



PHOENIX
TECHNOLOGY SERVICES

Legend Natural Gas iV, LP

Eddy County, NM (Nad27)

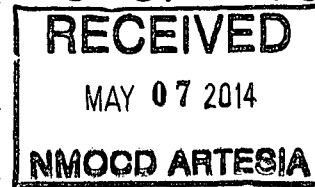
Sec 20 T24S R 28E

High Brass 3H

Wellbore #1

Plan: Plan# 1 042414

30-015-42266

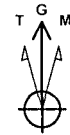


Standard Planning Report

24 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		Begin 1°/100' Build
2	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00		Hold 8.41° Inc.
3	3441.45	8.41	270.00	3438.43	0.00	-81.58	1.00	270.00	7.10		Begin 1°/100' Drop
4	5500.52	8.41	270.00	5494.57	0.00	-569.32	0.00	0.00	58.65		Begin Vertical Hold
5	7341.97	0.00	0.00	7303.00	0.00	-571.00	1.00	180.00	65.75		KOP, 12°/100' Build
6	7441.97	0.00	0.00	7403.00	0.00	-571.00	0.00	0.00	65.75		Hold 89.48° Inc.
7	8187.64	89.48	300.00	7880.45	473.13	-571.02	12.00	360.00	535.74	BHL High Brass 3H	Hold 89.48° Inc.
8	10148.48	89.48	360.00	7898.24	2433.90	-571.10	0.00	0.00	2483.47		Begin 2°/100' Build
9	10167.71	90.26	360.00	7898.33	2473.12	-571.10	2.00	0.00	2522.43		Hold 90.26° Inc.
10	12642.12	90.26	360.00	7887.00	4927.50	-571.20	0.00	0.00	4960.50	BHL High Brass 3H	TD at 12642.12

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	North	East	Latitude	Longitude	Shape
BHL High Brass 3H	7887.00	4927.50	-571.20	440008.90	567415.60	32° 12' 34.22940 N	104° 6' 55.30709 W	Point

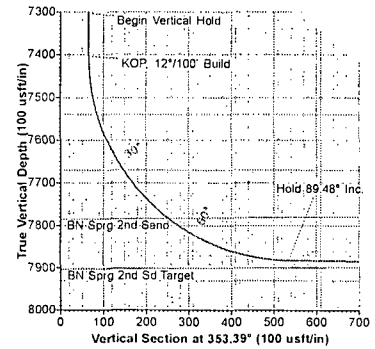
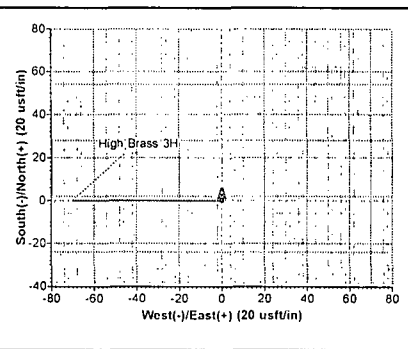
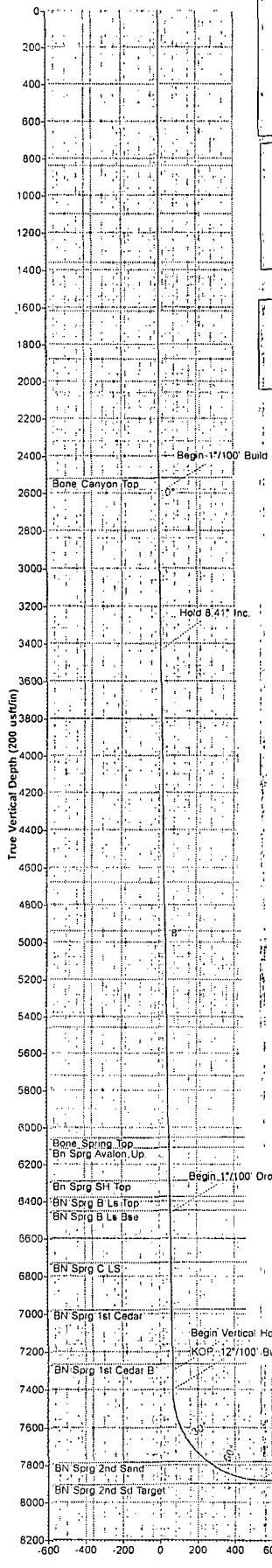
WELL DETAILS

+N-S	+E-W	North	Ground Level	3048.00	Latitude	Longitude
0.00	0.00	435079.40	567988.80	32° 11' 45.45365 N	104° 6' 48.77582 W	

Map System: US State Plane 1827 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well High Brass 3H, Grid North
Latitude: 32° 11' 45.45365 N
Longitude: 104° 6' 48.77582 W
Grid East: 567988.80
Grid North: 435079.40
Scale Factor: 1.000

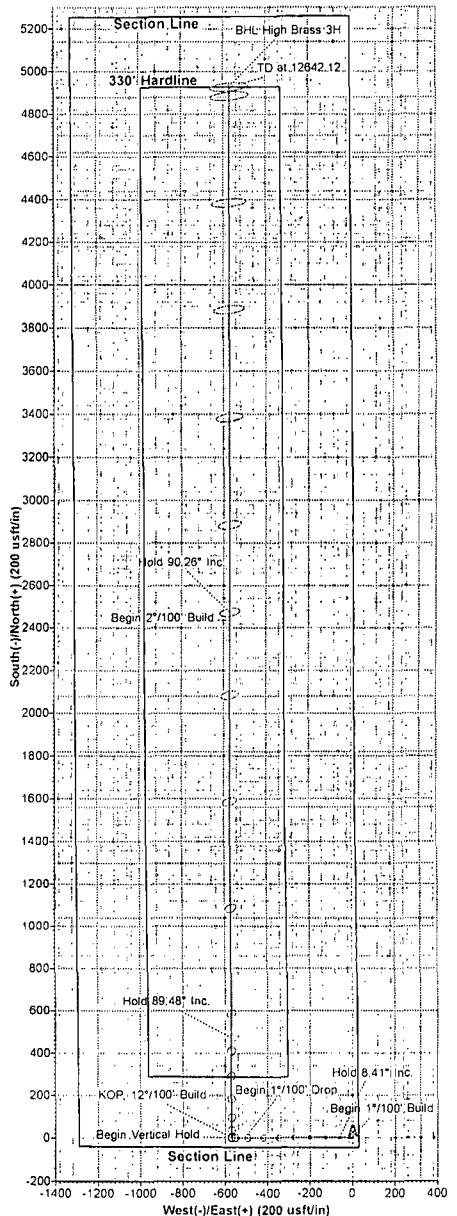
Geomagnetic Model: IGRF2010_14
Sample Date: 24-Apr-14
Magnetic Declination: 7.48°
Dip Angle from Horizontal: 80.00°
Magnetic Field Strength: 48257

To convert a Magnetic Direction to a Grid Direction, Add 7.37°
To convert a Magnetic Direction to a True Direction, Add 7.48° East
To convert a True Direction to a Grid Direction, Subtract 0.12°



FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
2518.00	2518.00	Bone Canyon Top	-0.50	353.39
6053.55	6085.03	Bone Spring Top	-0.50	353.39
6109.54	6141.83	BN Sprg Avalon Up	-0.50	353.39
6287.51	6371.54	BN Sprg SH Top	-0.50	353.39
6375.50	6410.48	BN Sprg B La Top	-0.50	353.39
6449.46	6485.28	BN Sprg B La Base	-0.50	353.39
6727.46	6755.46	BN Sprg C LS	-0.50	353.39
6977.44	7016.23	BN Sprg 1st Cedar	-0.50	353.39
7265.43	7304.40	BN Sprg 1st Cedar B	-0.50	353.39
7782.80	7881.12	BN Sprg 2nd Sand	-0.50	353.39
7889.59	8195.28	BN Sprg 2nd Sd Target	-0.50	353.39





Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well High Brass 3H
Company:	Legend Natural Gas IV, LP	TVD Reference:	WELL @ 3073.00usft (TBD)
Project:	Eddy County, NM (Nad27)	MD Reference:	WELL @ 3073.00usft (TBD)
Site:	Sec 20 T24S R 28E	North Reference:	Grid
Well:	High Brass 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan# 1 042414		

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:	Northings:	440,189.30 usft	Latitude: 32° 12' 36.02364 N
From: Map	Easting:	567,954.40 usft	Longitude: 104° 6' 49.03136 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.12 °

Well	High Brass 3H		
Well Position	+N/-S	-5,109.90 usft	Northings: 435,079.40 usft
	+E/-W	32.40 usft	Easting: 567,986.80 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,048.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010_14	4/24/2014	7.48
			Dip Angle (°)
			60.00
			Field Strength (nT)
			48,257

Design	Plan# 1 042414		
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 (°)
			353.39

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	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,441.45	8.41	270.00	3,438.43	0.00	-61.68	1.00	1.00	0.00	270.00	
6,500.52	8.41	270.00	6,464.57	0.00	-509.32	0.00	0.00	0.00	0.00	
7,341.97	0.00	0.00	7,303.00	0.00	-571.00	1.00	-1.00	0.00	180.00	
7,441.97	0.00	0.00	7,403.00	0.00	-571.00	0.00	0.00	0.00	0.00	
8,187.64	89.48	360.00	7,880.45	473.13	-571.02	12.00	12.00	0.00	360.00	BHL High Brass 3H
10,148.48	89.48	360.00	7,898.24	2,433.90	-571.10	0.00	0.00	0.00	0.00	
10,187.71	90.26	360.00	7,898.33	2,473.12	-571.10	2.00	2.00	0.00	0.00	
12,642.12	90.26	360.00	7,887.00	4,927.50	-571.20	0.00	0.00	0.00	0.00	BHL High Brass 3H



Database: Compass 5000 GCR DB
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Project: Eddy County, NM (Nad27)
Site: Sec20 T24S R 28E
Well: High Brass 3H
Wellbore: Wellbore #1
Design: Plan# 1 042414

Local Co-ordinate Reference: Well High Brass 3H
TVD Reference: WELL @ 3073.00usft (TBD)
MD Reference: WELL @ 3073.00usft (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
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,518.00	0.00	0.00	2,518.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Canyon Top									
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin 1°/100' Build:									
2,700.00	1.00	270.00	2,699.99	0.00	-0.87	0.10	1.00	1.00	0.00
2,800.00	2.00	270.00	2,799.96	0.00	-3.49	0.40	1.00	1.00	0.00
2,900.00	3.00	270.00	2,899.86	0.00	-7.85	0.90	1.00	1.00	0.00
3,000.00	4.00	270.00	2,999.68	0.00	-13.96	1.61	1.00	1.00	0.00
3,100.00	5.00	270.00	3,099.37	0.00	-21.80	2.51	1.00	1.00	0.00
3,200.00	6.00	270.00	3,198.90	0.00	-31.39	3.61	1.00	1.00	0.00
3,300.00	7.00	270.00	3,298.26	0.00	-42.71	4.92	1.00	1.00	0.00
3,400.00	8.00	270.00	3,397.40	0.00	-55.76	6.42	1.00	1.00	0.00
3,441.45	8.41	270.00	3,438.43	0.00	-61.68	7.10	1.00	1.00	0.00
Hold 8.41° Inc.									
3,500.00	8.41	270.00	3,496.35	0.00	-70.24	8.09	0.00	0.00	0.00
3,600.00	8.41	270.00	3,595.27	0.00	-84.88	9.77	0.00	0.00	0.00
3,700.00	8.41	270.00	3,694.20	0.00	-99.51	11.46	0.00	0.00	0.00
3,800.00	8.41	270.00	3,793.12	0.00	-114.15	13.14	0.00	0.00	0.00
3,900.00	8.41	270.00	3,892.04	0.00	-128.78	14.83	0.00	0.00	0.00
4,000.00	8.41	270.00	3,990.97	0.00	-143.41	16.51	0.00	0.00	0.00
4,100.00	8.41	270.00	4,089.89	0.00	-158.05	18.20	0.00	0.00	0.00
4,200.00	8.41	270.00	4,188.81	0.00	-172.68	19.88	0.00	0.00	0.00
4,300.00	8.41	270.00	4,287.74	0.00	-187.31	21.57	0.00	0.00	0.00
4,400.00	8.41	270.00	4,386.66	0.00	-201.95	23.25	0.00	0.00	0.00
4,500.00	8.41	270.00	4,485.58	0.00	-216.58	24.94	0.00	0.00	0.00
4,600.00	8.41	270.00	4,584.51	0.00	-231.21	26.62	0.00	0.00	0.00
4,700.00	8.41	270.00	4,683.43	0.00	-245.85	28.31	0.00	0.00	0.00



Database: Compass 5000 GCR DB
Company: Legend Natural Gas iV, LP
Project: Eddy County, NM (Nad27)
Site: Sec 20 T24S R 28E
Well: High Brass 3H
Wellbore: Wellbore #1
Design: Plan# 1 042414

Local Co-ordinate Reference: Well High Brass 3H
TVD Reference: WELL @ 3073.00usft (TBD)
MD Reference: WELL @ 3073.00usft (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)
4,800.00	8.41	270.00	4,782.35	0.00	-260.48	29.99	0.00	0.00	0.00
4,900.00	8.41	270.00	4,881.28	0.00	-275.11	31.68	0.00	0.00	0.00
5,000.00	8.41	270.00	4,980.20	0.00	-289.75	33.36	0.00	0.00	0.00
5,100.00	8.41	270.00	5,079.12	0.00	-304.38	35.05	0.00	0.00	0.00
5,200.00	8.41	270.00	5,178.05	0.00	-319.01	36.73	0.00	0.00	0.00
5,300.00	8.41	270.00	5,276.97	0.00	-333.65	38.42	0.00	0.00	0.00
5,400.00	8.41	270.00	5,375.90	0.00	-348.28	40.10	0.00	0.00	0.00
5,500.00	8.41	270.00	5,474.82	0.00	-362.91	41.79	0.00	0.00	0.00
5,600.00	8.41	270.00	5,573.74	0.00	-377.55	43.47	0.00	0.00	0.00
5,700.00	8.41	270.00	5,672.67	0.00	-392.18	45.16	0.00	0.00	0.00
5,800.00	8.41	270.00	5,771.59	0.00	-406.81	46.84	0.00	0.00	0.00
5,900.00	8.41	270.00	5,870.51	0.00	-421.45	48.53	0.00	0.00	0.00
6,000.00	8.41	270.00	5,969.44	0.00	-436.08	50.21	0.00	0.00	0.00
6,085.03	8.41	270.00	6,053.55	0.00	-448.52	51.65	0.00	0.00	0.00
Bone Spring Top									
6,100.00	8.41	270.00	6,068.36	0.00	-450.71	51.90	0.00	0.00	0.00
6,141.63	8.41	270.00	6,109.54	0.00	-456.80	52.60	0.00	0.00	0.00
Bn Sprg Avalon Up.									
6,200.00	8.41	270.00	6,167.28	0.00	-465.35	53.58	0.00	0.00	0.00
6,300.00	8.41	270.00	6,266.21	0.00	-479.98	55.27	0.00	0.00	0.00
6,321.54	8.41	270.00	6,287.51	0.00	-483.13	55.63	0.00	0.00	0.00
Bn Sprg SH Top									
6,400.00	8.41	270.00	6,365.13	0.00	-494.61	56.95	0.00	0.00	0.00
6,410.48	8.41	270.00	6,375.50	0.00	-496.15	57.13	0.00	0.00	0.00
BN Sprg B Ls Top									
6,485.28	8.41	270.00	6,449.49	0.00	-507.09	58.39	0.00	0.00	0.00
BN Sprg B Ls Bse									
6,500.00	8.41	270.00	6,464.05	0.00	-509.25	58.64	0.00	0.00	0.00
6,500.52	8.41	270.00	6,464.57	0.00	-509.32	58.65	0.00	0.00	0.00
6,500.62	8.41	270.00	6,464.67	0.00	-509.34	58.65	0.00	0.00	0.00
Begin 1°/100' Drop									
6,600.00	7.42	270.00	6,563.10	0.00	-523.02	60.23	1.00	-1.00	0.00
6,700.00	6.42	270.00	6,662.37	0.00	-535.07	61.61	1.00	-1.00	0.00
6,765.46	5.77	270.00	6,727.46	0.00	-542.02	62.41	1.00	-1.00	0.00
BN Sprg C LS									
6,800.00	5.42	270.00	6,761.83	0.00	-545.39	62.80	1.00	-1.00	0.00
6,900.00	4.42	270.00	6,861.47	0.00	-553.96	63.79	1.00	-1.00	0.00
7,000.00	3.42	270.00	6,961.23	0.00	-560.80	64.58	1.00	-1.00	0.00
7,016.23	3.26	270.00	6,977.44	0.00	-561.74	64.68	1.00	-1.00	0.00
BN Sprg 1st Cedar									
7,100.00	2.42	270.00	7,061.10	0.00	-565.89	65.16	1.00	-1.00	0.00
7,200.00	1.42	270.00	7,161.04	0.00	-569.24	65.55	1.00	-1.00	0.00
7,300.00	0.42	270.00	7,261.03	0.00	-570.85	65.73	1.00	-1.00	0.00
7,304.40	0.38	270.00	7,265.43	0.00	-570.88	65.74	1.00	-1.00	0.00
BN Sprg 1st Cedar B									
7,341.97	0.00	0.00	7,303.00	0.00	-571.00	65.75	1.00	-1.00	239.55
Begin Vertical Hold									
7,400.00	0.00	0.00	7,361.03	0.00	-571.00	65.75	0.00	0.00	0.00
7,441.97	0.00	0.00	7,403.00	0.00	-571.00	65.75	0.00	0.00	0.00
KOP, 12°/100' Build									
7,500.00	6.96	360.00	7,460.88	3.52	-571.00	69.25	12.00	12.00	0.00
7,600.00	18.96	360.00	7,558.16	25.91	-571.00	91.49	12.00	12.00	0.00
7,700.00	30.96	360.00	7,648.65	68.04	-571.00	133.34	12.00	12.00	0.00



Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well High Brass 3H
Company:	Legend Natural Gas IV, LP	TVD Reference:	WELL @ 3073.00usft (TBD)
Project:	Eddy County, NM (Nad27)	MD Reference:	WELL @ 3073.00usft (TBD)
Site:	Sec 20 T24S R 28E	North Reference:	Grid
Well:	High Brass 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan# 1 042414		

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)
7,800.00	42.96	360.00	7,728.41	128.06	-571.01	192.96	12.00	12.00	0.00
7,881.12	52.70	360.00	7,782.80	188.11	-571.01	252.61	12.00	12.00	0.00
BN Sprg 2nd Sand									
7,900.00	54.96	360.00	7,793.94	203.35	-571.01	267.75	12.00	12.00	0.00
8,000.00	66.96	360.00	7,842.39	290.62	-571.01	354.44	12.00	12.00	0.00
8,100.00	78.96	360.00	7,871.63	386.06	-571.02	449.24	12.00	12.00	0.00
8,187.64	89.48	360.00	7,880.45	473.13	-571.02	535.74	12.00	12.00	0.00
Hold 89.48° Inc.									
8,200.00	89.48	360.00	7,880.56	485.49	-571.02	548.01	0.00	0.00	0.00
8,300.00	89.48	360.00	7,881.47	585.49	-571.02	647.35	0.00	0.00	0.00
8,400.00	89.48	360.00	7,882.37	685.48	-571.03	746.68	0.00	0.00	0.00
8,500.00	89.48	360.00	7,883.28	785.48	-571.03	846.01	0.00	0.00	0.00
8,600.00	89.48	360.00	7,884.19	885.47	-571.04	945.34	0.00	0.00	0.00
8,700.00	89.48	360.00	7,885.10	985.47	-571.04	1,044.67	0.00	0.00	0.00
8,800.00	89.48	360.00	7,886.00	1,085.47	-571.04	1,144.00	0.00	0.00	0.00
8,900.00	89.48	360.00	7,886.91	1,185.46	-571.05	1,243.33	0.00	0.00	0.00
9,000.00	89.48	360.00	7,887.82	1,285.46	-571.05	1,342.66	0.00	0.00	0.00
9,100.00	89.48	360.00	7,888.73	1,385.45	-571.06	1,442.00	0.00	0.00	0.00
9,195.28	89.48	360.00	7,889.59	1,480.73	-571.06	1,536.64	0.00	0.00	0.00
BN Sprg 2nd Sd Target									
9,200.00	89.48	360.00	7,889.63	1,485.45	-571.06	1,541.33	0.00	0.00	0.00
9,300.00	89.48	360.00	7,890.54	1,585.45	-571.06	1,640.66	0.00	0.00	0.00
9,400.00	89.48	360.00	7,891.45	1,685.44	-571.07	1,739.99	0.00	0.00	0.00
9,500.00	89.48	360.00	7,892.36	1,785.44	-571.07	1,839.32	0.00	0.00	0.00
9,600.00	89.48	360.00	7,893.26	1,885.43	-571.08	1,938.65	0.00	0.00	0.00
9,700.00	89.48	360.00	7,894.17	1,985.43	-571.08	2,037.98	0.00	0.00	0.00
9,800.00	89.48	360.00	7,895.08	2,085.43	-571.08	2,137.31	0.00	0.00	0.00
9,900.00	89.48	360.00	7,895.99	2,185.42	-571.09	2,236.64	0.00	0.00	0.00
10,000.00	89.48	360.00	7,896.89	2,285.42	-571.09	2,335.98	0.00	0.00	0.00
10,100.00	89.48	360.00	7,897.80	2,385.41	-571.10	2,435.31	0.00	0.00	0.00
10,148.48	89.48	360.00	7,898.24	2,433.89	-571.10	2,483.46	0.00	0.00	0.00
Begin 2°/100' Build									
10,187.71	90.26	360.00	7,898.33	2,473.12	-571.10	2,522.43	2.00	2.00	0.00
Hold 90.26° Inc.									
10,200.00	90.26	360.00	7,898.27	2,485.41	-571.10	2,534.64	0.00	0.00	0.00
10,300.00	90.26	360.00	7,897.81	2,585.41	-571.10	2,633.97	0.00	0.00	0.00
10,400.00	90.26	360.00	7,897.35	2,685.41	-571.11	2,733.31	0.00	0.00	0.00
10,500.00	90.26	360.00	7,896.89	2,785.41	-571.11	2,832.64	0.00	0.00	0.00
10,600.00	90.26	360.00	7,896.43	2,885.41	-571.12	2,931.98	0.00	0.00	0.00
10,700.00	90.26	360.00	7,895.96	2,985.41	-571.12	3,031.31	0.00	0.00	0.00
10,800.00	90.26	360.00	7,895.50	3,085.40	-571.13	3,130.65	0.00	0.00	0.00
10,900.00	90.26	360.00	7,895.04	3,185.40	-571.13	3,229.98	0.00	0.00	0.00
11,000.00	90.26	360.00	7,894.58	3,285.40	-571.13	3,329.31	0.00	0.00	0.00
11,100.00	90.26	360.00	7,894.12	3,385.40	-571.14	3,428.65	0.00	0.00	0.00
11,200.00	90.26	360.00	7,893.66	3,485.40	-571.14	3,527.98	0.00	0.00	0.00
11,300.00	90.26	360.00	7,893.19	3,585.40	-571.15	3,627.32	0.00	0.00	0.00
11,400.00	90.26	360.00	7,892.73	3,685.40	-571.15	3,726.65	0.00	0.00	0.00
11,500.00	90.26	360.00	7,892.27	3,785.40	-571.15	3,825.99	0.00	0.00	0.00
11,600.00	90.26	360.00	7,891.81	3,885.40	-571.16	3,925.32	0.00	0.00	0.00
11,700.00	90.26	360.00	7,891.35	3,985.39	-571.16	4,024.65	0.00	0.00	0.00
11,800.00	90.26	360.00	7,890.89	4,085.39	-571.17	4,123.99	0.00	0.00	0.00
11,900.00	90.26	360.00	7,890.43	4,185.39	-571.17	4,223.32	0.00	0.00	0.00
12,000.00	90.26	360.00	7,889.96	4,285.39	-571.17	4,322.66	0.00	0.00	0.00



Database: Compass 5000 GCR DB
Company: Legend Natural Gas iV, LP
Project: Eddy County, NM (Nad27)
Site: Sec 20 T24S R 28E
Well: High Brass 3H
Wellbore: Wellbore #1
Design: Plan# 1 042414

Local Co-ordinate Reference: Well High Brass 3H
TVD Reference: WELL @ 3073.00usft (TBD)
MD Reference: WELL @ 3073.00usft (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)
12,100.00	90.26	360.00	7,889.50	4,385.39	-571.18	4,421.99	0.00	0.00	0.00
12,200.00	90.26	360.00	7,889.04	4,485.39	-571.18	4,521.32	0.00	0.00	0.00
12,300.00	90.26	360.00	7,888.58	4,585.39	-571.19	4,620.66	0.00	0.00	0.00
12,400.00	90.26	360.00	7,888.12	4,685.39	-571.19	4,719.99	0.00	0.00	0.00
12,500.00	90.26	360.00	7,887.66	4,785.39	-571.19	4,819.33	0.00	0.00	0.00
12,600.00	90.26	360.00	7,887.19	4,885.39	-571.20	4,918.66	0.00	0.00	0.00
12,642.12	90.26	360.00	7,887.00	4,927.50	-571.20	4,960.50	0.00	0.00	0.00
TD at 12642.12									

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 High Brass 3H	0.00	0.00	7,887.00	4,927.50	-571.20	440,006.90	567,415.60	32° 12' 34.22940 N	104° 6' 55.30710 W
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,518.00	2,518.00	Bone Canyon Top		-0.50	353.39
6,085.03	6,053.55	Bone Spring Top		-0.50	353.39
6,141.63	6,109.54	Bn Sprg Avalon Up.		-0.50	353.39
6,321.54	6,287.51	Bn Sprg SH Top		-0.50	353.39
6,410.48	6,375.50	BN Sprg B Ls Top		-0.50	353.39
6,485.28	6,449.49	BN Sprg B Ls Bse		-0.50	353.39
6,765.46	6,727.46	BN Sprg C LS		-0.50	353.39
7,016.23	6,977.44	BN Sprg 1st Cedar		-0.50	353.39
7,304.40	7,265.43	BN Sprg 1st Cedar B		-0.50	353.39
7,881.12	7,782.80	BN Sprg 2nd Sand		-0.50	353.39
9,195.28	7,889.59	BN Sprg 2nd Sd Target		-0.50	353.39

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,600.00	2,600.00	0.00	0.00	Begin 1°/100' Build
3,441.45	3,438.43	0.00	-61.68	Hold 8.41° Inc.
6,500.62	6,464.67	0.00	-509.34	Begin 1°/100' Drop
7,341.97	7,303.00	0.00	-571.00	Begin Vertical Hold
7,441.97	7,403.00	0.00	-571.00	KOP, 12°/100' Build
8,187.64	7,880.45	473.13	-571.02	Hold 89.48° Inc.
10,148.48	7,898.24	2,433.89	-571.10	Begin 2°/100' Build
10,187.71	7,898.33	2,473.12	-571.10	Hold 90.26° Inc.
12,642.12	7,887.00	4,927.50	-571.20	TD at 12642.12