Triad Hunter

PHOENIX
TECHNOLOGY SERVICES

Collins #1118
Collins Unit - Tyler County, WV
20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Latitude: 39° 29' 42.892 N
Longitude: 80° 55' 5.489 W
Northing: 365655.82
Easting: 1568304.54
Design #6

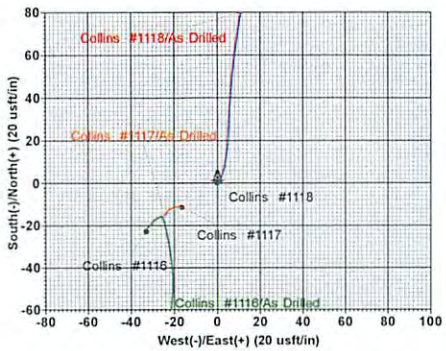
Map System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone Name:	West Virginia Northern Zone
Local Origin:	Well Collins #1118 - Slot #1118, Grid North
Grid East:	1568304.54
Grid North:	365655.82
Scale Factor:	1.000
Geomagnetic Model:	IGRF2010
Sample Date:	15-May-13
Magnetic Declination:	-8.38°
Dip Angle from Horizontal:	67.09°
Magnetic Field Strength:	52551

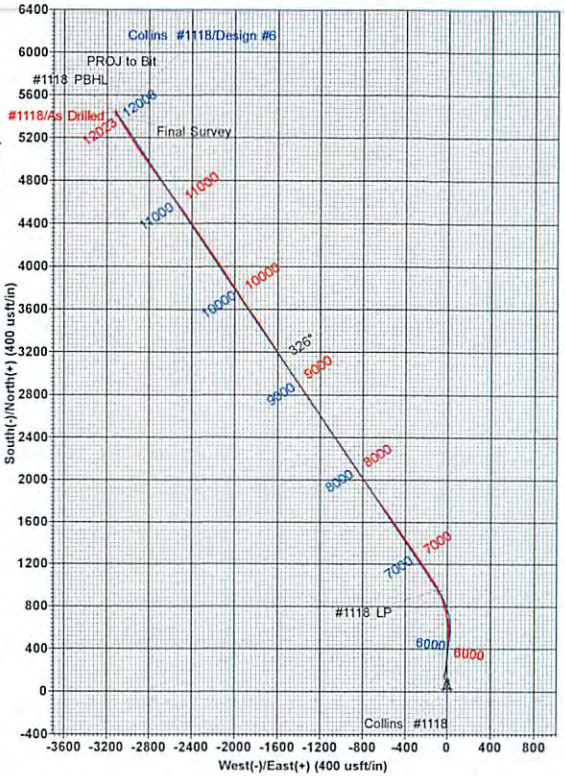
To convert a Magnetic Direction to a Grid Direction, Subtract 7.48°
To convert a Magnetic Direction to a True Direction, Subtract 8.38°
To convert a True Direction to a Grid Direction, Add 0.90°

Azimuths to Grid North
True North: 0.90°
Magnetic North: -7.48°

Magnetic Field
Strength: 52550.8snT
Dip Angle: 67.09°
Date: 5/15/2013
Model: IGRF2010

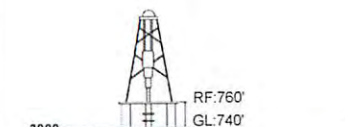
RECEIVED
Office of Oil and Gas
DEC 11 2014
WV Department of
Environmental Protection

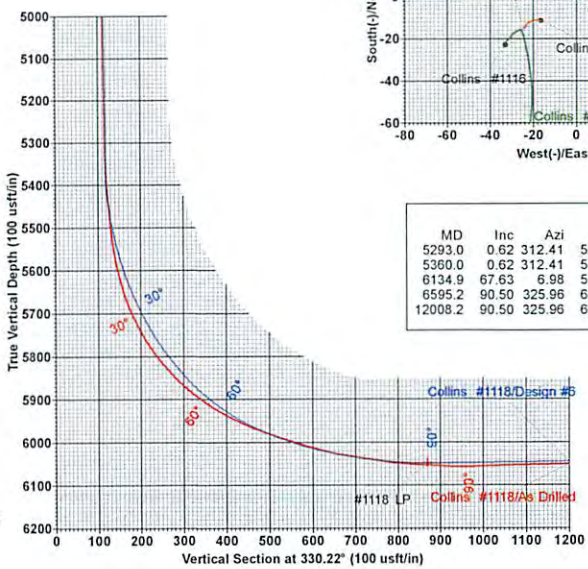




SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
5293.0	0.62	312.41	5284.4	123.8	-19.9	0.00	0.00	117.4	
5360.0	0.62	312.41	5351.3	124.3	-20.4	0.00	0.00	118.0	
6134.9	67.63	6.98	5957.5	530.6	25.4	8.68	54.78	447.9	
6595.2	90.50	325.96	6048.0	955.6	-83.5	10.00	-65.79	870.8	#1118 LP
12008.2	90.50	325.96	6000.8	5440.7	-3113.8	0.00	0.00	6268.7	#1118 PBHL





DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
#1118 PBHL	6000.8	5440.7	-3113.8	371096.55	1565190.75	39° 30' 36.172 N	80° 55' 46.311 W	Point
- plan hits target center								
#1118 LP	6048.0	955.6	-83.5	366611.41	1568221.03	39° 29' 52.323 N	80° 55' 6.747 W	Point
- plan hits target center								

95-02042

Triad Hunter
Collins #1118

Drawn By:Chris Testa
10:04, July 30 2013

Phoenix Technology Services
Foster Plaza 5, Suite 300 : 651 Holiday Dr.
Pittsburgh, PA 15220

95.02042

PHOENIX
TECHNOLOGY SERVICES

Triad Hunter

Collins Unit
Collins Unit - Tyler County, WV
Collins #1118 - Slot #1118

Original Well

Design: As Drilled

Standard Survey Report

30 July, 2013

Triad Hunter

95.02042

PHOENIX TECHNOLOGY SERVICES

Phoenix Technology Services

Survey Report

Triad Hunter

Company:	Triad Hunter	**Local Co-ordinate Reference:**	Well Collins #1118 - Slot #1118
Project:	Collins Unit	**TVD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Site:	Collins Unit - Tyler County, WV	**MD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Well:	Collins #1118	**North Reference:**	Grid
Wellbore:	Original Well	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Local database

Project Collins Unit

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site Collins Unit - Tyler County, WV

Site Position:		**Northing:**	365,633.03 usft	**Latitude:**	39° 29' 42.662 N
From:	Map	**Easting:**	1,568,271.67 usft	**Longitude:**	80° 55' 5.904 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.90 °

Well Collins #1118 - Slot #1118

Well Position	**+N/-S**	0.0 usft	**Northing:**	365,655.82 usft	**Latitude:**	39° 29' 42.892 N
	+E/-W	0.0 usft	**Easting:**	1,568,304.54 usft	**Longitude:**	80° 55' 5.489 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	740.0 usft

Wellbore Original Well

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/15/2013	-8.38	67.09	52,551

Design As Drilled

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	330.22

Survey Program **Date** 7/30/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
108.0	5,293.0	Vaughn Gyro (Original Well)	GyroFlex	
5,331.0	12,023.0	Phoenix MWD (Original Well)	MWD	

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
108.0	0.11	182.34	108.0	-0.1	0.0	-0.1	0.10	0.10	0.00
208.0	0.14	60.41	208.0	-0.1	0.1	-0.2	0.22	0.03	-121.93
308.0	0.14	113.09	308.0	-0.1	0.3	-0.3	0.12	0.00	52.68
408.0	0.13	136.15	408.0	-0.3	0.5	-0.5	0.05	-0.01	23.06
508.0	0.32	47.84	508.0	-0.2	0.8	-0.5	0.34	0.19	-88.31
608.0	2.42	22.05	608.0	2.0	1.8	0.8	2.14	2.10	-25.79
708.0	5.34	12.09	707.7	8.5	3.6	5.6	2.99	2.92	-9.96

02/06/2015

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Survey Report

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Site:	Collins Unit - Tyler County, WV	**MD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Well:	Collins #1118	**North Reference:**	Grid
Wellbore:	Original Well	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Local database

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)
808.0	8.05	3.53	807.0	20.0	5.0	14.9	2.88	2.71	-8.56
908.0	9.60	2.30	905.9	35.4	5.7	27.8	1.56	1.55	-1.23
1,008.0	10.06	6.94	1,004.4	52.4	7.1	41.9	0.92	0.46	4.64
1,108.0	10.10	8.10	1,102.8	69.7	9.4	55.8	0.21	0.04	1.16
1,208.0	9.00	12.49	1,201.5	86.0	12.3	68.5	1.32	-1.10	4.39
1,308.0	6.85	11.29	1,300.5	99.5	15.2	78.8	2.16	-2.15	-1.20
1,408.0	4.86	15.67	1,400.0	109.4	17.5	86.3	2.04	-1.99	4.38
1,508.0	3.08	3.57	1,499.7	116.2	18.8	91.5	1.96	-1.78	-12.10
1,608.0	1.39	347.34	1,599.6	120.1	18.7	94.9	1.79	-1.69	-16.23
1,708.0	0.96	204.40	1,699.6	120.5	18.1	95.6	2.23	-0.43	-142.94
1,808.0	1.03	208.14	1,799.6	118.9	17.3	94.6	0.10	0.07	3.74
1,908.0	0.74	220.32	1,899.6	117.7	16.5	93.9	0.34	-0.29	12.18
2,008.0	0.83	257.62	1,999.6	117.0	15.4	93.9	0.51	0.09	37.30
2,108.0	0.85	254.12	2,099.6	116.6	14.0	94.3	0.06	0.02	-3.50
2,208.0	0.79	252.21	2,199.6	116.2	12.6	94.6	0.07	-0.06	-1.91
2,308.0	0.77	261.54	2,299.6	115.9	11.3	95.0	0.13	-0.02	9.33
2,408.0	0.81	263.99	2,399.6	115.8	9.9	95.6	0.05	0.04	2.45
2,508.0	0.69	264.84	2,499.6	115.6	8.6	96.1	0.12	-0.12	0.85
2,608.0	0.72	276.38	2,599.5	115.6	7.4	96.7	0.14	0.03	11.54
2,708.0	0.66	275.91	2,699.5	115.8	6.2	97.4	0.06	-0.06	-0.47
2,808.0	0.54	277.65	2,799.5	115.9	5.1	98.0	0.12	-0.12	1.74
2,908.0	0.62	279.95	2,899.5	116.0	4.1	98.7	0.08	0.08	2.30
3,008.0	0.59	278.18	2,999.5	116.2	3.1	99.3	0.04	-0.03	-1.77
3,108.0	0.24	269.87	3,099.5	116.3	2.4	99.8	0.35	-0.35	-8.31
3,208.0	0.44	305.39	3,199.5	116.5	1.8	100.2	0.28	0.20	35.52
3,308.0	0.52	270.43	3,299.5	116.7	1.1	100.8	0.30	0.08	-34.96
3,408.0	0.33	269.83	3,399.5	116.7	0.3	101.2	0.19	-0.19	-0.60
3,508.0	0.46	268.15	3,499.5	116.7	-0.3	101.5	0.13	0.13	-1.68
3,608.0	0.60	262.10	3,599.5	116.6	-1.3	101.9	0.15	0.14	-6.05
3,708.0	0.54	263.35	3,699.5	116.5	-2.3	102.2	0.06	-0.06	1.25
3,808.0	0.32	265.39	3,799.5	116.4	-3.0	102.6	0.22	-0.22	2.04
3,908.0	0.39	263.90	3,899.5	116.4	-3.6	102.8	0.07	0.07	-1.49
4,008.0	0.24	261.85	3,999.5	116.3	-4.2	103.0	0.15	-0.15	-2.05
4,108.0	0.41	269.72	4,099.5	116.3	-4.7	103.3	0.18	0.17	7.87
4,208.0	0.43	278.78	4,199.5	116.3	-5.5	103.7	0.07	0.02	9.06
4,308.0	0.44	281.46	4,299.5	116.5	-6.2	104.2	0.02	0.01	2.68
4,408.0	0.55	280.29	4,399.5	116.6	-7.1	104.7	0.11	0.11	-1.17
4,508.0	0.52	281.31	4,499.5	116.8	-8.0	105.3	0.03	-0.03	1.02
4,608.0	0.88	293.91	4,599.5	117.2	-9.1	106.3	0.39	0.36	12.60
4,708.0	1.19	295.21	4,699.5	118.0	-10.8	107.7	0.31	0.31	1.30
4,808.0	1.28	297.69	4,799.4	118.9	-12.7	109.5	0.10	0.09	2.48
4,908.0	1.10	298.85	4,899.4	119.9	-14.5	111.3	0.18	-0.18	1.16

02/06/2015

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Phoenix Technology Services

Survey Report

Triad Hunter

Company:	Triad Hunter	**Local Co-ordinate Reference:**	Well Collins #1118 - Slot #1118
Project:	Collins Unit	**TVD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Site:	Collins Unit - Tyler County, WV	**MD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Well:	Collins #1118	**North Reference:**	Grid
Wellbore:	Original Well	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Local database

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)
5,008.0	1.04	300.61	4,999.4	120.8	-16.1	112.9	0.07	-0.06	1.76
5,108.0	1.08	309.22	5,099.4	121.9	-17.7	114.6	0.16	0.04	8.61
5,208.0	0.97	311.59	5,199.4	123.0	-19.0	116.2	0.12	-0.11	2.37
5,293.0	0.62	312.41	5,284.4	123.8	-19.9	117.4	0.41	-0.41	0.96
5,331.0	1.10	351.20	5,322.3	124.3	-20.1	117.9	1.92	1.26	102.08
5,363.0	2.50	351.80	5,354.3	125.3	-20.2	118.8	4.38	4.38	1.88
5,394.0	3.70	350.60	5,385.3	127.0	-20.5	120.4	3.88	3.87	-3.87
5,426.0	4.80	354.70	5,417.2	129.3	-20.8	122.6	3.56	3.44	12.81
5,458.0	6.00	357.10	5,449.1	132.3	-21.0	125.3	3.82	3.75	7.50
5,490.0	6.90	357.50	5,480.8	135.9	-21.2	128.5	2.82	2.81	1.25
5,521.0	8.00	357.90	5,511.6	139.9	-21.3	132.1	3.55	3.55	1.29
5,553.0	10.20	6.20	5,543.2	145.0	-21.1	136.3	7.99	6.88	25.94
5,585.0	13.50	9.90	5,574.5	151.5	-20.2	141.5	10.58	10.31	11.56
5,617.0	17.50	8.70	5,605.3	159.9	-18.8	148.1	12.54	12.50	-3.75
5,649.0	20.70	11.20	5,635.6	170.2	-17.0	156.2	10.32	10.00	7.81
5,680.0	24.40	10.40	5,664.2	181.9	-14.7	165.2	11.98	11.94	-2.58
5,712.0	28.10	8.60	5,692.9	195.9	-12.4	176.2	11.83	11.56	-5.63
5,744.0	32.00	6.80	5,720.6	211.7	-10.3	188.9	12.51	12.19	-5.63
5,776.0	35.60	7.50	5,747.2	229.4	-8.1	203.1	11.32	11.25	2.19
5,807.0	38.50	6.80	5,771.9	247.9	-5.8	218.0	9.45	9.35	-2.26
5,839.0	42.40	5.50	5,796.3	268.6	-3.5	234.9	12.47	12.19	-4.06
5,871.0	46.00	5.20	5,819.2	290.8	-1.5	253.1	11.27	11.25	-0.94
5,903.0	49.60	4.90	5,840.7	314.4	0.6	272.6	11.27	11.25	-0.94
5,935.0	52.60	5.30	5,860.8	339.2	2.8	293.0	9.43	9.38	1.25
5,967.0	55.70	6.30	5,879.5	365.0	5.5	314.1	10.01	9.69	3.13
5,999.0	59.00	7.40	5,896.8	391.7	8.7	335.7	10.71	10.31	3.44
6,031.0	61.80	7.20	5,912.6	419.3	12.2	357.9	8.77	8.75	-0.63
6,063.0	63.60	6.50	5,927.3	447.6	15.6	380.7	5.95	5.63	-2.19
6,095.0	66.70	5.80	5,940.7	476.4	18.7	404.2	9.89	9.69	-2.19
6,127.0	68.80	3.40	5,952.8	505.9	21.1	428.7	9.55	6.56	-7.50
6,158.0	70.10	0.20	5,963.7	535.0	22.0	453.4	10.54	4.19	-10.32
6,190.0	71.70	357.80	5,974.2	565.2	21.5	479.9	8.67	5.00	-7.50
6,222.0	73.00	355.80	5,983.9	595.6	19.8	507.2	7.21	4.06	-6.25
6,254.0	73.80	353.30	5,993.0	626.2	16.8	535.1	7.89	2.50	-7.81
6,286.0	73.80	350.10	6,002.0	656.6	12.4	563.7	9.60	0.00	-10.00
6,318.0	75.10	347.20	6,010.5	686.8	6.3	592.9	9.63	4.06	-9.06
6,349.0	75.70	346.70	6,018.3	716.0	-0.4	621.7	2.49	1.94	-1.61
6,381.0	77.60	345.50	6,025.7	746.2	-7.9	651.6	6.97	5.94	-3.75
6,413.0	80.10	346.10	6,031.9	776.7	-15.6	681.8	8.03	7.81	1.88
6,445.0	81.90	346.10	6,036.9	807.3	-23.2	712.2	5.63	5.63	0.00
6,477.0	82.60	344.10	6,041.2	838.0	-31.4	742.9	6.57	2.19	-6.25
6,509.0	82.50	341.00	6,045.4	868.2	-40.9	773.9	9.61	-0.31	-9.69

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Survey Report

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Well:	Collins #1118	**North Reference:**	Grid
Wellbore:	Original Well	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Local database

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)
6,541.0	83.80	338.20	6,049.2	898.0	-51.9	805.2	9.59	4.06	-8.75
6,572.0	85.80	335.80	6,052.0	926.4	-64.0	835.9	10.05	6.45	-7.74
6,604.0	86.90	335.80	6,054.1	955.6	-77.1	867.7	3.44	3.44	0.00
6,606.5	86.95	335.50	6,054.2	957.9	-78.1	870.2	12.01	1.86	-11.88
#1118 LP									
6,636.0	87.50	332.00	6,055.6	984.3	-91.2	899.5	12.01	1.88	-11.87
6,668.0	89.60	330.20	6,056.4	1,012.3	-106.6	931.5	8.64	6.56	-5.63
6,700.0	90.50	329.00	6,056.4	1,039.9	-122.8	963.5	4.69	2.81	-3.75
6,732.0	90.90	327.90	6,056.0	1,067.1	-139.6	995.5	3.66	1.25	-3.44
6,824.0	91.60	324.90	6,054.0	1,143.7	-190.4	1,087.3	3.35	0.76	-3.26
6,914.0	91.20	324.80	6,051.8	1,217.3	-242.2	1,176.9	0.46	-0.44	-0.11
7,005.0	90.70	325.80	6,050.3	1,292.1	-294.0	1,267.5	1.23	-0.55	1.10
7,096.0	90.30	325.40	6,049.5	1,367.2	-345.4	1,358.2	0.62	-0.44	-0.44
7,188.0	90.40	325.10	6,048.9	1,442.8	-397.9	1,449.9	0.34	0.11	-0.33
7,279.0	90.50	324.70	6,048.2	1,517.2	-450.2	1,540.5	0.45	0.11	-0.44
7,370.0	91.30	325.50	6,046.8	1,591.8	-502.3	1,631.1	1.24	0.88	0.88
7,459.0	91.30	325.00	6,044.8	1,665.0	-553.0	1,719.7	0.56	0.00	-0.56
7,550.0	90.40	323.10	6,043.4	1,738.6	-606.4	1,810.2	2.31	-0.99	-2.09
7,642.0	90.80	324.90	6,042.5	1,813.0	-660.5	1,901.6	2.00	0.43	1.96
7,737.0	90.90	326.40	6,041.1	1,891.4	-714.1	1,996.3	1.58	0.11	1.58
7,832.0	91.00	325.10	6,039.5	1,970.0	-767.5	2,091.0	1.37	0.11	-1.37
7,927.0	91.40	325.80	6,037.5	2,048.2	-821.4	2,185.7	0.85	0.42	0.74
8,023.0	91.80	326.90	6,034.8	2,128.1	-874.6	2,281.4	1.22	0.42	1.15
8,118.0	90.30	325.40	6,033.1	2,207.0	-927.5	2,376.1	2.23	-1.58	-1.58
8,214.0	91.40	325.50	6,031.6	2,286.0	-981.9	2,471.8	1.15	1.15	0.10
8,309.0	91.90	326.20	6,028.9	2,364.6	-1,035.2	2,566.5	0.91	0.53	0.74
8,405.0	90.40	324.50	6,027.0	2,443.5	-1,089.8	2,662.1	2.36	-1.56	-1.77
8,500.0	90.20	326.90	6,026.5	2,522.0	-1,143.3	2,756.8	2.54	-0.21	2.53
8,596.0	90.30	326.60	6,026.1	2,602.3	-1,195.9	2,852.6	0.33	0.10	-0.31
8,691.0	89.80	325.70	6,026.0	2,681.2	-1,248.9	2,947.4	1.08	-0.53	-0.95
8,787.0	90.10	326.60	6,026.1	2,760.9	-1,302.3	3,043.1	0.99	0.31	0.94
8,883.0	90.20	326.40	6,025.8	2,841.0	-1,355.3	3,138.9	0.23	0.10	-0.21
8,978.0	90.20	325.50	6,025.5	2,919.7	-1,408.5	3,233.7	0.95	0.00	-0.95
9,073.0	90.60	326.60	6,024.8	2,998.5	-1,461.6	3,328.4	1.23	0.42	1.16
9,169.0	90.50	326.00	6,023.9	3,078.4	-1,514.8	3,424.2	0.63	-0.10	-0.63
9,264.0	90.40	325.80	6,023.2	3,157.0	-1,568.1	3,518.9	0.24	-0.11	-0.21
9,360.0	92.50	326.20	6,020.7	3,236.6	-1,621.8	3,614.6	2.23	2.19	0.42
9,455.0	92.00	327.80	6,017.0	3,316.2	-1,673.4	3,709.4	1.76	-0.53	1.68
9,550.0	91.60	326.90	6,014.0	3,396.1	-1,724.7	3,804.2	1.04	-0.42	-0.95
9,646.0	91.50	326.40	6,011.4	3,476.3	-1,777.4	3,900.0	0.53	-0.10	-0.52
9,741.0	90.10	324.70	6,010.1	3,554.6	-1,831.2	3,994.7	2.32	-1.47	-1.79
9,837.0	89.90	324.80	6,010.1	3,633.0	-1,886.6	4,090.2	0.23	-0.21	0.10

02/06/2015

PHOENIX TECHNOLOGY SERVICES

95-02042

Phoenix Technology Services

Survey Report

Triad Hunter

Company:	Triad Hunter	**Local Co-ordinate Reference:**	Well Collins #1118 - Slot #1118
Project:	Collins Unit	**TVD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Site:	Collins Unit - Tyler County, WV	**MD Reference:**	20' RKB - 740' GL @ 760.0usft (Warren Drilling #12)
Well:	Collins #1118	**North Reference:**	Grid
Wellbore:	Original Well	**Survey Calculation Method:**	Minimum Curvature
Design:	As Drilled	**Database:**	Local database

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)
9,932.0	89.70	326.40	6,010.4	3,711.4	-1,940.2	4,184.9	1.70	-0.21	1.68
10,028.0	89.90	326.90	6,010.8	3,791.6	-1,993.0	4,280.7	0.56	0.21	0.52
10,123.0	90.10	327.40	6,010.8	3,871.4	-2,044.5	4,375.6	0.57	0.21	0.53
10,219.0	89.80	326.30	6,010.8	3,951.8	-2,097.0	4,471.4	1.19	-0.31	-1.15
10,314.0	90.10	326.20	6,010.9	4,030.8	-2,149.8	4,566.2	0.33	0.32	-0.11
10,409.0	90.90	326.30	6,010.1	4,109.7	-2,202.6	4,661.0	0.85	0.84	0.11
10,505.0	91.30	326.20	6,008.2	4,189.6	-2,255.9	4,756.7	0.43	0.42	-0.10
10,600.0	91.00	325.70	6,006.3	4,268.3	-2,309.1	4,851.4	0.61	-0.32	-0.53
10,696.0	90.30	325.70	6,005.3	4,347.6	-2,363.2	4,947.1	0.73	-0.73	0.00
10,791.0	89.80	324.90	6,005.2	4,425.7	-2,417.3	5,041.8	0.99	-0.53	-0.84
10,887.0	89.40	324.70	6,005.8	4,504.1	-2,472.6	5,137.4	0.47	-0.42	-0.21
10,981.0	90.00	324.60	6,006.3	4,580.8	-2,527.0	5,230.9	0.65	0.64	-0.11
11,076.0	89.90	324.70	6,006.4	4,658.3	-2,582.0	5,325.5	0.15	-0.11	0.11
11,172.0	90.40	324.00	6,006.2	4,736.3	-2,637.9	5,421.0	0.90	0.52	-0.73
11,267.0	90.80	323.60	6,005.2	4,812.9	-2,694.0	5,515.4	0.60	0.42	-0.42
11,363.0	91.60	324.00	6,003.2	4,890.4	-2,750.7	5,610.7	0.93	0.83	0.42
11,458.0	91.30	323.20	6,000.8	4,966.8	-2,807.1	5,705.1	0.90	-0.32	-0.84
11,554.0	92.40	324.90	5,997.7	5,044.5	-2,863.4	5,800.5	2.11	1.15	1.77
11,649.0	91.90	325.50	5,994.1	5,122.4	-2,917.6	5,895.0	0.82	-0.53	0.63
11,744.0	91.30	327.60	5,991.4	5,201.7	-2,969.9	5,989.8	2.30	-0.63	2.21
11,840.0	91.20	329.00	5,989.3	5,283.3	-3,020.3	6,085.7	1.46	-0.10	1.46
11,935.0	90.00	326.30	5,988.3	5,363.6	-3,071.2	6,180.6	3.11	-1.26	-2.84
11,971.0	89.70	326.30	5,988.4	5,393.5	-3,091.1	6,216.5	0.83	-0.83	0.00
Final Survey									
12,022.9	89.70	326.30	5,988.7	5,436.7	-3,119.9	6,268.3	0.00	0.00	0.00
#1118 PBHL									
12,023.0	89.70	326.30	5,988.7	5,436.8	-3,120.0	6,268.4	0.00	0.00	0.00
PROJ to Bit									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
11,971.0	5,988.4	5,393.5	-3,091.1	Final Survey
12,023.0	5,988.7	5,436.8	-3,120.0	PROJ to Bit

Checked By: _____ Approved By: _____ Date: _____

02/06/2015