1

Plan#1 012414

Anticollision Report

30 January, 2014



PHOENIX
TECHNOLOGY SERVICES

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset-TVD Reference:	Reference Datum

Reference:	Plan#1 012414		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date 1/29/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,970.01	Plan#1 012414 (Wellbore #1)	MWD	MWD - Standard

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 20 T24S R 28E						
Browning Fed Com 4H - Wellbore #1 - Plan#1 012414	900.00	899.00	30.10	26.34	8.000	CC, ES
Browning Fed Com 4H - Wellbore #1 - Plan#1 012414	12,970.01	12,871.58	1,129.82	940.07	5.954	SF
Browning Fed Com 6H - Wellbore #1 - Plan#1 012414	900.00	899.00	59.80	56.04	15.894	CC, ES
Browning Fed Com 6H - Wellbore #1 - Plan#1 012414	12,970.01	12,939.65	2,259.72	2,070.24	11.925	SF

Offset Design Sec 20 T24S R 28E - Browning Fed Com 4H - Wellbore #1 - Plan#1 012414													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference Offset (usft)	Semi Major Axis (usft)	Azimuth from North (°)	Offset Wellbore Centre ±N/S (usft)	Offset Wellbore Centre ±E/W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	1.00	0.00	0.00	89.62	0.20	30.10	30.12	30.03	0.07	433.748		
50.00	50.00	49.00	50.00	0.03	0.04	89.62	0.20	30.10	30.10	29.93	0.17	179.457		
100.00	100.00	99.00	100.00	0.08	0.08	89.62	0.20	30.10	30.10	29.71	0.39	78.965		
150.00	150.00	149.00	150.00	0.20	0.19	89.62	0.20	30.10	30.10	29.48	0.62	48.876		
200.00	200.00	199.00	200.00	0.31	0.31	89.62	0.20	30.10	30.10	29.28	0.84	35.807		
250.00	250.00	249.00	250.00	0.42	0.42	89.62	0.20	30.10	30.10	29.04	1.07	28.253		
300.00	300.00	299.00	300.00	0.53	0.53	89.62	0.20	30.10	30.10	28.81	1.29	23.331		
350.00	350.00	349.00	350.00	0.65	0.64	89.62	0.20	30.10	30.10	28.59	1.51	19.669		
400.00	400.00	399.00	400.00	0.78	0.76	89.62	0.20	30.10	30.10	28.38	1.74	17.302		
450.00	450.00	449.00	450.00	0.87	0.87	89.62	0.20	30.10	30.10	28.14	1.96	15.323		
500.00	500.00	499.00	500.00	0.98	0.98	89.62	0.20	30.10	30.10	27.91	2.19	13.749		
550.00	550.00	549.00	550.00	1.10	1.09	89.62	0.20	30.10	30.10	27.69	2.41	12.469		
600.00	600.00	599.00	600.00	1.21	1.21	89.62	0.20	30.10	30.10	27.48	2.64	11.407		
650.00	650.00	649.00	650.00	1.32	1.32	89.62	0.20	30.10	30.10	27.24	2.86	10.512		
700.00	700.00	699.00	700.00	1.43	1.43	89.62	0.20	30.10	30.10	27.01	3.09	9.747		
750.00	750.00	749.00	750.00	1.55	1.54	89.62	0.20	30.10	30.10	26.79	3.31	9.085		
800.00	800.00	799.00	800.00	1.66	1.66	89.62	0.20	30.10	30.10	26.56	3.54	8.503		
850.00	850.00	849.00	850.00	1.77	1.77	89.62	0.20	30.10	30.10	26.34	3.76	8.000	CC, ES	
900.00	900.00	899.00	900.00	1.88	1.88	89.62	0.20	30.10	30.32	26.12	3.98	7.617		
950.00	950.00	949.00	950.00	1.99	1.99	89.62	0.20	30.10	30.97	25.90	4.20	7.378		
1,000.00	999.99	999.99	999.99	2.09	2.10	89.63	0.20	30.10	32.06	25.68	4.41	7.270		
1,050.00	1,049.98	1,049.98	1,049.98	2.19	2.22	89.64	0.20	30.10	33.59	25.47	4.62	7.287		
1,100.00	1,099.96	1,099.96	1,099.96	2.30	2.33	89.66	0.20	30.10						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20, T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20, T24S R 28E - Browning Fed Com 4H - Wellbore #1 - Plan#1 012414													Offset Site Error:
Survey Program: 0-MWD													Offset Well Error:
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N-S (usft)	+E-W (usft)					
1,150.00	1,149.92	1,148.92	1,149.92	2.40	2.44	89.68	0.20	30.10	35.55	30.72	4.84	7.351	
1,200.00	1,199.88	1,198.88	1,199.88	2.51	2.55	89.70	0.20	30.10	37.95	32.90	5.05	7.515	
1,250.00	1,249.78	1,248.78	1,249.78	2.61	2.67	89.72	0.20	30.10	40.79	35.52	5.27	7.746	
1,300.00	1,299.68	1,298.68	1,299.68	2.72	2.78	89.74	0.20	30.10	44.06	38.58	5.48	8.039	
1,350.00	1,349.54	1,348.54	1,349.54	2.84	2.89	89.76	0.20	30.10	47.76	42.07	5.70	8.385	
1,400.00	1,399.37	1,398.37	1,399.37	2.95	3.00	89.78	0.20	30.10	51.90	45.99	5.91	8.780	
1,450.00	1,449.16	1,448.16	1,449.16	3.07	3.11	89.80	0.20	30.10	56.48	50.35	6.13	9.217	
1,500.00	1,498.90	1,497.90	1,498.90	3.19	3.23	89.81	0.20	30.10	61.49	55.14	6.34	9.693	
1,550.00	1,548.61	1,547.61	1,548.61	3.32	3.34	89.83	0.20	30.10	66.93	60.37	6.56	10.203	
1,600.00	1,598.28	1,597.28	1,598.28	3.44	3.45	89.84	0.20	30.10	72.81	66.03	6.78	10.745	
1,650.00	1,647.88	1,646.88	1,647.88	3.58	3.58	89.86	0.20	30.10	79.12	72.12	6.99	11.314	
1,700.00	1,697.40	1,696.40	1,697.40	3.71	3.67	89.87	0.20	30.10	85.88	78.65	7.21	11.910	
1,750.00	1,746.89	1,745.89	1,746.89	3.86	3.78	89.88	0.20	30.10	93.03	85.61	7.43	12.527	
1,800.00	1,796.30	1,795.30	1,796.30	4.00	3.89	89.89	0.20	30.10	100.64	93.00	7.64	13.168	
1,850.00	1,845.65	1,844.65	1,845.65	4.16	4.01	89.89	0.20	30.10	108.68	100.82	7.86	13.828	
1,900.00	1,894.93	1,893.93	1,894.93	4.31	4.12	89.90	0.20	30.10	117.15	109.07	8.08	14.505	
1,950.00	1,944.13	1,943.13	1,944.13	4.48	4.23	89.91	0.20	30.10	126.04	117.75	8.30	15.194	
2,000.00	1,993.26	1,992.26	1,993.26	4.64	4.34	89.92	0.20	30.10	135.37	126.86	8.51	15.906	
2,050.00	2,042.29	2,041.29	2,042.29	4.82	4.45	89.92	0.20	30.10	145.12	136.40	8.73	16.629	
2,100.00	2,091.25	2,090.25	2,091.25	5.00	4.58	89.93	0.20	30.10	155.31	146.38	8.94	17.383	
2,150.00	2,140.15	2,139.15	2,140.15	5.19	4.67	89.93	0.20	30.10	165.70	156.53	9.17	18.084	
2,200.00	2,189.06	2,188.06	2,189.06	5.38	4.76	89.93	0.20	30.10	176.10	166.89	9.40	18.729	
2,250.00	2,237.97	2,236.97	2,237.97	5.57	4.89	89.94	0.20	30.10	186.49	176.88	9.63	19.361	
2,300.00	2,286.88	2,285.88	2,286.88	5.77	5.00	89.94	0.20	30.10	196.89	187.02	9.86	19.983	
2,350.00	2,335.78	2,334.78	2,335.78	5.97	5.11	89.94	0.20	30.10	207.28	197.19	10.09	20.535	
2,400.00	2,384.69	2,383.69	2,384.69	6.16	5.22	89.95	0.20	30.10	217.68	207.35	10.33	21.031	
2,450.00	2,433.60	2,432.60	2,433.60	6.36	5.33	89.95	0.20	30.10	228.07	217.52	10.56	21.602	
2,500.00	2,482.51	2,481.51	2,482.51	6.57	5.44	89.95	0.20	30.10	238.47	227.68	10.79	22.100	
2,550.00	2,531.41	2,530.41	2,531.41	6.77	5.55	89.95	0.20	30.10	248.87	237.84	11.02	22.575	
2,600.00	2,580.32	2,579.32	2,580.32	6.97	5.66	89.96	0.20	30.10	259.28	248.00	11.26	23.030	
2,650.00	2,629.23	2,628.23	2,629.23	7.18	5.77	89.96	0.20	30.10	269.68	258.17	11.49	23.468	
2,700.00	2,678.13	2,677.13	2,678.13	7.39	5.88	89.96	0.20	30.10	280.05	268.33	11.73	23.894	
2,750.00	2,727.04	2,726.04	2,727.04	7.59	5.99	89.96	0.20	30.10	290.45	278.49	11.96	24.284	
2,800.00	2,775.95	2,774.95	2,775.95	7.80	6.10	89.96	0.20	30.10	300.84	288.65	12.20	24.669	
2,850.00	2,824.86	2,823.86	2,824.86	8.01	6.21	89.96	0.20	30.10	311.24	298.81	12.43	25.038	
2,900.00	2,873.76	2,872.76	2,873.76	8.22	6.32	89.96	0.20	30.10	321.63	308.97	12.67	25.393	
2,950.00	2,922.67	2,921.67	2,922.67	8.43	6.43	89.97	0.20	30.10	332.03	319.13	12.90	25.734	
3,000.00	2,971.58	2,970.58	2,971.58	8.64	6.54	89.97	0.20	30.10	342.43	329.29	13.14	26.063	
3,050.00	3,020.49	3,020.77	3,021.77	8.86	6.65	89.97	0.20	30.08	352.79	339.41	13.37	26.377	
3,100.00	3,069.39	3,073.02	3,074.02	9.07	6.76	89.97	0.20	29.63	362.78	349.17	13.61	26.654	
3,150.00	3,118.30	3,125.46	3,126.45	9.28	6.86	89.97	0.20	28.73	372.33	358.48	13.84	26.895	
3,200.00	3,167.21	3,178.09	3,179.08	9.49	6.97	89.97	0.20	27.33	381.42	367.35	14.07	27.101	
3,250.00	3,216.12	3,230.89	3,231.83	9.71	7.07	89.97	0.20	25.45	390.07	375.76	14.30	27.288	
3,300.00	3,265.02	3,280.81	3,281.71	9.92	7.17	89.97	0.20	23.37	398.41	383.88	14.53	27.417	
3,350.00	3,313.93	3,330.11	3,330.98	10.14	7.27	89.97	0.20	21.30	406.75	391.99	14.76	27.560	
3,400.00	3,362.84	3,379.41	3,380.22	10.35	7.37	89.97	0.20	19.24	415.09	400.10	14.99	27.698	
3,450.00	3,411.75	3,428.71	3,429.48	10.57	7.48	89.97	0.20	17.17	423.43	408.21	15.21	27.830	
3,500.00	3,460.65	3,478.01	3,478.73	10.78	7.58	89.97	0.20	15.11	431.77	416.32	15.44	27.958	
3,550.00	3,509.56	3,527.31	3,527.99	11.00	7.68	89.97	0.20	13.04	440.11	424.43	15.67	28.082	
3,600.00	3,558.47	3,576.61	3,577.25	11.22	7.78	89.97	0.20	10.88	448.44	432.54	15.90	28.201	
3,650.00	3,607.38	3,625.91	3,626.50	11.43	7.88	89.97	0.20	8.91	456.78	440.65	16.13	28.315	
3,700.00	3,656.28	3,675.21	3,675.76	11.65	7.99	89.98	0.20	6.85	465.12	448.76	16.36	28.426	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM, (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 4H - Wellbore #1 - Plan#1 012414													Offset Site Error:
Survey Program: O-MVD													Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,750.00	3,705.19	3,724.51	3,725.02	11.87	8.09	89.93	0.20	4.78	473.46	456.87	16.59	28.533	
3,800.00	3,754.10	3,773.81	3,774.27	12.03	8.19	89.93	0.20	2.72	481.80	464.97	16.82	28.636	
3,850.00	3,803.00	3,823.11	3,823.53	12.30	8.30	89.93	0.20	0.66	490.14	473.08	17.06	28.736	
3,900.00	3,851.91	3,872.41	3,872.79	12.52	8.40	89.93	0.20	-1.41	498.47	481.19	17.29	28.833	
3,950.00	3,900.82	3,921.71	3,922.04	12.74	8.51	89.93	0.20	-3.47	506.81	489.29	17.52	28.928	
4,000.00	3,949.73	3,971.01	3,971.30	12.96	8.61	89.93	0.20	-5.54	515.15	497.40	17.75	29.017	
4,050.00	3,998.63	4,020.31	4,020.58	13.18	8.72	89.93	0.20	-7.60	523.49	505.50	17.99	29.105	
4,100.00	4,047.54	4,069.61	4,069.81	13.39	8.82	89.93	0.20	-9.67	531.83	513.61	18.22	29.190	
4,150.00	4,096.45	4,118.91	4,119.07	13.61	8.93	89.93	0.20	-11.73	540.17	521.71	18.45	29.272	
4,200.00	4,145.36	4,168.21	4,168.33	13.83	9.03	89.93	0.20	-13.80	548.51	529.82	18.69	29.352	
4,250.00	4,194.26	4,217.51	4,217.58	14.05	9.14	89.93	0.20	-15.86	556.84	537.92	18.92	29.429	
4,300.00	4,243.17	4,266.81	4,266.84	14.27	9.25	89.93	0.20	-17.92	565.18	546.03	19.16	29.504	
4,350.00	4,292.08	4,316.11	4,316.09	14.49	9.36	89.93	0.20	-19.99	573.52	554.13	19.39	29.577	
4,400.00	4,340.99	4,365.41	4,365.35	14.71	9.46	89.93	0.20	-22.05	581.86	562.23	19.63	29.648	
4,450.00	4,389.89	4,414.71	4,414.61	14.93	9.57	89.93	0.20	-24.12	590.20	570.34	19.86	29.716	
4,500.00	4,438.80	4,464.01	4,463.88	15.15	9.68	89.93	0.20	-26.18	598.54	578.44	20.10	29.783	
4,550.00	4,487.71	4,513.31	4,513.12	15.37	9.79	89.93	0.20	-28.25	606.87	586.54	20.33	29.848	
4,600.00	4,536.62	4,562.61	4,562.38	15.59	9.89	89.93	0.20	-30.31	615.21	594.64	20.57	29.911	
4,650.00	4,585.52	4,611.91	4,611.63	15.81	10.00	89.93	0.20	-32.38	623.55	602.75	20.80	29.972	
4,700.00	4,634.43	4,661.21	4,660.89	16.03	10.11	89.93	0.20	-34.44	631.89	610.85	21.04	30.032	
4,750.00	4,683.34	4,710.51	4,710.15	16.25	10.22	89.93	0.20	-36.50	640.23	618.95	21.28	30.090	
4,800.00	4,732.24	4,759.81	4,759.40	16.47	10.33	89.93	0.20	-38.57	648.57	627.05	21.51	30.146	
4,850.00	4,781.15	4,809.11	4,808.66	16.69	10.44	89.93	0.20	-40.63	656.91	635.15	21.75	30.201	
4,900.00	4,830.06	4,858.41	4,857.92	16.91	10.55	89.93	0.20	-42.70	665.24	643.26	21.99	30.255	
4,950.00	4,878.97	4,907.71	4,907.17	17.13	10.66	89.93	0.20	-44.76	673.58	651.36	22.23	30.307	
5,000.00	4,927.87	4,957.01	4,956.43	17.35	10.77	89.93	0.20	-46.83	681.92	659.46	22.46	30.357	
5,050.00	4,976.78	5,006.31	5,005.69	17.57	10.87	89.93	0.20	-48.89	690.26	667.56	22.70	30.407	
5,100.00	5,025.69	5,055.61	5,054.94	17.79	10.98	89.93	0.20	-50.96	698.60	675.66	22.94	30.455	
5,150.00	5,074.60	5,104.91	5,104.20	18.01	11.09	89.93	0.20	-53.02	706.94	683.76	23.18	30.502	
5,200.00	5,123.50	5,154.21	5,153.48	18.23	11.20	89.93	0.20	-55.08	715.27	691.86	23.41	30.548	
5,250.00	5,172.41	5,203.51	5,202.71	18.45	11.32	89.93	0.20	-57.15	723.61	699.96	23.65	30.593	
5,300.00	5,221.32	5,252.81	5,251.97	18.67	11.43	89.93	0.20	-59.21	731.95	708.06	23.89	30.637	
5,350.00	5,270.23	5,302.11	5,301.23	18.90	11.54	89.93	0.20	-61.28	740.29	716.16	24.13	30.679	
5,400.00	5,319.13	5,351.40	5,350.48	19.12	11.65	89.93	0.20	-63.34	748.63	724.26	24.37	30.721	
5,450.00	5,368.04	5,400.70	5,399.74	19.34	11.76	89.93	0.20	-65.41	756.97	732.36	24.61	30.761	
5,500.00	5,416.95	5,450.00	5,449.00	19.56	11.87	89.93	0.20	-67.47	765.30	740.46	24.85	30.801	
5,550.00	5,465.86	5,499.30	5,498.25	19.78	11.98	89.93	0.20	-69.54	773.64	748.56	25.09	30.840	
5,600.00	5,514.76	5,548.60	5,547.51	20.00	12.09	89.93	0.20	-71.60	781.98	756.66	25.33	30.878	
5,650.00	5,563.67	5,597.90	5,596.77	20.22	12.20	89.93	0.20	-73.66	790.32	764.76	25.56	30.915	
5,700.00	5,612.58	5,647.20	5,646.02	20.44	12.31	89.93	0.20	-75.73	798.66	772.85	25.80	30.951	
5,750.00	5,661.49	5,696.50	5,695.28	20.67	12.42	89.93	0.20	-77.79	807.00	780.95	26.04	30.987	
5,800.00	5,710.39	5,745.80	5,744.54	20.89	12.54	89.93	0.20	-79.86	815.34	789.05	26.28	31.021	
5,850.00	5,759.30	5,795.10	5,793.79	21.11	12.65	89.93	0.20	-81.92	823.67	797.15	26.52	31.055	
5,900.00	5,808.21	5,844.40	5,843.05	21.33	12.76	89.93	0.20	-83.99	832.01	805.25	26.76	31.088	
5,950.00	5,857.11	5,893.70	5,892.30	21.55	12.87	89.93	0.20	-86.05	840.35	813.35	27.00	31.121	
6,000.00	5,906.02	5,943.00	5,941.56	21.77	12.98	89.93	0.20	-88.12	848.69	821.45	27.24	31.152	
6,050.00	5,954.93	5,992.30	5,990.82	22.00	13.10	89.93	0.20	-90.18	857.03	829.54	27.48	31.183	
6,100.00	6,003.84	6,041.60	6,040.07	22.22	13.21	89.93	0.20	-92.24	865.37	837.64	27.72	31.214	
6,150.00	6,052.74	6,090.90	6,089.33	22.44	13.32	89.93	0.20	-94.31	873.70	845.74	27.96	31.244	
6,200.00	6,101.65	6,140.20	6,138.59	22.66	13.43	89.93	0.20	-96.37	882.04	853.84	28.20	31.273	
6,250.00	6,150.56	6,189.50	6,187.84	22.88	13.54	89.93	0.20	-98.44	890.38	861.94	28.45	31.301	
6,300.00	6,199.47	6,238.80	6,237.10	23.10	13.65	89.93	0.20	-100.50	898.72	870.03	28.69	31.329	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 4H - Wellbore #1 - Plan#1 012414													Offset Site Error:	0.00 ush
Survey Program: O-MWD													Offset Well Error:	0.00 ush
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/S (usft)	+E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,350.00	6,248.37	6,288.10	6,286.36	23.33	13.77	89.99	0.20	-102.57	907.08	878.13	28.93	31.357		
6,400.00	6,297.28	6,337.40	6,335.81	23.55	13.88	89.99	0.20	-104.63	915.40	888.23	29.17	31.384		
6,450.00	6,346.19	6,386.70	6,384.87	23.77	13.99	89.99	0.20	-106.70	923.74	898.33	29.41	31.410		
6,500.00	6,395.10	6,436.00	6,434.13	23.99	14.11	89.99	0.20	-108.76	932.07	908.42	29.65	31.436		
6,550.00	6,444.00	6,485.30	6,483.39	24.21	14.22	89.99	0.20	-110.82	940.41	918.52	29.89	31.461		
6,600.00	6,492.01	6,534.60	6,532.84	24.44	14.33	89.99	0.20	-112.89	948.75	928.62	30.13	31.488		
6,650.00	6,541.82	6,583.90	6,581.90	24.66	14.45	89.99	0.20	-114.95	957.09	938.72	30.37	31.510		
6,700.00	6,590.73	6,633.20	6,631.15	24.88	14.56	89.99	0.20	-117.02	965.43	948.81	30.62	31.534		
6,750.00	6,639.63	6,682.50	6,680.41	25.10	14.67	89.99	0.20	-119.08	973.77	958.91	30.86	31.558		
6,800.00	6,688.54	6,731.80	6,729.67	25.33	14.79	89.99	0.20	-121.15	982.10	969.01	31.10	31.581		
6,850.00	6,737.45	6,781.10	6,778.92	25.55	14.90	89.99	0.20	-123.21	990.44	979.10	31.34	31.603		
6,900.00	6,786.35	6,829.37	6,827.16	25.77	14.99	89.99	0.20	-124.91	998.88	989.31	31.56	31.647		
6,950.00	6,835.26	6,879.79	6,877.57	25.99	15.07	89.99	0.20	-125.95	1,007.88	998.11	31.77	31.724		
7,000.00	6,884.17	6,900.00	6,897.77	26.21	15.15	89.99	0.20	-126.56	1,017.51	1,008.52	31.99	31.812		
7,050.00	6,933.15	6,953.38	6,951.15	26.41	15.22	89.99	0.20	-126.65	1,027.39	1,018.17	32.21	31.894		
7,100.00	6,982.29	6,984.52	6,982.29	26.59	15.31	89.99	0.20	-126.65	1,036.60	1,028.13	32.47	31.929		
7,150.00	7,031.59	7,033.82	7,031.59	26.74	15.42	89.99	0.20	-126.65	1,044.99	1,036.28	32.70	31.956		
7,200.00	7,081.02	7,083.25	7,081.02	26.88	15.52	89.99	0.20	-126.65	1,052.45	1,043.52	32.93	31.982		
7,250.00	7,130.58	7,132.81	7,130.58	27.01	15.63	89.99	0.20	-126.65	1,059.03	1,050.03	33.14	31.993		
7,300.00	7,180.24	7,182.47	7,180.24	27.13	15.73	89.99	0.20	-126.65	1,064.84	1,055.49	33.35	31.996		
7,350.00	7,230.00	7,232.23	7,230.00	27.23	15.84	89.99	0.20	-126.65	1,069.74	1,060.19	33.55	31.885		
7,400.00	7,279.84	7,282.07	7,279.84	27.33	15.94	89.99	0.20	-126.65	1,073.76	1,064.03	33.74	31.827		
7,450.00	7,329.74	7,331.97	7,329.74	27.42	16.05	89.99	0.20	-126.65	1,078.92	1,068.01	33.91	31.755		
7,500.00	7,379.69	7,381.92	7,379.69	27.50	16.16	89.99	0.20	-126.65	1,078.20	1,065.12	34.08	31.665		
7,550.00	7,429.67	7,431.90	7,429.67	27.58	16.26	89.99	0.20	-126.65	1,080.62	1,068.38	34.24	31.560		
7,600.00	7,479.66	7,481.89	7,479.66	27.63	16.37	89.99	0.20	-126.65	1,081.16	1,068.77	34.39	31.437		
7,650.00	7,529.60	7,532.03	7,529.79	27.69	16.48	90.08	0.92	-126.65	1,081.19	1,068.60	34.59	31.262		
7,700.00	7,579.06	7,582.45	7,579.89	27.75	16.59	90.15	0.34	-126.66	1,081.28	1,068.48	34.79	31.033		
7,750.00	7,627.49	7,633.06	7,629.33	27.82	16.70	90.24	17.07	-126.69	1,081.39	1,068.40	34.99	30.909		
7,800.00	7,674.37	7,683.87	7,677.54	27.88	16.81	90.31	33.03	-126.72	1,081.57	1,068.38	35.19	30.735		
7,850.00	7,719.18	7,734.68	7,723.94	27.95	16.92	90.37	54.11	-126.78	1,081.79	1,068.39	35.40	30.555		
7,900.00	7,761.43	7,786.03	7,767.98	28.02	17.03	90.40	80.12	-126.82	1,082.08	1,068.42	35.64	30.361		
7,950.00	7,800.66	7,837.35	7,809.10	28.10	17.15	90.42	110.78	-126.88	1,082.38	1,068.47	35.90	30.146		
8,000.00	7,838.43	7,888.83	7,846.81	28.19	17.28	90.41	145.79	-126.95	1,082.72	1,068.51	36.21	29.899		
8,050.00	7,888.37	7,940.43	7,880.60	28.28	17.44	90.38	184.76	-127.03	1,083.11	1,068.53	36.57	29.615		
8,100.00	7,896.11	7,992.15	7,910.06	28.39	17.63	90.34	227.24	-127.12	1,083.51	1,068.52	37.00	29.286		
8,150.00	7,919.35	8,043.66	7,934.79	28.51	17.87	90.27	272.74	-127.22	1,083.95	1,068.46	37.49	28.911		
8,200.00	7,937.84	8,095.85	7,954.47	28.65	18.15	90.19	320.71	-127.32	1,084.40	1,068.34	38.06	28.490		
8,250.00	7,951.38	8,147.78	7,968.84	28.82	18.48	90.09	370.59	-127.42	1,084.88	1,068.15	38.71	28.020		
8,300.00	7,959.81	8,199.73	7,977.72	29.01	18.84	89.99	421.75	-127.53	1,085.33	1,065.91	39.43	27.528		
8,350.00	7,963.05	8,251.69	7,980.69	29.22	19.24	89.89	473.58	-127.64	1,085.81	1,065.60	40.21	27.005		
8,400.00	7,963.47	8,301.60	7,981.12	29.46	19.66	89.88	523.69	-127.74	1,086.28	1,065.28	41.03	26.478		
8,450.00	7,963.88	8,351.79	7,981.24	29.72	20.12	89.88	573.69	-127.85	1,086.75	1,064.82	41.93	25.916		
8,500.00	7,964.29	8,401.79	7,981.36	30.02	20.58	89.88	623.68	-127.95	1,087.23	1,064.38	42.84	25.376		
8,550.00	7,964.70	8,451.79	7,981.49	30.34	21.10	89.88	673.68	-128.05	1,087.70	1,063.83	43.85	24.797		
8,600.00	7,965.11	8,501.78	7,981.61	30.69	21.63	89.88	723.68	-128.16	1,088.17	1,063.28	44.89	24.242		
8,650.00	7,965.52	8,551.78	7,981.73	31.06	22.20	89.88	773.67	-128.26	1,088.64	1,062.64	46.01	23.663		
8,700.00	7,965.93	8,601.78	7,981.85	31.45	22.77	89.88	823.67	-128.37	1,089.12	1,061.99	47.13	23.110		
8,750.00	7,966.34	8,651.77	7,981.97	31.87	23.38	89.88	873.67	-128.47	1,089.59	1,061.29	48.33	22.544		
8,800.00	7,966.75	8,701.77	7,982.10	32.31	24.00	89.88	923.66	-128.58	1,090.06	1,060.53	49.54	22.006		
8,850.00	7,967.16	8,751.77	7,982.22	32.78	24.64	89.88	973.66	-128.68	1,090.53	1,059.72	50.81	21.462		
8,900.00	7,967.57	8,801.77	7,982.34	33.28	25.29	89.88	1,023.66	-128.78	1,091.01	1,058.92	52.09	20.945		

CC - Min centre to center distance or convergent point; SF - min separation factor; ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 4H - Wellbore #1 - Plan#1 012414														Offset Site Error:	0.00 usft
Survey Program: O-MWD														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
8,950.00	7,987.93	8,851.76	7,982.48	33.78	25.97	89.88	1,073.65	-128.89	1,091.48	1,038.05	53.43	20.429			
9,000.00	7,988.39	8,901.76	7,982.58	34.29	26.66	89.88	1,123.65	-128.99	1,091.95	1,037.18	54.77	19.937			
9,050.00	7,988.60	8,951.76	7,982.71	34.83	27.36	89.88	1,173.64	-129.10	1,092.43	1,036.26	56.16	19.451			
9,100.00	7,989.21	9,001.75	7,982.83	35.38	28.07	89.88	1,223.64	-129.20	1,092.90	1,035.34	57.56	18.988			
9,150.00	7,989.62	9,051.75	7,982.95	35.90	28.80	89.88	1,273.64	-129.30	1,093.37	1,034.38	59.00	18.533			
9,200.00	7,990.03	9,101.75	7,983.07	36.54	29.53	89.88	1,323.63	-129.41	1,093.85	1,033.41	60.44	18.099			
9,250.00	7,990.44	9,151.74	7,983.20	37.15	30.28	89.88	1,373.63	-129.51	1,094.32	1,032.40	61.92	17.674			
9,300.00	7,990.85	9,201.74	7,983.32	37.76	31.03	89.88	1,423.63	-129.62	1,094.79	1,031.40	63.40	17.269			
9,350.00	7,991.26	9,251.74	7,983.44	38.39	31.80	89.88	1,473.62	-129.72	1,095.27	1,030.38	64.91	16.874			
9,400.00	7,991.67	9,301.73	7,983.56	39.03	32.56	89.88	1,523.62	-129.83	1,095.74	1,029.32	66.43	16.496			
9,450.00	7,992.08	9,351.73	7,983.68	39.69	33.34	89.88	1,573.62	-129.93	1,096.22	1,028.25	67.97	16.128			
9,500.00	7,992.49	9,401.73	7,983.81	40.35	34.12	89.88	1,623.61	-130.03	1,096.69	1,027.17	69.52	15.776			
9,550.00	7,992.80	9,451.72	7,983.93	41.02	34.92	89.88	1,673.61	-130.14	1,097.16	1,026.08	71.09	15.434			
9,600.00	7,993.31	9,501.72	7,984.05	41.71	35.71	89.88	1,723.61	-130.24	1,097.64	1,024.98	72.66	15.107			
9,650.00	7,993.72	9,551.72	7,984.17	42.40	36.52	89.88	1,773.60	-130.35	1,098.11	1,023.88	74.25	14.789			
9,700.00	7,994.13	9,601.72	7,984.30	43.10	37.32	89.88	1,823.60	-130.45	1,098.59	1,022.74	75.85	14.484			
9,750.00	7,994.54	9,651.71	7,984.42	43.81	38.13	89.88	1,873.60	-130.56	1,099.06	1,021.60	77.46	14.189			
9,800.00	7,994.95	9,701.71	7,984.54	44.53	38.95	89.88	1,923.59	-130.66	1,099.53	1,020.46	79.08	13.905			
9,850.00	7,995.36	9,751.71	7,984.68	45.28	39.77	89.88	1,973.59	-130.76	1,100.01	1,019.30	80.71	13.630			
9,900.00	7,995.77	9,801.70	7,984.78	45.99	40.59	89.88	2,023.59	-130.87	1,100.48	1,018.14	82.34	13.365			
9,950.00	7,996.18	9,851.70	7,984.91	46.73	41.42	89.88	2,073.58	-130.97	1,100.96	1,016.97	83.99	13.108			
10,000.00	7,996.59	9,901.70	7,985.03	47.47	42.25	89.88	2,123.58	-131.08	1,101.43	1,015.80	85.64	12.862			
10,050.00	7,997.00	9,951.69	7,985.15	48.23	43.09	89.88	2,173.58	-131.18	1,101.91	1,014.61	87.30	12.622			
10,100.00	7,997.41	10,001.69	7,985.27	48.99	43.93	89.88	2,223.57	-131.29	1,102.38	1,013.42	88.96	12.392			
10,150.00	7,997.82	10,051.69	7,985.39	49.75	44.77	89.88	2,273.57	-131.39	1,102.86	1,012.22	90.64	12.168			
10,200.00	7,998.23	10,101.68	7,985.52	50.51	45.61	89.88	2,323.57	-131.49	1,103.33	1,011.02	92.31	11.952			
10,250.00	7,998.64	10,151.68	7,985.64	51.29	46.46	89.88	2,373.56	-131.60	1,103.81	1,009.81	94.00	11.743			
10,300.00	7,999.05	10,201.68	7,985.76	52.07	47.31	89.88	2,423.56	-131.70	1,104.29	1,008.60	95.69	11.541			
10,350.00	7,999.46	10,251.68	7,985.88	52.85	48.18	89.88	2,473.56	-131.81	1,104.77	1,007.38	97.39	11.344			
10,400.00	7,999.87	10,301.69	7,985.99	53.64	49.02	89.88	2,523.57	-131.91	1,105.24	1,006.16	99.08	11.155			
10,450.00	7,999.04	10,351.69	7,985.95	54.43	49.87	89.88	2,573.57	-132.02	1,105.72	1,004.93	100.79	10.970			
10,500.00	7,999.92	10,401.69	7,985.95	55.22	50.73	89.88	2,623.57	-132.12	1,106.20	1,003.70	102.50	10.792			
10,550.00	7,999.80	10,451.68	7,985.96	56.02	51.59	89.88	2,673.57	-132.22	1,106.68	1,002.46	104.21	10.619			
10,600.00	7,999.68	10,501.68	7,985.96	56.82	52.45	89.88	2,723.56	-132.33	1,107.16	1,001.23	105.93	10.452			
10,650.00	7,999.56	10,551.68	7,985.96	57.63	53.32	89.88	2,773.56	-132.43	1,107.63	999.98	107.65	10.289			
10,700.00	7,999.44	10,601.68	7,985.96	58.44	54.18	89.88	2,823.56	-132.54	1,108.11	998.74	109.37	10.132			
10,750.00	7,999.32	10,651.68	7,985.96	59.25	55.05	89.88	2,873.56	-132.64	1,108.59	997.49	111.10	9.978			
10,800.00	7,999.20	10,701.67	7,985.96	60.07	55.92	89.88	2,923.55	-132.75	1,109.07	996.24	112.83	9.829			
10,850.00	7,999.08	10,751.67	7,985.96	60.88	56.79	89.88	2,973.55	-132.85	1,109.54	994.98	114.57	9.685			
10,900.00	7,998.96	10,801.67	7,985.96	61.71	57.66	89.88	3,023.55	-132.95	1,110.02	993.72	116.30	9.544			
10,950.00	7,998.84	10,851.67	7,985.96	62.53	58.53	89.88	3,073.55	-133.06	1,110.50	992.46	118.04	9.408			
11,000.00	7,998.72	10,901.66	7,985.96	63.36	59.40	89.88	3,123.54	-133.16	1,110.98	991.20	119.78	9.275			
11,050.00	7,998.60	10,951.66	7,985.96	64.18	60.28	89.88	3,173.54	-133.27	1,111.46	989.93	121.53	9.146			
11,100.00	7,998.48	11,001.66	7,985.97	65.01	61.15	89.88	3,223.54	-133.37	1,111.93	988.66	123.28	9.020			
11,150.00	7,998.36	11,051.66	7,985.97	65.85	62.03	89.88	3,273.54	-133.47	1,112.41	987.39	125.03	8.897			
11,200.00	7,998.24	11,101.65	7,985.97	66.68	62.91	89.88	3,323.53	-133.58	1,112.89	986.11	126.78	8.778			
11,250.00	7,998.12	11,151.65	7,985.97	67.52	63.79	89.88	3,373.53	-133.68	1,113.37	984.84	128.53	8.662			
11,300.00	7,998.00	11,201.65	7,985.97	68.36	64.67	89.88	3,423.53	-133.79	1,113.85	983.56	130.29	8.549			
11,350.00	7,997.88	11,251.65	7,985.97	69.20	65.55	89.88	3,473.53	-133.89	1,114.32	982.28	132.05	8.439			
11,400.00	7,997.76	11,301.64	7,985.97	70.05	66.43	89.88	3,523.52	-134.00	1,114.80	981.00	133.81	8.332			
11,450.00	7,997.64	11,351.64	7,985.97	70.89	67.31	89.88	3,573.52	-134.10	1,115.28	979.71	135.57	8.227			
11,500.00	7,997.52	11,401.64	7,985.97	71.74	68.20	89.88	3,623.52	-134.20	1,115.76	978.43	137.33	8.125			

CC - Min centre to center distance or convergent point; SF - min separation factor; ES - min ellipse separation;

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 4H - Wellbore #1 - Plan#1 012414													Offset Site Error:	0.00 usft
Survey Program: O-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
11,550.00	7,975.40	11,451.64	7,985.97	72.59	69.08	89.88	3,673.52	-134.31	1,116.24	977.14	139.10	8.025		
11,600.00	7,975.23	11,501.63	7,985.97	73.44	69.97	89.88	3,723.51	-134.41	1,116.71	975.85	140.88	7.928		
11,650.00	7,975.16	11,551.63	7,985.98	74.29	70.85	89.88	3,773.51	-134.52	1,117.19	974.56	142.63	7.833		
11,700.00	7,975.04	11,601.63	7,985.98	75.14	71.74	89.88	3,823.51	-134.62	1,117.67	973.27	144.40	7.740		
11,750.00	7,974.92	11,651.63	7,985.98	76.00	72.63	89.88	3,873.51	-134.73	1,118.15	971.97	146.18	7.649		
11,800.00	7,974.80	11,701.62	7,985.98	76.85	73.51	89.88	3,923.50	-134.83	1,118.63	970.68	147.95	7.561		
11,850.00	7,974.68	11,751.62	7,985.98	77.71	74.40	89.88	3,973.50	-134.93	1,119.11	969.38	149.72	7.475		
11,900.00	7,974.56	11,801.62	7,985.98	78.57	75.29	89.88	4,023.50	-135.04	1,119.58	968.09	151.50	7.390		
11,950.00	7,974.44	11,851.62	7,985.98	79.43	76.18	89.88	4,073.50	-135.14	1,120.06	966.79	153.28	7.308		
12,000.00	7,974.32	11,901.61	7,985.98	80.29	77.07	89.88	4,123.49	-135.25	1,120.54	965.49	155.05	7.227		
12,050.00	7,974.21	11,951.61	7,985.98	81.15	77.96	89.88	4,173.49	-135.35	1,121.02	964.19	156.83	7.148		
12,100.00	7,974.09	12,001.61	7,985.98	82.02	78.85	89.88	4,223.49	-135.46	1,121.50	962.88	158.61	7.071		
12,150.00	7,973.97	12,051.61	7,985.98	82.88	79.75	89.88	4,273.49	-135.56	1,121.97	961.58	160.40	6.995		
12,200.00	7,973.85	12,101.60	7,985.98	83.75	80.64	89.88	4,323.48	-135.66	1,122.45	960.28	162.18	6.921		
12,250.00	7,973.73	12,151.60	7,985.98	84.62	81.53	89.88	4,373.48	-135.77	1,122.93	958.97	163.96	6.849		
12,300.00	7,973.61	12,201.60	7,985.98	85.48	82.43	89.88	4,423.48	-135.87	1,123.41	957.68	165.75	6.778		
12,350.00	7,973.49	12,251.60	7,985.98	86.35	83.32	89.88	4,473.48	-135.98	1,123.89	956.38	167.53	6.708		
12,400.00	7,973.37	12,301.60	7,985.98	87.22	84.21	89.88	4,523.47	-136.08	1,124.37	955.08	169.32	6.641		
12,450.00	7,973.25	12,351.59	7,985.98	88.09	85.11	89.88	4,573.47	-136.19	1,124.84	953.74	171.11	6.574		
12,500.00	7,973.13	12,401.59	7,985.98	88.97	86.00	89.88	4,623.47	-136.29	1,125.32	952.43	172.89	6.509		
12,550.00	7,973.01	12,451.59	7,985.98	89.84	86.90	89.88	4,673.47	-136.39	1,125.80	951.12	174.68	6.445		
12,600.00	7,972.89	12,501.59	7,985.98	90.71	87.79	89.88	4,723.46	-136.50	1,126.28	949.81	176.47	6.382		
12,650.00	7,972.77	12,551.58	7,985.98	91.59	88.69	89.88	4,773.46	-136.60	1,126.75	948.49	178.27	6.321		
12,700.00	7,972.65	12,601.58	7,985.98	92.48	89.59	89.88	4,823.46	-136.71	1,127.24	947.18	180.06	6.260		
12,750.00	7,972.53	12,651.58	7,986.00	93.34	90.48	89.88	4,873.46	-136.81	1,127.71	945.87	181.85	6.201		
12,800.00	7,972.41	12,701.58	7,986.00	94.21	91.38	89.88	4,923.45	-136.91	1,128.19	944.55	183.64	6.143		
12,850.00	7,972.29	12,751.57	7,986.00	95.09	92.28	89.88	4,973.45	-137.02	1,128.67	943.23	185.44	6.087		
12,900.00	7,972.17	12,801.57	7,986.00	95.97	93.18	89.88	5,023.45	-137.12	1,129.15	941.92	187.23	6.031		
12,950.00	7,972.05	12,851.57	7,986.00	96.85	94.08	89.88	5,073.45	-137.23	1,129.63	940.60	189.03	5.976		
12,970.01	7,972.00	12,871.58	7,986.00	97.20	94.44	89.88	5,093.46	-137.27	1,129.82	940.07	189.75	5.954 SF		

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan# 1 012414	Offset-TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 6H - Wellbore #1 - Plan# 1 012414													Offset Site Error:
Survey Program: 0-MWD													0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	1.00	0.00	0.00	89.71	0.30	59.80	59.81				
50.00	50.00	49.00	50.00	0.03	0.04	89.71	0.30	59.80	59.80	59.73	0.07	861.724	
100.00	100.00	99.00	100.00	0.08	0.08	89.71	0.30	59.80	59.80	59.83	0.17	358.526	
150.00	150.00	149.00	150.00	0.20	0.19	89.71	0.30	59.80	59.80	59.41	0.39	152.907	
200.00	200.00	199.00	200.00	0.31	0.31	89.71	0.30	59.80	59.80	59.18	0.62	97.101	
250.00	250.00	249.00	250.00	0.42	0.42	89.71	0.30	59.80	59.80	58.96	0.84	71.138	
300.00	300.00	299.00	300.00	0.53	0.53	89.71	0.30	59.80	59.80	58.74	1.07	56.130	
350.00	350.00	349.00	350.00	0.65	0.64	89.71	0.30	59.80	59.80	58.51	1.29	46.352	
400.00	400.00	399.00	400.00	0.76	0.76	89.71	0.30	59.80	59.80	58.29	1.51	39.474	
450.00	450.00	449.00	450.00	0.87	0.87	89.71	0.30	59.80	59.80	58.08	1.74	34.374	
500.00	500.00	499.00	500.00	0.98	0.98	89.71	0.30	59.80	59.80	57.84	1.96	30.441	
550.00	550.00	549.00	550.00	1.10	1.09	89.71	0.30	59.80	59.80	57.61	2.19	27.316	
600.00	600.00	599.00	600.00	1.21	1.21	89.71	0.30	59.80	59.80	57.39	2.41	24.773	
650.00	650.00	649.00	650.00	1.32	1.32	89.71	0.30	59.80	59.80	57.16	2.64	22.663	
700.00	700.00	699.00	700.00	1.43	1.43	89.71	0.30	59.80	59.80	56.94	2.86	20.684	
750.00	750.00	749.00	750.00	1.55	1.54	89.71	0.30	59.80	59.80	56.71	3.09	19.384	
800.00	800.00	799.00	800.00	1.66	1.66	89.71	0.30	59.80	59.80	56.49	3.31	18.050	
850.00	850.00	849.00	850.00	1.77	1.77	89.71	0.30	59.80	59.80	56.28	3.54	16.903	
900.00	900.00	899.00	900.00	1.88	1.88	89.71	0.30	59.80	59.80	56.04	3.76	15.894 CC, ES	
950.00	950.00	949.49	949.49	1.99	1.98	89.71	0.30	60.01	60.23	56.25	3.97	15.160	
1,000.00	999.99	997.95	998.94	2.09	2.09	89.72	0.30	60.64	61.52	57.34	4.18	14.709	
1,050.00	1,049.98	1,047.36	1,048.35	2.19	2.19	89.73	0.30	61.69	63.63	59.30	4.38	14.529	
1,100.00	1,099.96	1,096.71	1,097.67	2.30	2.29	89.74	0.30	63.18	66.71	62.12	4.58	14.555	
1,150.00	1,149.92	1,145.97	1,146.89	2.40	2.39	89.76	0.30	65.08	70.60	65.81	4.79	14.746	
1,200.00	1,199.86	1,195.11	1,195.93	2.51	2.49	89.77	0.30	67.40	75.35	70.36	4.99	15.096	
1,250.00	1,249.78	1,244.13	1,244.92	2.61	2.60	89.79	0.30	70.13	80.98	75.77	5.20	15.575	
1,300.00	1,299.68	1,292.99	1,293.68	2.72	2.71	89.80	0.30	73.27	87.44	82.03	5.40	16.177	
1,350.00	1,349.54	1,341.68	1,342.24	2.84	2.82	89.82	0.30	76.82	94.78	89.15	5.61	16.880	
1,400.00	1,399.37	1,390.17	1,390.57	2.95	2.93	89.83	0.30	80.75	102.93	97.11	5.82	17.681	
1,450.00	1,449.16	1,438.44	1,438.65	3.07	3.04	89.85	0.30	85.08	111.05	105.92	6.03	18.561	
1,500.00	1,498.90	1,486.48	1,486.46	3.19	3.16	89.86	0.30	89.79	121.82	115.57	6.24	19.519	
1,550.00	1,548.61	1,534.26	1,533.97	3.32	3.27	89.87	0.30	94.87	132.51	126.06	6.45	20.540	
1,600.00	1,598.28	1,581.77	1,581.16	3.44	3.39	89.88	0.30	100.31	144.04	137.38	6.66	21.625	
1,650.00	1,647.86	1,628.98	1,628.92	3.58	3.52	89.89	0.30	106.11	156.39	149.52	6.87	22.760	
1,700.00	1,697.40	1,675.88	1,674.51	3.71	3.64	89.90	0.30	112.25	169.57	162.48	7.08	23.947	
1,750.00	1,746.89	1,722.45	1,720.63	3.86	3.77	89.91	0.30	118.73	183.55	178.26	7.29	25.172	
1,800.00	1,796.30	1,768.67	1,768.35	4.00	3.90	89.91	0.30	125.52	198.34	193.84	7.50	26.440	
1,850.00	1,845.65	1,816.19	1,813.32	4.16	4.04	89.92	0.30	132.71	213.75	208.04	7.71	27.707	
1,900.00	1,894.93	1,863.62	1,860.21	4.31	4.19	89.92	0.30	139.89	229.57	221.65	7.92	28.973	
1,950.00	1,944.13	1,910.91	1,906.95	4.48	4.33	89.93	0.30	147.04	245.81	237.67	8.14	30.211	
2,000.00	1,993.28	1,958.06	1,953.56	4.64	4.47	89.93	0.30	154.17	262.46	254.11	8.35	31.445	
2,050.00	2,042.29	2,005.06	2,000.01	4.82	4.62	89.94	0.30	161.28	279.52	270.96	8.56	32.673	
2,100.00	2,091.25	2,051.91	2,046.32	5.00	4.78	89.94	0.30	168.37	296.99	288.22	8.77	33.877	
2,150.00	2,140.15	2,098.68	2,092.56	5.19	4.91	89.94	0.30	175.44	314.66	305.67	8.99	35.009	
2,200.00	2,189.06	2,145.45	2,138.79	5.38	5.06	89.95	0.30	182.52	332.34	323.12	9.21	36.077	
2,250.00	2,237.97	2,192.22	2,185.03	5.57	5.21	89.95	0.30	189.59	350.01	340.57	9.44	37.093	
2,300.00	2,286.88	2,239.00	2,231.28	5.77	5.39	89.95	0.30	196.67	367.68	358.02	9.66	38.057	
2,350.00	2,335.78	2,285.77	2,277.49	5.97	5.51	89.95	0.30	203.74	385.36	375.47	9.89	38.974	
2,400.00	2,384.69	2,332.54	2,323.73	6.16	5.66	89.96	0.30	210.82	403.03	392.92	10.11	39.846	
2,450.00	2,433.60	2,379.31	2,369.66	6.36	5.82	89.96	0.30	217.89	420.71	410.36	10.34	40.677	
2,500.00	2,482.51	2,428.08	2,418.20	6.57	5.97	89.96	0.30	224.96	438.38	427.61	10.57	41.469	
2,550.00	2,531.41	2,472.66	2,462.43	6.77	6.12	89.96	0.30	232.04	456.05	445.25	10.80	42.224	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design: Sec 20 T24S R 28E - Browning Fed Com 6H - Wellbore #1 - Plan#1 012414													Offset Site Error:
Survey Program: O-MWD													Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference Offset (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,600.00	2,580.32	2,519.63	2,503.65	6.97	6.28	89.96	0.30	239.11	473.73	462.70	11.03	42.947	
2,650.00	2,629.23	2,568.40	2,554.80	7.18	6.43	89.96	0.30	246.19	491.40	480.14	11.26	43.636	
2,700.00	2,678.13	2,613.17	2,601.13	7.39	6.59	89.97	0.30	253.28	509.07	497.58	11.49	44.298	
2,750.00	2,727.04	2,659.95	2,647.37	7.59	6.75	89.97	0.30	260.34	526.75	515.02	11.72	44.927	
2,800.00	2,775.95	2,708.72	2,693.60	7.80	6.90	89.97	0.30	267.41	544.42	532.48	11.95	45.533	
2,850.00	2,824.66	2,753.49	2,739.83	8.01	7.08	89.97	0.30	274.49	562.10	549.91	12.19	46.113	
2,900.00	2,873.76	2,800.26	2,786.07	8.22	7.22	89.97	0.30	281.56	579.77	567.35	12.42	46.671	
2,950.00	2,922.87	2,847.03	2,832.30	8.43	7.38	89.97	0.30	288.64	597.44	584.79	12.66	47.204	
3,000.00	2,971.58	2,893.81	2,878.54	8.64	7.54	89.97	0.30	295.71	615.12	602.23	12.89	47.719	
3,050.00	3,020.49	2,940.58	2,924.77	8.86	7.69	89.97	0.30	302.79	632.79	619.66	13.13	48.212	
3,100.00	3,069.39	2,987.35	2,971.00	9.07	7.85	89.97	0.30	309.88	650.46	637.10	13.36	48.688	
3,150.00	3,118.30	3,034.12	3,017.24	9.28	8.01	89.97	0.30	316.94	668.14	654.54	13.60	49.145	
3,200.00	3,167.21	3,080.89	3,063.47	9.49	8.17	89.97	0.30	324.01	685.81	671.98	13.83	49.588	
3,250.00	3,216.12	3,127.67	3,109.71	9.71	8.33	89.98	0.30	331.09	703.48	689.42	14.07	50.010	
3,300.00	3,265.02	3,174.44	3,155.94	9.92	8.49	89.98	0.30	338.16	721.16	706.86	14.30	50.420	
3,350.00	3,313.93	3,221.21	3,202.17	10.14	8.65	89.98	0.30	345.24	738.83	724.29	14.54	50.816	
3,400.00	3,362.84	3,267.98	3,248.41	10.35	8.81	89.98	0.30	352.31	756.51	741.73	14.78	51.197	
3,450.00	3,411.75	3,314.76	3,294.64	10.57	8.97	89.98	0.30	359.39	774.18	759.17	15.01	51.568	
3,500.00	3,460.65	3,361.53	3,340.88	10.78	9.14	89.98	0.30	366.46	791.85	776.60	15.25	51.922	
3,550.00	3,509.56	3,408.30	3,387.11	11.00	9.30	89.98	0.30	373.54	809.53	794.04	15.49	52.267	
3,600.00	3,558.47	3,455.07	3,433.34	11.22	9.46	89.98	0.30	380.61	827.20	811.47	15.73	52.600	
3,650.00	3,607.38	3,501.84	3,479.58	11.43	9.62	89.98	0.30	387.69	844.87	828.81	15.96	52.923	
3,700.00	3,656.28	3,548.62	3,525.81	11.65	9.78	89.98	0.30	394.76	862.55	846.35	16.20	53.238	
3,750.00	3,705.19	3,595.39	3,572.05	11.87	9.94	89.98	0.30	401.84	880.22	863.78	16.44	53.538	
3,800.00	3,754.10	3,642.16	3,618.28	12.08	10.11	89.98	0.30	408.91	897.90	881.22	16.68	53.832	
3,850.00	3,803.00	3,688.93	3,664.51	12.30	10.27	89.98	0.30	415.98	915.57	898.65	16.92	54.116	
3,900.00	3,851.91	3,735.71	3,710.75	12.52	10.43	89.98	0.30	423.06	933.24	916.09	17.16	54.392	
3,950.00	3,900.82	3,782.48	3,756.98	12.74	10.59	89.98	0.30	430.13	950.92	933.52	17.40	54.660	
4,000.00	3,949.73	3,829.25	3,803.22	12.96	10.75	89.98	0.30	437.21	968.59	950.95	17.64	54.920	
4,050.00	3,998.63	3,876.02	3,849.45	13.18	10.92	89.98	0.30	444.28	986.26	968.39	17.88	55.173	
4,100.00	4,047.54	3,922.79	3,895.68	13.39	11.08	89.98	0.30	451.36	1,003.94	985.82	18.12	55.418	
4,150.00	4,096.45	3,969.57	3,941.92	13.61	11.24	89.98	0.30	458.43	1,021.61	1,003.28	18.36	55.656	
4,200.00	4,145.36	4,016.34	3,988.15	13.83	11.41	89.98	0.30	465.51	1,039.29	1,020.69	18.60	55.888	
4,250.00	4,194.26	4,063.11	4,034.39	14.05	11.57	89.98	0.30	472.58	1,056.96	1,038.12	18.84	56.114	
4,300.00	4,243.17	4,109.88	4,080.62	14.27	11.73	89.98	0.30	479.66	1,074.63	1,055.58	19.08	56.333	
4,350.00	4,292.08	4,156.66	4,126.66	14.49	11.89	89.98	0.30	486.73	1,092.31	1,072.99	19.32	56.546	
4,400.00	4,340.99	4,203.43	4,173.09	14.71	12.06	89.98	0.30	493.81	1,109.98	1,090.42	19.56	56.754	
4,450.00	4,389.89	4,250.20	4,219.32	14.93	12.22	89.98	0.30	500.88	1,127.65	1,107.68	19.80	56.957	
4,500.00	4,438.80	4,296.97	4,265.56	15.15	12.38	89.98	0.30	507.96	1,145.33	1,125.29	20.04	57.154	
4,550.00	4,487.71	4,343.74	4,311.79	15.37	12.55	89.99	0.30	515.03	1,163.00	1,142.72	20.28	57.346	
4,600.00	4,536.62	4,390.52	4,358.03	15.59	12.71	89.99	0.30	522.11	1,180.68	1,160.15	20.52	57.533	
4,650.00	4,585.52	4,437.29	4,404.26	15.81	12.87	89.99	0.30	529.18	1,198.35	1,177.59	20.76	57.716	
4,700.00	4,634.43	4,484.06	4,450.49	16.03	13.04	89.99	0.30	536.26	1,216.02	1,195.02	21.00	57.894	
4,750.00	4,683.34	4,530.83	4,496.73	16.25	13.20	89.99	0.30	543.33	1,233.70	1,212.45	21.25	58.067	
4,800.00	4,732.24	4,577.61	4,542.66	16.47	13.37	89.99	0.30	550.41	1,251.37	1,229.88	21.49	58.237	
4,850.00	4,781.15	4,624.38	4,589.20	16.69	13.53	89.99	0.30	557.48	1,269.04	1,247.32	21.73	58.402	
4,900.00	4,830.06	4,671.15	4,635.43	16.91	13.69	89.99	0.30	564.56	1,286.72	1,264.75	21.97	58.564	
4,950.00	4,878.97	4,717.92	4,681.66	17.13	13.86	89.99	0.30	571.63	1,304.39	1,282.18	22.21	58.721	
5,000.00	4,927.87	4,764.69	4,727.60	17.35	14.02	89.99	0.30	578.71	1,322.07	1,299.61	22.46	58.875	
5,050.00	4,976.78	4,811.47	4,774.13	17.57	14.19	89.99	0.30	585.78	1,339.74	1,317.04	22.70	59.028	
5,100.00	5,025.69	4,858.24	4,820.37	17.79	14.35	89.99	0.30	592.85	1,357.41	1,334.47	22.94	59.173	
5,150.00	5,074.60	4,905.01	4,866.60	18.01	14.51	89.99	0.30	599.93	1,375.09	1,351.90	23.18	59.316	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well-Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 6000 GCR DB
Reference Design:	Plan#1 012414	Offset-TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 5H - Wellbore #1 - Plan#1 012414													Offset Site Error: 0.00 usft	
Survey Program: O-MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,200.00	5,123.50	4,951.78	4,912.83	18.23	14.68	89.99	0.30	607.00	1,392.76	1,389.34	23.42	59.457		
5,250.00	5,172.41	4,998.56	4,959.07	18.45	14.84	89.99	0.30	614.08	1,410.43	1,388.77	23.67	59.594		
5,300.00	5,221.32	5,045.33	5,005.30	18.67	15.01	89.99	0.30	621.15	1,428.11	1,404.20	23.91	59.729		
5,350.00	5,270.23	5,092.10	5,051.54	18.90	15.17	89.99	0.30	628.23	1,445.78	1,421.63	24.15	59.860		
5,400.00	5,319.13	5,138.87	5,097.77	19.12	15.34	89.99	0.30	635.30	1,463.46	1,439.06	24.40	59.989		
5,450.00	5,368.04	5,185.64	5,144.00	19.34	15.50	89.99	0.30	642.38	1,481.13	1,456.49	24.64	60.115		
5,500.00	5,416.95	5,232.42	5,190.24	19.56	15.66	89.99	0.30	649.45	1,498.80	1,473.92	24.88	60.238		
5,550.00	5,465.86	5,279.19	5,236.47	19.78	15.83	89.99	0.30	656.53	1,516.48	1,491.35	25.12	60.358		
5,600.00	5,514.76	5,325.66	5,282.71	20.00	15.99	89.99	0.30	663.60	1,534.15	1,508.78	25.37	60.476		
5,650.00	5,563.67	5,372.73	5,328.94	20.22	16.16	89.99	0.30	670.68	1,551.82	1,526.21	25.61	60.592		
5,700.00	5,612.58	5,419.51	5,375.17	20.44	16.32	89.99	0.30	677.75	1,569.50	1,543.64	25.85	60.705		
5,750.00	5,661.49	5,466.28	5,421.41	20.67	16.49	89.99	0.30	684.83	1,587.17	1,561.07	26.10	60.816		
5,800.00	5,710.39	5,513.05	5,467.64	20.89	16.65	89.99	0.30	691.90	1,604.85	1,578.50	26.34	60.925		
5,850.00	5,759.30	5,559.82	5,513.88	21.11	16.82	89.99	0.30	698.98	1,622.52	1,595.93	26.58	61.032		
5,900.00	5,808.21	5,606.59	5,560.11	21.33	16.98	89.99	0.30	706.05	1,640.19	1,613.38	26.83	61.138		
5,950.00	5,857.11	5,653.37	5,606.34	21.55	17.15	89.99	0.30	713.13	1,657.87	1,630.79	27.07	61.238		
6,000.00	5,906.02	5,700.14	5,652.58	21.77	17.31	89.99	0.30	720.20	1,675.54	1,648.22	27.32	61.339		
6,050.00	5,954.93	5,748.91	5,699.81	22.00	17.47	89.99	0.30	727.28	1,693.21	1,665.65	27.56	61.437		
6,100.00	6,003.84	5,793.68	5,745.05	22.22	17.64	89.99	0.30	734.35	1,710.89	1,683.08	27.80	61.534		
6,150.00	6,052.74	5,840.45	5,791.28	22.44	17.80	89.99	0.30	741.43	1,728.56	1,700.51	28.05	61.629		
6,200.00	6,101.65	5,887.23	5,837.51	22.66	17.97	89.99	0.30	748.50	1,746.24	1,717.94	28.29	61.722		
6,250.00	6,150.56	5,934.00	5,883.75	22.88	18.13	89.99	0.30	755.58	1,763.91	1,735.37	28.54	61.813		
6,300.00	6,199.47	5,980.77	5,929.98	23.10	18.30	89.99	0.30	762.65	1,781.58	1,752.80	28.78	61.902		
6,350.00	6,248.37	6,027.54	5,978.22	23.33	18.46	89.99	0.30	769.72	1,799.26	1,770.23	29.02	61.990		
6,400.00	6,297.28	6,074.32	6,022.45	23.55	18.63	89.99	0.30	776.80	1,816.93	1,787.66	29.27	62.076		
6,450.00	6,346.19	6,121.09	6,068.68	23.77	18.79	89.99	0.30	783.87	1,834.60	1,805.09	29.51	62.161		
6,500.00	6,395.10	6,167.86	6,114.92	23.99	18.96	89.99	0.30	790.95	1,852.28	1,822.52	29.76	62.244		
6,550.00	6,444.00	6,214.63	6,161.15	24.21	19.12	89.99	0.30	798.02	1,869.95	1,839.95	30.00	62.326		
6,600.00	6,492.91	6,261.40	6,207.39	24.44	19.29	89.99	0.30	805.10	1,887.63	1,857.38	30.25	62.406		
6,650.00	6,541.82	6,308.18	6,253.62	24.66	19.45	89.99	0.30	812.17	1,905.30	1,874.81	30.49	62.484		
6,700.00	6,590.73	6,354.95	6,299.85	24.88	19.62	89.99	0.30	819.25	1,922.97	1,892.24	30.74	62.562		
6,750.00	6,639.63	6,401.72	6,346.09	25.10	19.78	89.99	0.30	826.32	1,940.65	1,909.66	30.98	62.638		
6,800.00	6,688.54	6,448.49	6,392.32	25.33	19.95	89.99	0.30	833.40	1,958.32	1,927.09	31.23	62.712		
6,850.00	6,737.45	6,495.27	6,438.56	25.55	20.11	89.99	0.30	840.47	1,975.99	1,944.52	31.47	62.786		
6,900.00	6,786.35	6,542.04	6,484.79	25.77	20.28	89.99	0.30	847.55	1,993.67	1,961.95	31.72	62.858		
6,950.00	6,835.26	6,588.81	6,531.03	25.99	20.44	89.99	0.30	854.62	2,011.34	1,979.38	31.96	62.929		
7,000.00	6,884.17	6,635.58	6,577.26	26.21	20.61	89.99	0.30	861.70	2,029.02	1,996.81	32.21	62.998		
7,050.00	6,933.15	6,682.47	6,623.61	26.41	20.78	89.99	0.30	868.79	2,046.37	2,013.86	32.51	62.950		
7,100.00	6,982.29	6,729.68	6,670.25	26.59	20.94	89.99	0.30	875.93	2,062.91	2,030.10	32.61	62.875		
7,150.00	7,031.59	6,777.12	6,717.17	26.74	21.11	89.99	0.30	883.11	2,078.63	2,045.54	33.09	62.819		
7,200.00	7,081.02	6,824.85	6,764.35	26.88	21.28	89.99	0.30	890.33	2,093.51	2,060.15	33.38	62.751		
7,250.00	7,130.58	6,872.84	6,811.79	27.01	21.45	89.99	0.30	897.58	2,107.56	2,073.94	33.62	62.683		
7,300.00	7,180.24	6,921.06	6,859.45	27.13	21.62	89.99	0.30	904.88	2,120.77	2,088.90	33.89	62.603		
7,350.00	7,230.00	6,969.51	6,907.34	27.23	21.79	89.99	0.30	912.21	2,133.14	2,099.02	34.12	62.523		
7,400.00	7,279.84	7,018.16	6,955.44	27.33	21.96	89.99	0.30	919.57	2,144.66	2,110.30	34.35	62.432		
7,450.00	7,329.74	7,075.38	7,012.00	27.42	22.16	89.99	0.30	928.20	2,155.32	2,120.73	34.59	62.309		
7,500.00	7,379.69	7,125.60	7,211.20	27.50	22.64	89.99	0.30	950.80	2,163.22	2,128.15	35.07	61.693		
7,550.00	7,429.67	7,180.11	7,265.19	27.56	22.93	89.99	0.30	959.44	2,168.75	2,131.24	35.52	61.008		
7,600.00	7,479.66	7,244.59	7,329.66	27.63	23.08	89.99	0.30	959.50	2,167.31	2,131.60	35.71	60.692		
7,650.00	7,529.60	7,294.42	7,379.50	27.69	23.15	90.05	0.32	959.50	2,167.34	2,131.45	35.69	60.389		
7,700.00	7,579.06	7,343.21	7,428.18	27.75	23.22	90.16	3.21	959.52	2,167.45	2,131.38	36.07	60.086		
7,750.00	7,627.49	7,392.42	7,476.72	27.82	23.29	90.28	11.14	959.57	2,167.66	2,131.41	36.25	59.790		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 5H - Wellbore #1 - Plan#1 012414														Offset Site Error:	0.00 usft
Survey Program: 0-MAX														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
7,800.00	7,674.37	7,742.07	7,674.61	27.88	23.37	90.39	24.17	959.65	2,167.97	2,131.53	36.44	59.489			
7,850.00	7,719.18	7,792.19	7,721.32	27.95	23.45	90.49	42.28	959.77	2,168.38	2,131.74	36.64	59.178			
7,900.00	7,761.43	7,842.79	7,766.28	28.02	23.53	90.59	65.43	959.92	2,168.87	2,132.02	36.86	58.843			
7,950.00	7,806.66	7,893.88	7,808.92	28.10	23.61	90.67	93.49	960.10	2,169.48	2,132.35	37.10	58.469			
8,000.00	7,856.43	7,945.41	7,848.68	28.19	23.70	90.72	128.26	960.31	2,170.12	2,132.73	37.39	58.042			
8,050.00	7,868.37	7,957.44	7,864.99	28.28	23.80	90.75	163.49	960.55	2,170.85	2,133.13	37.72	57.548			
8,100.00	7,896.11	8,049.93	7,917.30	28.39	23.91	90.76	204.82	960.82	2,171.64	2,133.53	38.12	56.975			
8,150.00	7,919.35	8,102.28	7,945.10	28.51	24.04	90.74	249.84	961.11	2,172.46	2,133.91	38.58	56.313			
8,200.00	7,937.84	8,126.21	7,967.89	28.65	24.19	90.69	298.04	961.42	2,173.37	2,134.25	39.11	55.564			
8,250.00	7,951.38	8,209.93	7,985.27	28.82	24.37	90.62	348.84	961.75	2,174.28	2,134.55	39.73	54.730			
8,300.00	7,959.81	8,263.99	7,996.89	29.01	24.58	90.53	401.61	962.09	2,175.21	2,134.79	40.41	53.823			
8,350.00	7,963.05	8,318.34	8,002.49	29.22	24.84	90.42	455.63	962.43	2,176.14	2,134.97	41.17	52.859			
8,400.00	7,963.47	8,369.68	8,003.41	29.46	25.11	90.38	508.95	962.76	2,177.05	2,135.09	41.97	51.878			
8,450.00	7,963.88	8,419.66	8,004.04	29.72	25.41	90.38	556.94	963.09	2,177.96	2,135.14	42.83	50.856			
8,500.00	7,964.29	8,469.65	8,004.67	30.02	25.74	90.38	606.92	963.41	2,178.87	2,135.15	43.72	49.838			
8,550.00	7,964.70	8,519.64	8,005.29	30.34	26.11	90.38	656.91	963.73	2,179.78	2,135.09	44.69	48.778			
8,600.00	7,965.11	8,569.63	8,005.92	30.69	26.50	90.38	706.90	964.05	2,180.68	2,134.99	45.69	47.726			
8,650.00	7,965.52	8,619.62	8,006.55	31.06	26.92	90.38	756.88	964.37	2,181.59	2,134.83	46.76	46.653			
8,700.00	7,965.93	8,669.61	8,007.18	31.45	27.38	90.38	806.87	964.69	2,182.50	2,134.63	47.66	45.599			
8,750.00	7,966.34	8,719.60	8,007.81	31.87	27.85	90.38	856.86	965.02	2,183.40	2,134.38	49.02	44.539			
8,800.00	7,966.75	8,769.60	8,008.44	32.31	28.35	90.38	906.84	965.34	2,184.31	2,134.10	50.21	43.506			
8,850.00	7,967.16	8,819.59	8,009.06	32.78	28.88	90.38	956.83	965.66	2,185.22	2,133.78	51.44	42.479			
8,900.00	7,967.57	8,869.58	8,009.69	33.26	29.42	90.38	1,006.81	965.98	2,186.13	2,133.42	52.70	41.482			
8,950.00	7,967.98	8,919.57	8,010.32	33.76	29.98	90.38	1,056.80	966.30	2,187.03	2,133.03	54.00	40.499			
9,000.00	7,968.39	8,969.56	8,010.95	34.29	30.57	90.38	1,106.79	966.63	2,187.94	2,132.62	55.32	39.548			
9,050.00	7,968.80	9,019.55	8,011.58	34.83	31.17	90.38	1,156.77	966.95	2,188.85	2,132.16	56.68	38.616			
9,100.00	7,969.21	9,069.54	8,012.20	35.38	31.78	90.38	1,206.76	967.27	2,189.75	2,131.70	58.06	37.716			
9,150.00	7,969.62	9,119.53	8,012.83	35.96	32.41	90.38	1,256.75	967.59	2,190.66	2,131.19	59.47	36.838			
9,200.00	7,970.03	9,169.53	8,013.46	36.54	33.06	90.38	1,306.73	967.91	2,191.57	2,130.68	60.89	35.992			
9,250.00	7,970.44	9,219.52	8,014.09	37.15	33.72	90.38	1,356.72	968.23	2,192.48	2,130.13	62.34	35.169			
9,300.00	7,970.85	9,269.51	8,014.72	37.76	34.39	90.38	1,406.71	968.56	2,193.38	2,129.58	63.81	34.376			
9,350.00	7,971.26	9,319.50	8,015.35	38.39	35.07	90.38	1,456.69	968.88	2,194.29	2,129.00	65.29	33.606			
9,400.00	7,971.67	9,369.49	8,015.97	39.03	35.77	90.38	1,506.68	969.20	2,195.20	2,128.40	66.79	32.865			
9,450.00	7,972.08	9,419.48	8,016.60	39.69	36.47	90.38	1,556.66	969.52	2,196.10	2,127.79	68.32	32.147			
9,500.00	7,972.49	9,469.47	8,017.23	40.35	37.18	90.38	1,606.65	969.84	2,197.01	2,127.17	69.85	31.455			
9,550.00	7,972.90	9,519.47	8,017.86	41.02	37.90	90.38	1,656.64	970.17	2,197.92	2,126.52	71.40	30.785			
9,600.00	7,973.31	9,569.46	8,018.49	41.71	38.63	90.38	1,706.62	970.49	2,198.83	2,125.87	72.95	30.140			
9,650.00	7,973.72	9,619.45	8,019.11	42.40	39.37	90.38	1,756.61	970.81	2,199.73	2,125.21	74.53	29.516			
9,700.00	7,974.13	9,669.44	8,019.74	43.10	40.12	90.38	1,806.60	971.13	2,200.64	2,124.53	76.11	28.914			
9,750.00	7,974.54	9,719.43	8,020.37	43.81	40.87	90.38	1,856.58	971.45	2,201.55	2,123.84	77.71	28.332			
9,800.00	7,974.95	9,769.42	8,021.00	44.53	41.63	90.38	1,906.57	971.78	2,202.46	2,123.15	79.31	27.771			
9,850.00	7,975.36	9,819.41	8,021.63	45.26	42.39	90.38	1,956.56	972.10	2,203.36	2,122.44	80.92	27.228			
9,900.00	7,975.77	9,869.40	8,022.26	45.99	43.16	90.38	2,006.54	972.42	2,204.27	2,121.73	82.55	26.704			
9,950.00	7,976.18	9,919.40	8,022.88	46.73	43.94	90.38	2,056.53	972.74	2,205.18	2,121.00	84.18	26.197			
10,000.00	7,976.59	9,969.39	8,023.51	47.47	44.72	90.38	2,106.51	973.06	2,206.09	2,120.27	85.82	25.707			
10,050.00	7,977.00	10,019.38	8,024.14	48.23	45.51	90.38	2,156.50	973.38	2,206.99	2,119.53	87.46	25.233			
10,100.00	7,977.41	10,069.37	8,024.77	48.98	46.30	90.38	2,206.49	973.71	2,207.90	2,118.79	89.12	24.775			
10,150.00	7,977.82	10,119.36	8,025.40	49.75	47.09	90.38	2,256.47	974.03	2,208.81	2,118.03	90.78	24.332			
10,200.00	7,978.23	10,169.35	8,026.02	50.51	47.89	90.38	2,306.46	974.35	2,209.72	2,117.27	92.44	23.904			
10,250.00	7,978.62	10,219.35	8,026.65	51.29	48.71	90.37	2,356.45	974.68	2,210.62	2,116.50	94.12	23.486			
10,300.00	7,978.40	10,270.07	8,026.40	52.07	49.52	90.37	2,407.17	975.00	2,211.53	2,115.72	95.81	23.083			
10,350.00	7,978.28	10,320.06	8,026.26	52.85	50.33	90.37	2,457.16	975.32	2,212.43	2,114.94	97.49	22.693			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Offset Design Sec 20 T24S R 28E - Browning Fed Com 5H - Wellbore #1 - Plan#1 012414													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
10,400.00	7,978.16	10,370.05	8,028.13	53.64	51.14	90.37	2,507.15	975.64	2,213.33	2,114.15	99.18	22.316		
10,450.00	7,978.04	10,420.05	8,025.99	54.43	51.66	90.37	2,557.14	975.96	2,214.23	2,113.38	100.87	21.951		
10,500.00	7,977.92	10,470.04	8,025.85	55.22	52.78	90.37	2,607.13	976.29	2,215.14	2,112.57	102.57	21.596		
10,550.00	7,977.80	10,520.03	8,025.72	56.02	53.61	90.37	2,657.13	976.61	2,216.04	2,111.77	104.27	21.252		
10,600.00	7,977.68	10,570.02	8,025.58	56.82	54.44	90.37	2,707.12	976.93	2,216.94	2,110.98	105.98	20.919		
10,650.00	7,977.56	10,620.01	8,025.45	57.63	55.27	90.37	2,757.11	977.25	2,217.84	2,110.15	107.69	20.595		
10,700.00	7,977.44	10,670.00	8,025.31	58.44	56.10	90.37	2,807.10	977.57	2,218.75	2,109.34	109.40	20.280		
10,750.00	7,977.32	10,720.00	8,025.17	59.25	56.93	90.37	2,857.09	977.90	2,219.65	2,108.53	111.12	19.975		
10,800.00	7,977.20	10,769.99	8,025.04	60.07	57.77	90.37	2,907.08	978.22	2,220.55	2,107.71	112.84	19.678		
10,850.00	7,977.08	10,819.98	8,024.90	60.88	58.61	90.37	2,957.07	978.54	2,221.46	2,106.89	114.57	19.390		
10,900.00	7,976.96	10,869.97	8,024.77	61.71	59.45	90.37	3,007.06	978.86	2,222.36	2,106.06	116.30	19.109		
10,950.00	7,976.84	10,919.96	8,024.63	62.53	60.29	90.37	3,057.05	979.18	2,223.26	2,105.23	118.03	18.837		
11,000.00	7,976.72	10,969.96	8,024.49	63.36	61.14	90.37	3,107.04	979.50	2,224.16	2,104.40	119.76	18.572		
11,050.00	7,976.60	11,019.95	8,024.36	64.18	61.99	90.37	3,157.03	979.83	2,225.07	2,103.57	121.50	18.314		
11,100.00	7,976.48	11,069.94	8,024.22	65.01	62.84	90.37	3,207.02	980.15	2,225.97	2,102.73	123.24	18.062		
11,150.00	7,976.36	11,119.93	8,024.09	65.85	63.69	90.37	3,257.01	980.47	2,226.87	2,101.89	124.98	17.818		
11,200.00	7,976.24	11,169.92	8,023.95	66.68	64.54	90.37	3,307.00	980.79	2,227.77	2,101.05	126.72	17.580		
11,250.00	7,976.12	11,219.92	8,023.81	67.52	65.40	90.37	3,356.99	981.11	2,228.68	2,100.21	128.47	17.348		
11,300.00	7,976.00	11,269.91	8,023.68	68.36	66.25	90.37	3,406.98	981.44	2,229.59	2,099.38	130.22	17.122		
11,350.00	7,975.88	11,319.90	8,023.54	69.20	67.11	90.37	3,456.97	981.76	2,230.48	2,098.51	131.97	16.901		
11,400.00	7,975.76	11,369.89	8,023.41	70.05	67.97	90.37	3,506.97	982.08	2,231.38	2,097.66	133.72	16.687		
11,450.00	7,975.64	11,419.88	8,023.27	70.89	68.83	90.37	3,556.96	982.40	2,232.29	2,096.81	135.48	16.477		
11,500.00	7,975.52	11,469.87	8,023.13	71.74	69.69	90.37	3,606.95	982.72	2,233.19	2,095.95	137.23	16.273		
11,550.00	7,975.40	11,519.87	8,023.00	72.59	70.55	90.37	3,656.94	983.05	2,234.09	2,095.10	138.99	16.073		
11,600.00	7,975.28	11,569.86	8,022.86	73.44	71.42	90.37	3,706.93	983.37	2,234.99	2,094.24	140.75	15.879		
11,650.00	7,975.16	11,619.85	8,022.72	74.29	72.28	90.37	3,756.92	983.69	2,235.90	2,093.38	142.52	15.689		
11,700.00	7,975.04	11,669.84	8,022.59	75.14	73.15	90.37	3,806.91	984.01	2,236.80	2,092.52	144.28	15.503		
11,750.00	7,974.92	11,719.83	8,022.45	76.00	74.02	90.37	3,856.90	984.33	2,237.70	2,091.66	146.04	15.322		
11,800.00	7,974.80	11,769.83	8,022.32	76.85	74.88	90.37	3,906.89	984.65	2,238.60	2,090.79	147.81	15.145		
11,850.00	7,974.68	11,819.82	8,022.18	77.71	75.75	90.37	3,956.88	984.98	2,239.51	2,089.93	149.58	14.972		
11,900.00	7,974.56	11,869.81	8,022.04	78.57	76.62	90.37	4,006.87	985.30	2,240.41	2,089.06	151.35	14.803		
11,950.00	7,974.44	11,919.80	8,021.91	79.43	77.50	90.37	4,056.86	985.62	2,241.31	2,088.19	153.12	14.638		
12,000.00	7,974.32	11,969.79	8,021.77	80.29	78.37	90.37	4,106.85	985.94	2,242.21	2,087.32	154.89	14.476		
12,050.00	7,974.21	12,019.78	8,021.64	81.15	79.24	90.37	4,156.84	986.26	2,243.12	2,086.45	156.67	14.318		
12,100.00	7,974.09	12,069.78	8,021.50	82.02	80.12	90.37	4,206.83	986.59	2,244.02	2,085.58	158.44	14.163		
12,150.00	7,973.97	12,119.77	8,021.36	82.88	80.99	90.37	4,256.82	986.91	2,244.92	2,084.70	160.22	14.012		
12,200.00	7,973.85	12,169.76	8,021.23	83.75	81.87	90.37	4,306.82	987.23	2,245.82	2,083.83	161.99	13.864		
12,250.00	7,973.73	12,219.75	8,021.09	84.62	82.74	90.37	4,356.81	987.55	2,246.73	2,082.95	163.77	13.719		
12,300.00	7,973.61	12,269.74	8,020.96	85.48	83.62	90.37	4,406.80	987.87	2,247.63	2,082.08	165.55	13.577		
12,350.00	7,973.49	12,319.74	8,020.82	86.35	84.50	90.37	4,456.79	988.20	2,248.53	2,081.20	167.33	13.437		
12,400.00	7,973.37	12,369.73	8,020.68	87.22	85.38	90.37	4,506.78	988.52	2,249.43	2,080.32	169.11	13.301		
12,450.00	7,973.25	12,419.72	8,020.55	88.09	86.26	90.37	4,556.77	988.84	2,250.34	2,079.44	170.90	13.168		
12,500.00	7,973.13	12,469.71	8,020.41	88.97	87.14	90.37	4,606.76	989.16	2,251.24	2,078.56	172.68	13.037		
12,550.00	7,973.01	12,519.70	8,020.28	89.84	88.02	90.37	4,656.75	989.48	2,252.14	2,077.68	174.47	12.909		
12,600.00	7,972.89	12,569.69	8,020.14	90.71	88.90	90.37	4,706.74	989.81	2,253.05	2,076.80	176.25	12.783		
12,650.00	7,972.77	12,619.69	8,020.00	91.59	89.78	90.37	4,756.73	990.13	2,253.95	2,075.91	178.04	12.660		
12,700.00	7,972.65	12,669.68	8,019.87	92.46	90.67	90.37	4,806.72	990.45	2,254.85	2,075.03	179.82	12.539		
12,750.00	7,972.53	12,719.67	8,019.73	93.34	91.55	90.37	4,856.71	990.77	2,255.75	2,074.14	181.61	12.421		
12,800.00	7,972.41	12,769.66	8,019.60	94.21	92.44	90.37	4,906.70	991.09	2,256.66	2,073.26	183.40	12.305		
12,850.00	7,972.29	12,819.65	8,019.46	95.09	93.32	90.37	4,956.69	991.41	2,257.56	2,072.37	185.19	12.191		
12,900.00	7,972.17	12,869.65	8,019.32	95.97	94.20	90.37	5,006.68	991.74	2,258.46	2,071.48	186.98	12.079		
12,950.00	7,972.05	12,919.64	8,019.19	96.85	95.09	90.37	5,056.67	992.06	2,259.36	2,070.59	188.77	11.969		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan# 1 012414	Offset TVD Reference:	Reference Datum

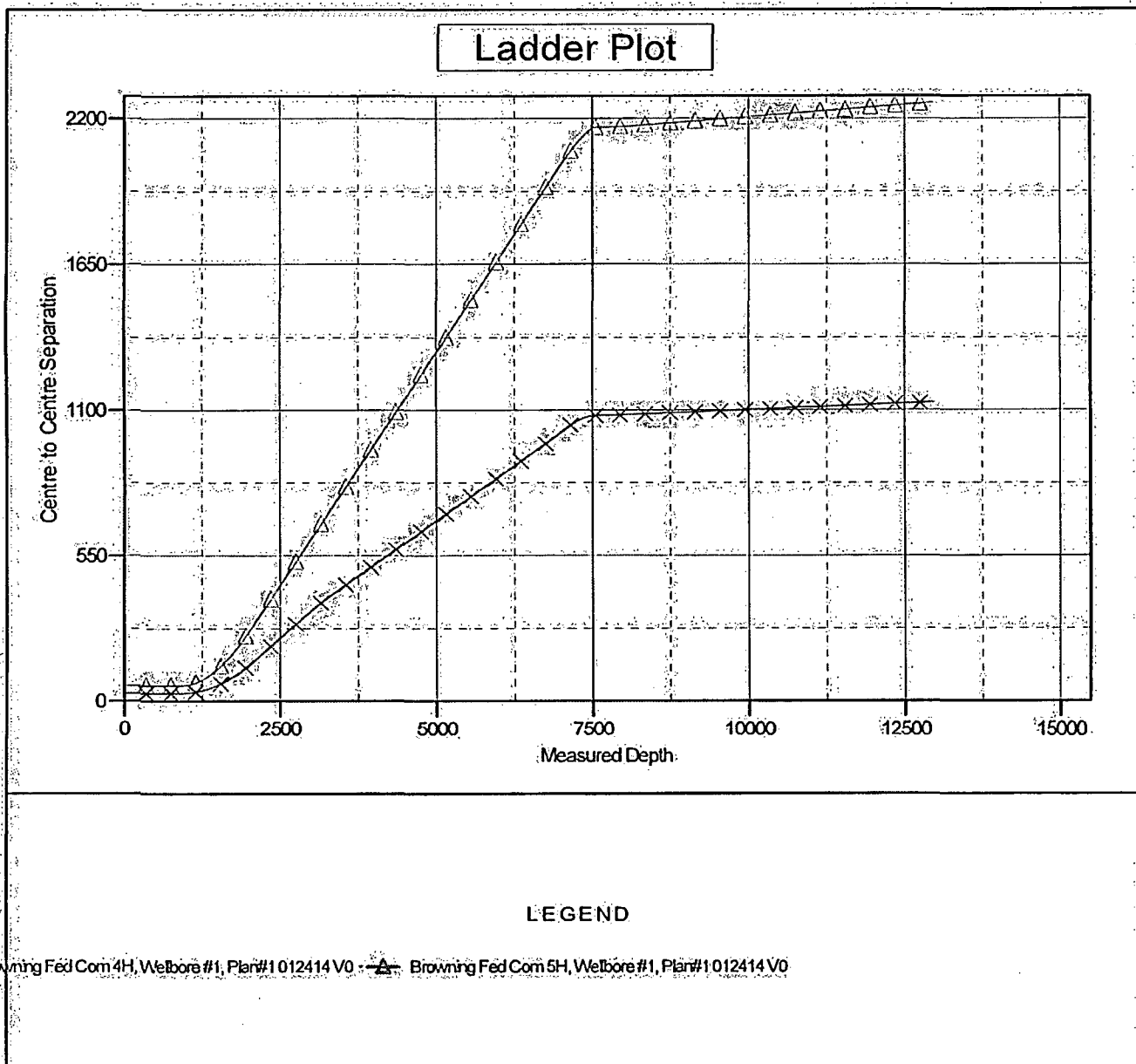
Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference													
Measured	Vertical	Measured	Vertical	Semi Major Axis		Distance							
Depth	Depth	Depth	Depth	Reference	Offset	Azimuth	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	from North	+N/S	Centres	Ellipses	Separation	Factor		
						(°)	(usft)	(usft)	(usft)	(usft)			
12,970.01	-7,972.00	12,939.65	8,019.13	97.20	95.45	90.37	5,076.88	992.19	2,259.72	2,070.24	189.49	11.925 SF	

Company: Legend Natural Gas IV, LP
Project: Eddy County, NM (Nad27)
Reference Site: Sec 20, T24S R 28E
Site Error: 0.00 usft
Reference Well: Browning Fed Com 6H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan#1 012414

Local Co-ordinate Reference: Well Browning Fed Com 6H
TVD Reference: WELL @ 3078.00usft (TBD)
MD Reference: WELL @ 3078.00usft (TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Compass 6000 GCR DB
Offset, TVD Reference: Reference Datum

Reference Depths are relative to WELL @ 3078.00usft (TBD)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.00000 W

Coordinates are relative to: Browning Fed Com 6H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.12"



Company:	Legend Natural Gas IV, LP	Local Co-ordinate Reference:	Well Browning Fed Com 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3078.00usft (TBD)
Reference Site:	Sec 20 T24S R 28E	MD Reference:	WELL @ 3078.00usft (TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Browning Fed Com 6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	Compass 5000 GCR DB
Reference Design:	Plan#1 012414	Offset TVD Reference:	Reference Datum

Reference Depths are relative to WELL @ 3078.00usft (TBD)

Offset Depths are relative to Offset Datum

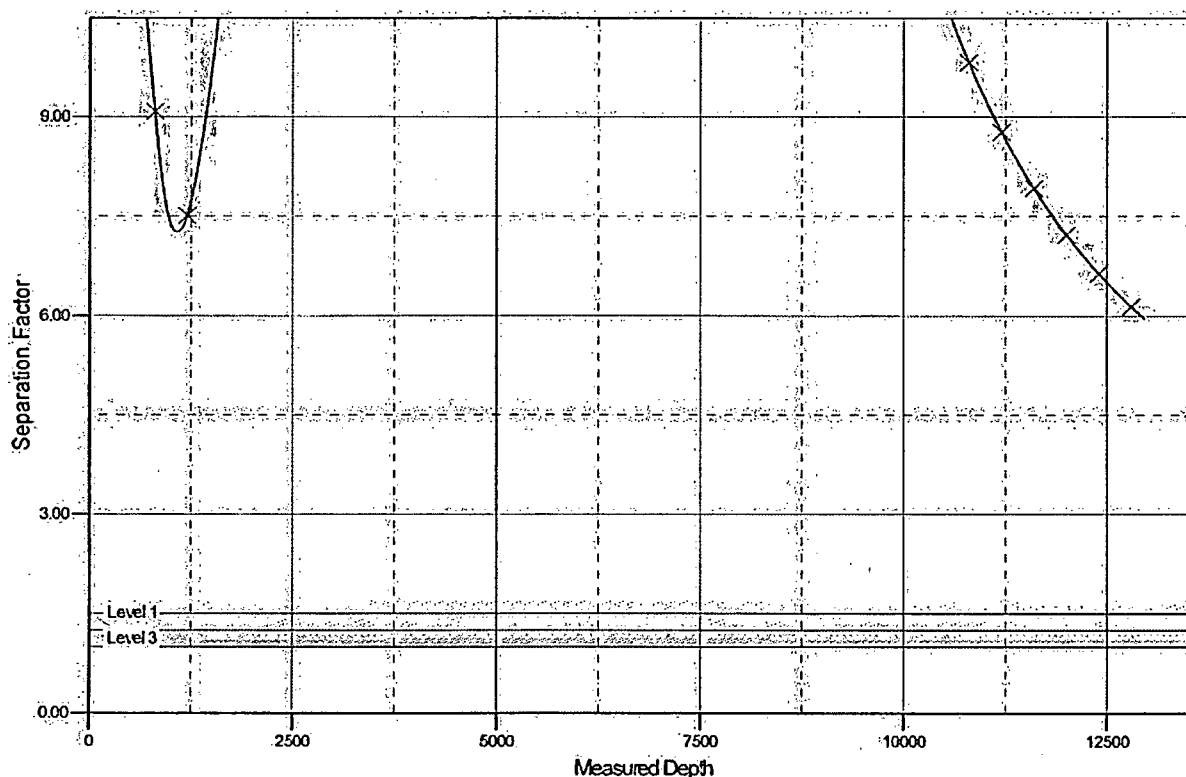
Central Meridian is 104° 19' 60.00000 W

Coordinates are relative to: Browning Fed Com 6H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.12°

Separation Factor Plot



LEGEND

Browning Fed Com 4H, Wellbore #1, Plan#1 012414 V0 Browning Fed Com 5H, Wellbore #1, Plan#1 012414 V0