

EE3

Well Name: **Spicer 3-32H - Sidetrack**

Surface Location: Spicer 3-32H Pad Sec.32-T7N-R80W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

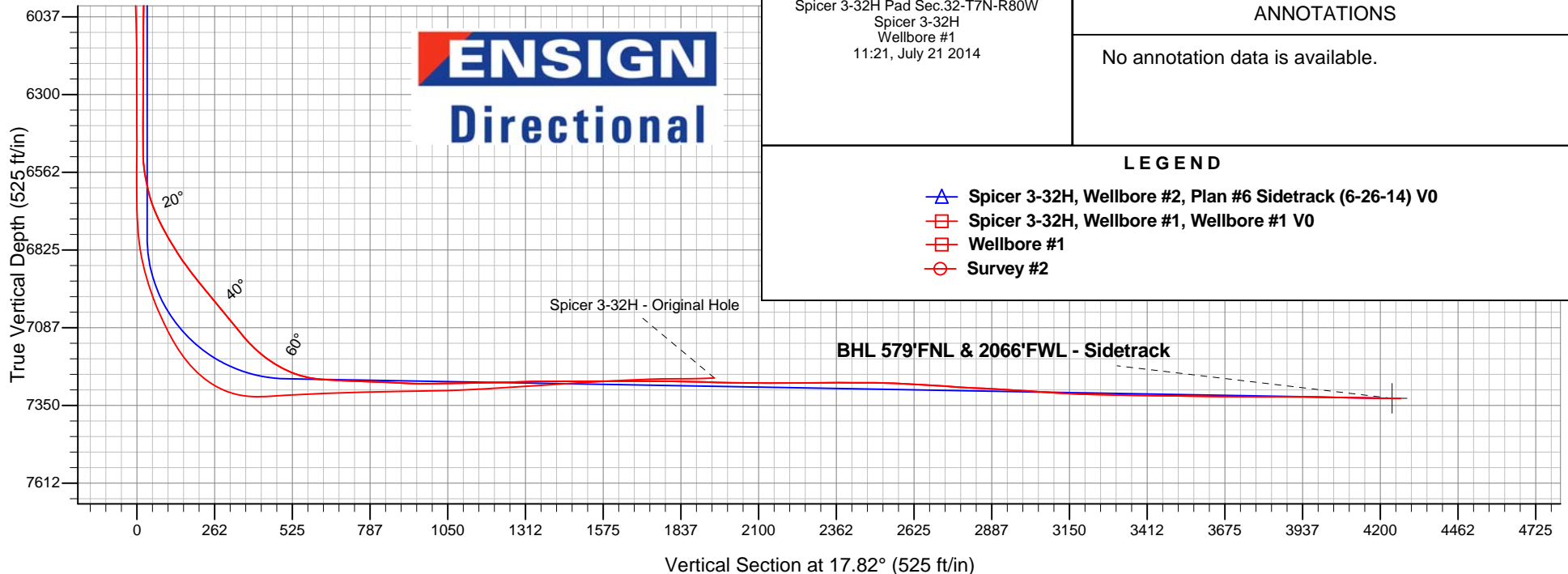
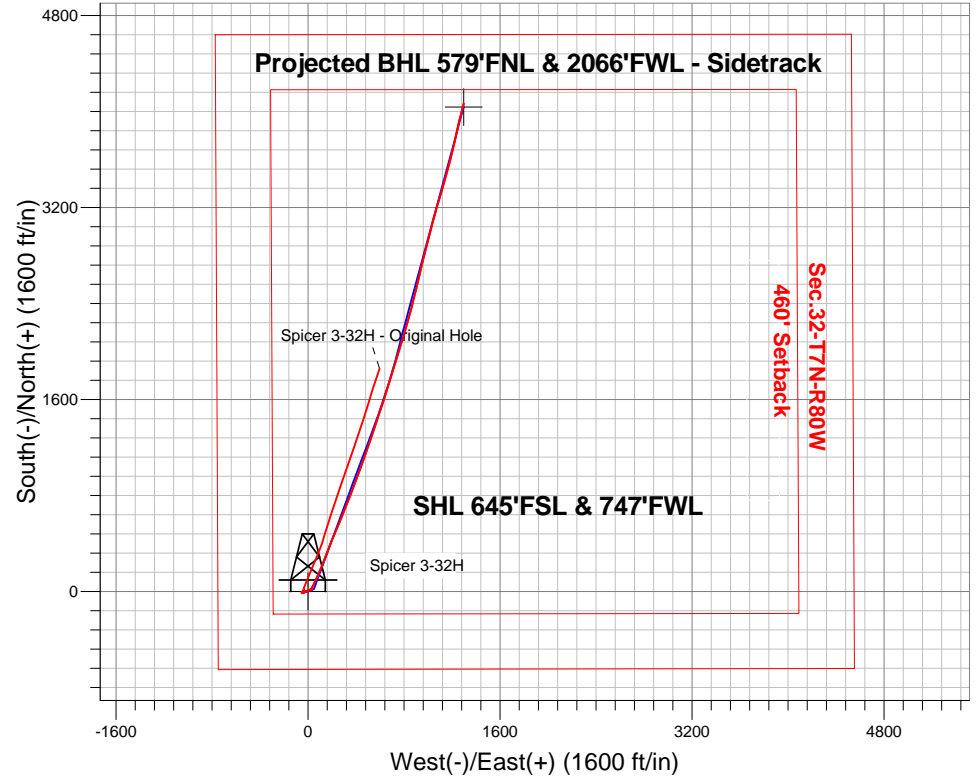
Ground Elevation: 8226.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1436604.81	2748579.57	40.528361	-106.404461	

Original Well Elev WELL @ 8239.0ft (Original Well Elev)

FINAL SURVEY

Projected Bottom Hole Location
11187'MD 7326'TVD 4066'N & 1299'E of
SHL 89.2 degree Incl @ 14.8 degree AZM



Spicer 3-32H Pad Sec.32-T7N-R80W
Spicer 3-32H
Wellbore #1
11:21, July 21 2014

ANNOTATIONS

No annotation data is available.

LEGEND

- △ Spicer 3-32H, Wellbore #2, Plan #6 Sidetrack (6-26-14) V0
- Spicer 3-32H, Wellbore #1, Wellbore #1 V0
- Wellbore #1
- Survey #2



EE3

SEC.32-T7N-R80W

Spicer 3-32H Pad Sec.32-T7N-R80W

Spicer 3-32H

Wellbore #2

Survey: Survey #2

Standard Survey Report

21 July, 2014



Company:	EE3	Local Co-ordinate Reference:	Well Spicer 3-32H
Project:	SEC.32-T7N-R80W	TVD Reference:	WELL @ 8239.0ft (Original Well Elev)
Site:	Spicer 3-32H Pad Sec.32-T7N-R80W	MD Reference:	WELL @ 8239.0ft (Original Well Elev)
Well:	Spicer 3-32H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.32-T7N-R80W, Jackson County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Spicer 3-32H Pad Sec.32-T7N-R80W		
Site Position:		Northing:	1,436,604.82 ft
From:	Lat/Long	Easting:	2,748,579.57 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.528361
		Longitude:	-106.404461
		Grid Convergence:	-0.58 °

Well	Spicer 3-32H		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.528361
		Longitude:	-106.404461
		Ground Level:	8,226.0 ft

Wellbore	Wellbore #2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/24/2014	9.32	66.78	52,672

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	2,879.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	17.82	

Survey Program	Date	7/21/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
174.0	2,879.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	
2,879.0	11,187.0	Survey #2 (Wellbore #2)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
2,879.0	1.10	119.00	2,877.7	-7.3	-41.4	-19.6	0.00	0.00	0.00	
SHL 645'FSL & 747'FWL										
2,967.0	1.30	114.80	2,965.7	-8.1	-39.8	-19.9	0.25	0.23	-4.77	
3,029.0	2.30	103.40	3,027.6	-8.7	-37.9	-19.9	1.71	1.61	-18.39	
3,048.0	3.30	95.30	3,046.6	-8.9	-37.0	-19.8	5.65	5.26	-42.63	
3,058.0	3.70	94.10	3,056.6	-8.9	-36.4	-19.6	4.07	4.00	-12.00	
3,070.0	4.70	91.40	3,068.6	-8.9	-35.5	-19.4	8.49	8.33	-22.50	
3,149.0	9.30	65.90	3,147.0	-6.4	-26.5	-14.2	6.89	5.82	-32.28	
3,194.0	9.00	65.20	3,191.4	-3.4	-20.0	-9.4	0.71	-0.67	-1.56	
3,239.0	8.10	61.70	3,235.9	-0.5	-14.0	-4.7	2.31	-2.00	-7.78	
3,291.0	7.30	60.10	3,287.4	2.9	-7.9	0.4	1.59	-1.54	-3.08	
3,330.0	6.20	59.30	3,326.2	5.2	-3.9	3.8	2.83	-2.82	-2.05	

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Well:	Spicer 3-32H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,375.0	6.20	61.70	3,370.9	7.6	0.3	7.3	0.58	0.00	5.33
3,420.0	5.60	65.10	3,415.7	9.7	4.4	10.6	1.54	-1.33	7.56
3,465.0	5.40	65.80	3,460.5	11.5	8.4	13.5	0.47	-0.44	1.56
3,510.0	4.70	61.00	3,505.3	13.2	11.9	16.3	1.82	-1.56	-10.67
3,555.0	4.30	62.60	3,550.1	14.9	15.0	18.8	0.93	-0.89	3.56
3,601.0	4.00	70.30	3,596.0	16.3	18.1	21.0	1.37	-0.65	16.74
3,646.0	3.50	70.50	3,640.9	17.2	20.8	22.8	1.11	-1.11	0.44
3,691.0	3.00	62.40	3,685.9	18.2	23.2	24.5	1.51	-1.11	-18.00
3,736.0	3.10	66.80	3,730.8	19.3	25.3	26.1	0.57	0.22	9.78
3,781.0	3.30	65.80	3,775.7	20.3	27.6	27.8	0.46	0.44	-2.22
3,826.0	2.60	72.40	3,820.7	21.1	29.8	29.2	1.73	-1.56	14.67
3,871.0	1.30	101.30	3,865.6	21.3	31.3	29.9	3.54	-2.89	64.22
3,962.0	0.10	244.70	3,956.6	21.1	32.2	29.9	1.52	-1.32	157.58
4,052.0	0.30	263.00	4,046.6	21.0	31.9	29.8	0.23	0.22	20.33
4,142.0	1.10	252.80	4,136.6	20.7	30.8	29.2	0.90	0.89	-11.33
4,233.0	0.50	231.70	4,227.6	20.2	29.7	28.4	0.72	-0.66	-23.19
4,323.0	0.70	154.70	4,317.6	19.5	29.6	27.6	0.85	0.22	-85.56
4,413.0	0.80	217.50	4,407.6	18.5	29.5	26.6	0.87	0.11	69.78
4,503.0	1.40	220.60	4,497.6	17.2	28.4	25.0	0.67	0.67	3.44
4,594.0	1.10	186.20	4,588.6	15.5	27.6	23.2	0.87	-0.33	-37.80
4,684.0	0.80	173.30	4,678.6	14.0	27.5	21.7	0.41	-0.33	-14.33
4,776.0	1.10	109.20	4,770.5	13.0	28.4	21.1	1.13	0.33	-69.67
4,868.0	0.60	68.20	4,862.5	12.9	29.7	21.4	0.82	-0.54	-44.57
4,961.0	0.70	291.80	4,955.5	13.3	29.7	21.8	1.30	0.11	-146.67
5,052.0	1.30	267.00	5,046.5	13.5	28.1	21.4	0.80	0.66	-27.25
5,144.0	0.60	29.70	5,138.5	13.8	27.3	21.5	1.85	-0.76	133.37
5,237.0	1.30	30.40	5,231.5	15.2	28.1	23.0	0.75	0.75	0.75
5,329.0	1.10	66.30	5,323.5	16.4	29.4	24.6	0.83	-0.22	39.02
5,421.0	0.20	65.20	5,415.5	16.9	30.4	25.3	0.98	-0.98	-1.20
5,513.0	0.10	332.80	5,507.5	17.0	30.5	25.5	0.25	-0.11	-100.43
5,605.0	0.40	241.90	5,599.5	16.9	30.2	25.3	0.45	0.33	-98.80
5,697.0	0.80	249.60	5,691.5	16.5	29.3	24.7	0.44	0.43	8.37
5,789.0	0.70	279.50	5,783.5	16.4	28.1	24.2	0.43	-0.11	32.50
5,881.0	0.60	184.80	5,875.5	16.0	27.5	23.7	1.04	-0.11	-102.93
5,972.0	0.90	204.60	5,966.4	14.9	27.2	22.5	0.43	0.33	21.76
6,064.0	0.40	312.00	6,058.4	14.5	26.6	21.9	1.18	-0.54	116.74
6,154.0	0.20	169.30	6,148.4	14.5	26.4	21.9	0.64	-0.22	-158.56
6,245.0	1.10	250.90	6,239.4	14.1	25.6	21.2	1.20	0.99	89.67
6,335.0	0.90	280.40	6,329.4	13.9	24.1	20.6	0.61	-0.22	32.78
6,425.0	0.90	239.80	6,419.4	13.7	22.8	20.0	0.69	0.00	-45.11
6,509.0	1.40	24.40	6,503.4	14.3	22.7	20.5	2.61	0.60	172.14
6,555.0	7.50	33.60	6,549.2	17.3	24.6	24.0	13.31	13.26	20.00
6,600.0	11.50	33.20	6,593.6	23.5	28.7	31.1	8.89	8.89	-0.89
6,645.0	15.10	29.90	6,637.4	32.3	34.0	41.2	8.17	8.00	-7.33
6,690.0	21.00	26.20	6,680.2	44.7	40.5	54.9	13.35	13.11	-8.22
6,735.0	26.20	25.90	6,721.4	60.9	48.4	72.8	11.56	11.56	-0.67
6,780.0	28.90	25.20	6,761.3	79.6	57.4	93.4	6.04	6.00	-1.56
6,825.0	30.50	25.20	6,800.4	99.8	66.9	115.5	3.56	3.56	0.00
6,870.0	32.90	23.70	6,838.7	121.3	76.7	139.0	5.61	5.33	-3.33
6,915.0	36.60	26.00	6,875.6	144.6	87.5	164.4	8.72	8.22	5.11
6,960.0	38.20	24.40	6,911.4	169.3	99.1	191.5	4.16	3.56	-3.56
7,006.0	39.00	22.90	6,947.3	195.6	110.6	220.1	2.68	1.74	-3.26
7,051.0	39.30	21.30	6,982.2	221.9	121.3	248.4	2.34	0.67	-3.56
7,096.0	40.40	21.10	7,016.8	248.8	131.7	277.2	2.46	2.44	-0.44

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Well:	Spicer 3-32H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,140.0	39.70	20.20	7,050.5	275.3	141.7	305.5	2.06	-1.59	-2.05
7,185.0	38.50	19.90	7,085.4	302.0	151.4	333.8	2.70	-2.67	-0.67
7,231.0	40.40	20.60	7,120.9	329.4	161.6	363.0	4.24	4.13	1.52
7,276.0	46.10	20.60	7,153.7	358.2	172.4	393.8	12.67	12.67	0.00
7,321.0	51.80	21.30	7,183.2	389.9	184.5	427.7	12.72	12.67	1.56
7,366.0	58.20	22.20	7,209.0	424.1	198.2	464.4	14.32	14.22	2.00
7,411.0	64.70	23.40	7,230.5	460.5	213.5	503.8	14.63	14.44	2.67
7,456.0	72.60	22.90	7,246.9	499.0	230.0	545.5	17.59	17.56	-1.11
7,501.0	80.10	23.00	7,257.5	539.3	247.0	589.0	16.67	16.67	0.22
7,546.0	86.40	22.70	7,262.8	580.4	264.4	633.5	14.02	14.00	-0.67
7,591.0	87.10	22.30	7,265.3	622.0	281.6	678.3	1.79	1.56	-0.89
7,636.0	87.80	22.30	7,267.3	663.5	298.6	723.1	1.56	1.56	0.00
7,682.0	88.00	21.80	7,269.0	706.2	315.9	768.9	1.17	0.43	-1.09
7,727.0	88.10	21.80	7,270.5	747.9	332.6	813.8	0.22	0.22	0.00
7,772.0	87.20	21.80	7,272.4	789.7	349.3	858.7	2.00	-2.00	0.00
7,817.0	86.80	21.60	7,274.7	831.4	365.9	903.5	0.99	-0.89	-0.44
7,862.0	89.10	20.90	7,276.3	873.3	382.2	948.4	5.34	5.11	-1.56
7,907.0	90.90	19.90	7,276.3	915.5	397.9	993.3	4.58	4.00	-2.22
7,930.0	90.90	19.70	7,276.0	937.1	405.7	1,016.3	0.87	0.00	-0.87
7,976.0	90.90	19.70	7,275.3	980.4	421.2	1,062.3	0.00	0.00	0.00
8,021.0	91.00	19.70	7,274.5	1,022.8	436.3	1,107.3	0.22	0.22	0.00
8,066.0	91.00	19.90	7,273.7	1,065.1	451.6	1,152.2	0.44	0.00	0.44
8,111.0	91.30	20.10	7,272.8	1,107.4	467.0	1,197.2	0.80	0.67	0.44
8,156.0	91.50	19.50	7,271.7	1,149.7	482.2	1,242.1	1.41	0.44	-1.33
8,201.0	91.50	18.80	7,270.5	1,192.2	497.0	1,287.1	1.56	0.00	-1.56
8,246.0	91.60	18.60	7,269.3	1,234.8	511.4	1,332.1	0.50	0.22	-0.44
8,291.0	90.20	18.30	7,268.6	1,277.5	525.6	1,377.1	3.18	-3.11	-0.67
8,337.0	90.20	18.50	7,268.5	1,321.2	540.1	1,423.1	0.43	0.00	0.43
8,382.0	90.20	18.60	7,268.3	1,363.8	554.5	1,468.1	0.22	0.00	0.22
8,427.0	90.00	18.50	7,268.2	1,406.5	568.8	1,513.1	0.50	-0.44	-0.22
8,472.0	90.00	18.50	7,268.2	1,449.2	583.0	1,558.1	0.00	0.00	0.00
8,517.0	90.00	18.60	7,268.2	1,491.8	597.4	1,603.1	0.22	0.00	0.22
8,562.0	90.10	18.60	7,268.2	1,534.5	611.7	1,648.1	0.22	0.22	0.00
8,607.0	90.00	18.60	7,268.1	1,577.1	626.1	1,693.1	0.22	-0.22	0.00
8,652.0	90.10	18.80	7,268.1	1,619.7	640.5	1,738.1	0.50	0.22	0.44
8,697.0	89.30	17.60	7,268.3	1,662.5	654.6	1,783.1	3.20	-1.78	-2.67
8,743.0	89.20	17.20	7,268.9	1,706.4	668.3	1,829.0	0.90	-0.22	-0.87
8,788.0	88.50	16.50	7,269.8	1,749.4	681.3	1,874.0	2.20	-1.56	-1.56
8,833.0	88.60	16.50	7,271.0	1,792.6	694.1	1,919.0	0.22	0.22	0.00
8,878.0	88.60	16.70	7,272.1	1,835.7	707.0	1,964.0	0.44	0.00	0.44
8,923.0	88.70	16.90	7,273.1	1,878.8	720.0	2,009.0	0.50	0.22	0.44
8,968.0	89.10	16.90	7,274.0	1,921.8	733.1	2,053.9	0.89	0.89	0.00
9,013.0	89.90	16.70	7,274.4	1,964.9	746.1	2,098.9	1.83	1.78	-0.44
9,058.0	90.00	16.70	7,274.4	2,008.0	759.0	2,143.9	0.22	0.22	0.00
9,103.0	90.10	16.90	7,274.4	2,051.1	772.0	2,188.9	0.50	0.22	0.44
9,148.0	90.30	16.90	7,274.2	2,094.1	785.1	2,233.9	0.44	0.44	0.00
9,194.0	90.70	17.20	7,273.8	2,138.1	798.6	2,279.9	1.09	0.87	0.65
9,239.0	90.80	16.90	7,273.3	2,181.1	811.8	2,324.9	0.70	0.22	-0.67
9,284.0	89.70	16.50	7,273.1	2,224.2	824.7	2,369.9	2.60	-2.44	-0.89
9,329.0	89.80	16.40	7,273.3	2,267.4	837.4	2,414.9	0.31	0.22	-0.22
9,374.0	89.60	15.10	7,273.5	2,310.7	849.7	2,459.8	2.92	-0.44	-2.89
9,419.0	89.50	15.00	7,273.8	2,354.1	861.3	2,504.8	0.31	-0.22	-0.22
9,465.0	87.80	13.90	7,274.9	2,398.7	872.8	2,550.7	4.40	-3.70	-2.39
9,510.0	86.90	13.70	7,277.0	2,442.3	883.5	2,595.5	2.05	-2.00	-0.44

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Well:	Spicer 3-32H	North Reference:	True
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,555.0	86.70	13.40	7,279.5	2,486.0	894.1	2,640.3	0.80	-0.44	-0.67
9,600.0	86.40	13.20	7,282.2	2,529.7	904.4	2,685.1	0.80	-0.67	-0.44
9,645.0	86.20	13.20	7,285.1	2,573.4	914.6	2,729.9	0.44	-0.44	0.00
9,690.0	86.20	13.50	7,288.1	2,617.1	925.0	2,774.6	0.67	0.00	0.67
9,735.0	87.10	13.50	7,290.7	2,660.8	935.5	2,819.4	2.00	2.00	0.00
9,780.0	87.10	13.40	7,293.0	2,704.5	946.0	2,864.3	0.22	0.00	-0.22
9,826.0	86.90	13.50	7,295.4	2,749.2	956.6	2,910.1	0.49	-0.43	0.22
9,871.0	86.60	13.90	7,298.0	2,792.8	967.3	2,954.9	1.11	-0.67	0.89
9,916.0	86.40	13.90	7,300.7	2,836.4	978.1	2,999.7	0.44	-0.44	0.00
9,961.0	86.30	14.10	7,303.6	2,880.0	988.9	3,044.5	0.50	-0.22	0.44
10,006.0	86.40	14.40	7,306.5	2,923.5	1,000.0	3,089.3	0.70	0.22	0.67
10,051.0	87.10	14.60	7,309.0	2,967.0	1,011.2	3,134.2	1.62	1.56	0.44
10,096.0	87.30	15.00	7,311.2	3,010.5	1,022.7	3,179.0	0.99	0.44	0.89
10,141.0	88.50	14.60	7,312.9	3,054.0	1,034.2	3,223.9	2.81	2.67	-0.89
10,186.0	88.80	15.10	7,313.9	3,097.5	1,045.7	3,268.9	1.30	0.67	1.11
10,232.0	89.00	15.50	7,314.8	3,141.8	1,057.9	3,314.8	0.97	0.43	0.87
10,277.0	89.10	16.00	7,315.5	3,185.1	1,070.1	3,359.8	1.13	0.22	1.11
10,322.0	89.10	16.40	7,316.3	3,228.3	1,082.6	3,404.8	0.89	0.00	0.89
10,367.0	89.10	16.50	7,317.0	3,271.5	1,095.4	3,449.7	0.22	0.00	0.22
10,412.0	89.30	16.70	7,317.6	3,314.6	1,108.2	3,494.7	0.63	0.44	0.44
10,502.0	89.20	15.70	7,318.8	3,401.0	1,133.3	3,584.7	1.12	-0.11	-1.11
10,593.0	89.30	15.80	7,320.0	3,488.6	1,158.0	3,675.6	0.16	0.11	0.11
10,683.0	90.10	14.30	7,320.4	3,575.5	1,181.4	3,765.5	1.89	0.89	-1.67
10,773.0	89.60	12.70	7,320.7	3,663.0	1,202.4	3,855.2	1.86	-0.56	-1.78
10,864.0	89.50	12.70	7,321.4	3,751.8	1,222.4	3,945.9	0.11	-0.11	0.00
10,954.0	89.10	13.00	7,322.5	3,839.5	1,242.4	4,035.5	0.56	-0.44	0.33
11,044.0	88.80	13.50	7,324.1	3,927.1	1,263.1	4,125.2	0.65	-0.33	0.56
11,134.0	89.20	14.80	7,325.7	4,014.4	1,285.1	4,215.0	1.51	0.44	1.44
BHL 579'FNL & 2066'FWL									
11,187.0	89.20	14.80	7,326.4	4,065.6	1,298.6	4,268.0	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____