

Synergy Resources

Well Name: **SRC Kiehn 22-4CHZ**

Surface Location: SRC Kiehn Pad Sec.4-T4N-R68W

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

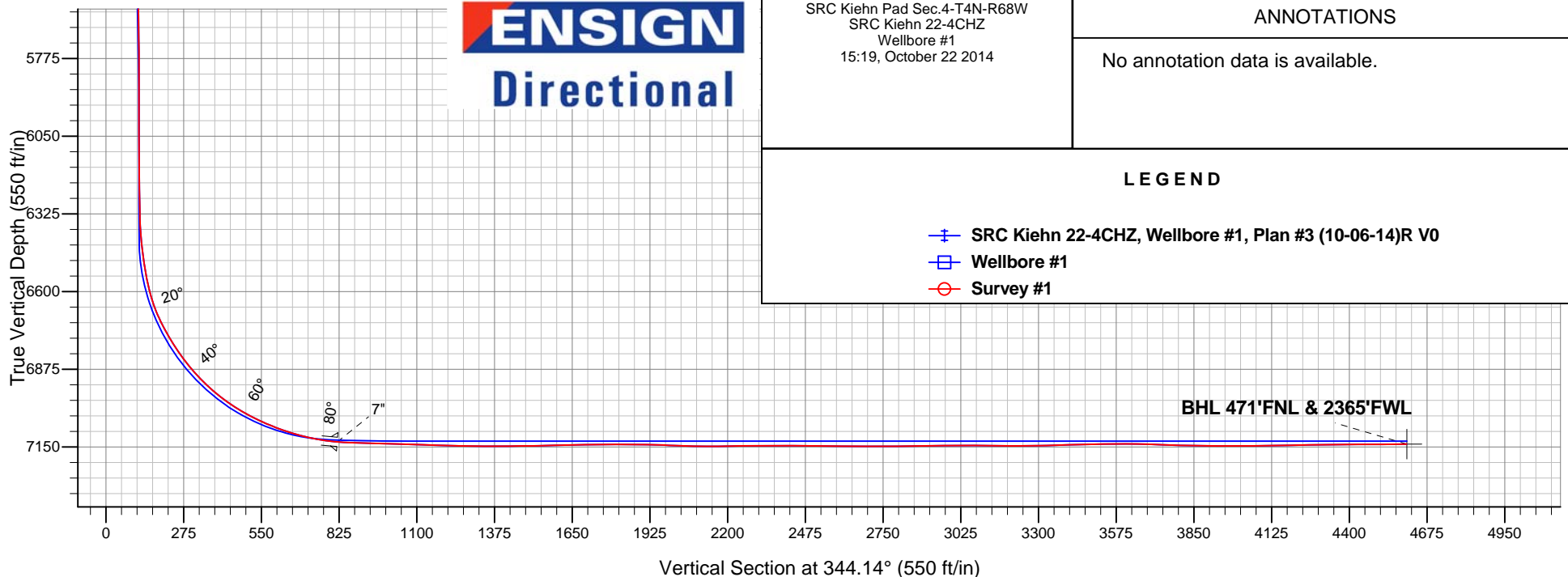
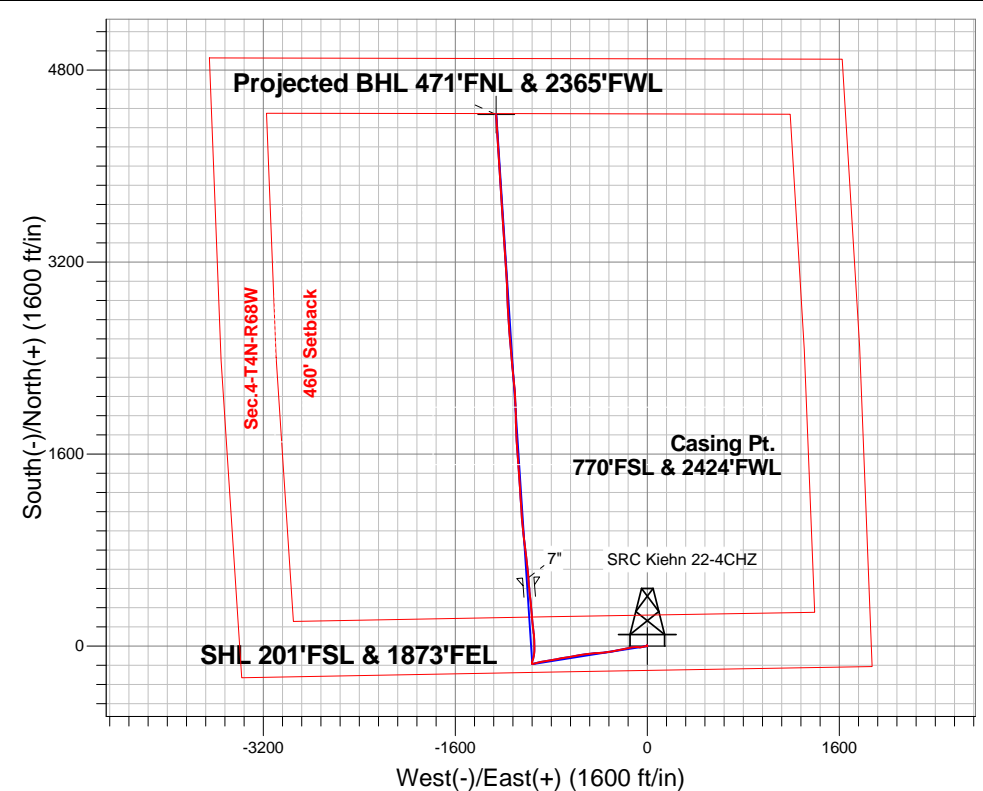
Ground Elevation: 5064.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1365558.32	3137819.06	40.335804	-105.005622	

RKB - 13' WELL @ 5077.0ft (RKB - 13')

FINAL SURVEY

Projected Bottom Hole Location
11490'MD 7140'TVD 4427'N & 1259'W of
SHL 90.7 degree Incl @ 356.8 degree AZM



SRC Kiehn Pad Sec.4-T4N-R68W
SRC Kiehn 22-4CHZ
Wellbore #1
15:19, October 22 2014

ANNOTATIONS

No annotation data is available.

LEGEND

- +— SRC Kiehn 22-4CHZ, Wellbore #1, Plan #3 (10-06-14)R V0
- Wellbore #1
- Survey #1



Synergy Resources

SEC.4-T4N-R68W

SRC Kiehn Pad Sec.4-T4N-R68W

SRC Kiehn 22-4CHZ

Wellbore #1

Survey: Survey #1

Standard Survey Report

22 October, 2014

Company:	Synergy Resources	Local Co-ordinate Reference:	Well SRC Kiehn 22-4CHZ
Project:	SEC.4-T4N-R68W	TVD Reference:	WELL @ 5077.0ft (RKB - 13')
Site:	SRC Kiehn Pad Sec.4-T4N-R68W	MD Reference:	WELL @ 5077.0ft (RKB - 13')
Well:	SRC Kiehn 22-4CHZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.4-T4N-R68W, Weld, 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	SRC Kiehn Pad Sec.4-T4N-R68W				
Site Position:		Northing:	1,365,561.75ft	Latitude:	40.335811
From:	Lat/Long	Easting:	3,137,974.04ft	Longitude:	-105.005066
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.32 °

Well	SRC Kiehn 22-4CHZ					
Well Position	+N/-S	0.0 ft	Northing:	1,365,558.32 ft	Latitude:	40.335804
	+E/-W	0.0 ft	Easting:	3,137,819.06 ft	Longitude:	-105.005622
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,064.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/6/2014	8.54	66.85	52,722

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	344.14	

Survey Program	Date	10/22/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
75.0	11,490.0	Survey #1 (Wellbore #1)	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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.01	197.00	1.0	0.0	0.0	0.0	1.07	1.07	0.00	
SHL 201'FSL & 1873'FEL										
75.0	0.80	197.00	75.0	-0.5	-0.2	-0.4	1.07	1.07	0.00	
169.0	0.50	256.60	169.0	-1.2	-0.7	-1.0	0.74	-0.32	63.40	
265.0	0.50	225.60	265.0	-1.6	-1.5	-1.2	0.28	0.00	-32.29	
359.0	1.00	52.80	359.0	-1.4	-1.1	-1.1	1.59	0.53	-183.83	
453.0	1.10	14.50	453.0	0.0	-0.2	0.0	0.74	0.11	-40.74	
557.0	1.40	356.40	556.9	2.2	0.0	2.1	0.47	0.29	-17.40	
637.0	1.50	338.80	636.9	4.2	-0.5	4.1	0.57	0.13	-22.00	
731.0	1.10	338.80	730.9	6.1	-1.3	6.2	0.43	-0.43	0.00	
826.0	1.40	242.70	825.9	6.5	-2.6	6.9	1.97	0.32	-101.16	
920.0	2.20	182.00	919.8	4.1	-3.7	5.0	2.07	0.85	-64.57	

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Site:	SRC Kiehn Pad Sec.4-T4N-R68W	MD Reference:	WELL @ 5077.0ft (RKB - 13')
Well:	SRC Kiehn 22-4CHZ	North Reference:	True
Wellbore:	Wellbore #1	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)	
1,015.0	2.10	216.50	1,014.8	0.9	-4.8	2.2	1.35	-0.11	36.32	
1,109.0	2.40	238.80	1,108.7	-1.5	-7.5	0.6	0.98	0.32	23.72	
1,201.0	3.10	258.00	1,200.6	-3.0	-11.6	0.3	1.25	0.76	20.87	
1,293.0	3.30	264.00	1,292.5	-3.8	-16.7	0.9	0.42	0.22	6.52	
1,386.0	4.10	270.60	1,385.3	-4.1	-22.6	2.3	0.97	0.86	7.10	
1,478.0	5.80	255.20	1,476.9	-5.2	-30.4	3.3	2.33	1.85	-16.74	
1,569.0	6.10	255.30	1,567.4	-7.6	-39.5	3.5	0.33	0.33	0.11	
1,661.0	5.50	253.90	1,659.0	-10.1	-48.5	3.6	0.67	-0.65	-1.52	
1,754.0	5.20	267.50	1,751.6	-11.5	-57.0	4.5	1.40	-0.32	14.62	
1,846.0	6.60	279.10	1,843.1	-10.8	-66.4	7.7	1.99	1.52	12.61	
1,938.0	8.00	277.00	1,934.3	-9.2	-78.0	12.4	1.55	1.52	-2.28	
2,030.0	9.20	268.50	2,025.3	-8.6	-91.7	16.8	1.90	1.30	-9.24	
2,124.0	10.60	264.30	2,117.9	-9.7	-107.8	20.1	1.67	1.49	-4.47	
2,216.0	13.20	262.00	2,207.9	-12.0	-126.6	23.1	2.87	2.83	-2.50	
2,308.0	14.40	259.20	2,297.3	-15.6	-148.3	25.5	1.49	1.30	-3.04	
2,401.0	14.20	257.80	2,387.4	-20.2	-170.8	27.3	0.43	-0.22	-1.51	
2,493.0	13.50	256.00	2,476.7	-25.2	-192.2	28.3	0.89	-0.76	-1.96	
2,585.0	12.80	258.10	2,566.3	-29.9	-212.6	29.4	0.92	-0.76	2.28	
2,677.0	13.90	260.40	2,655.8	-33.8	-233.5	31.3	1.33	1.20	2.50	
2,769.0	13.10	258.50	2,745.3	-37.7	-254.6	33.3	0.99	-0.87	-2.07	
2,861.0	13.50	258.90	2,834.8	-41.9	-275.3	35.0	0.45	0.43	0.43	
2,950.0	12.50	257.40	2,921.5	-46.0	-294.9	36.4	1.19	-1.12	-1.69	
3,039.0	12.70	263.10	3,008.4	-49.2	-314.0	38.5	1.41	0.22	6.40	
3,128.0	13.00	266.40	3,095.1	-51.0	-333.7	42.1	0.89	0.34	3.71	
3,217.0	12.80	263.40	3,181.9	-52.8	-353.5	45.8	0.79	-0.22	-3.37	
3,307.0	12.00	261.80	3,269.8	-55.3	-372.7	48.7	0.97	-0.89	-1.78	
3,396.0	12.80	263.60	3,356.7	-57.7	-391.7	51.5	1.00	0.90	2.02	
3,485.0	14.20	266.80	3,443.3	-59.4	-412.3	55.6	1.78	1.57	3.60	
3,574.0	14.20	266.80	3,529.5	-60.6	-434.1	60.3	0.00	0.00	0.00	
3,664.0	14.00	264.50	3,616.8	-62.3	-456.0	64.7	0.66	-0.22	-2.56	
3,753.0	12.90	265.10	3,703.4	-64.2	-476.6	68.5	1.25	-1.24	0.67	
3,842.0	13.20	262.70	3,790.1	-66.3	-496.6	71.9	0.70	0.34	-2.70	
3,931.0	12.30	262.00	3,876.9	-68.9	-516.1	74.8	1.03	-1.01	-0.79	
4,020.0	11.30	264.10	3,964.0	-71.1	-534.1	77.6	1.22	-1.12	2.36	
4,110.0	12.00	261.10	4,052.2	-73.5	-552.1	80.2	1.03	0.78	-3.33	
4,198.0	11.40	259.70	4,138.3	-76.5	-569.7	82.2	0.75	-0.68	-1.59	
4,288.0	12.30	253.90	4,226.4	-80.7	-587.7	83.0	1.66	1.00	-6.44	
4,377.0	13.50	258.90	4,313.2	-85.3	-607.0	83.8	1.84	1.35	5.62	
4,466.0	15.80	262.20	4,399.3	-89.0	-629.2	86.4	2.75	2.58	3.71	
4,555.0	15.30	262.40	4,485.0	-92.2	-652.8	89.8	0.57	-0.56	0.22	
4,644.0	14.50	261.00	4,571.0	-95.5	-675.5	92.8	0.99	-0.90	-1.57	
4,733.0	13.00	261.30	4,657.5	-98.7	-696.4	95.4	1.69	-1.69	0.34	
4,822.0	11.80	259.00	4,744.4	-102.0	-715.2	97.4	1.46	-1.35	-2.58	
4,911.0	13.10	258.00	4,831.3	-105.8	-734.0	98.8	1.48	1.46	-1.12	
5,000.0	11.90	258.10	4,918.2	-109.8	-752.9	100.2	1.35	-1.35	0.11	
5,089.0	12.50	259.40	5,005.2	-113.5	-771.3	101.7	0.74	0.67	1.46	
5,179.0	13.60	261.70	5,092.8	-116.8	-791.4	104.0	1.35	1.22	2.56	
5,268.0	11.90	260.60	5,179.6	-119.8	-810.8	106.4	1.93	-1.91	-1.24	
5,357.0	10.60	258.50	5,266.9	-122.9	-827.8	108.0	1.53	-1.46	-2.36	
5,446.0	9.50	257.40	5,354.6	-126.2	-843.0	109.1	1.25	-1.24	-1.24	
5,536.0	8.30	263.40	5,443.5	-128.5	-856.7	110.5	1.68	-1.33	6.67	
5,625.0	9.30	263.40	5,531.4	-130.1	-870.3	112.7	1.12	1.12	0.00	
5,714.0	8.70	261.80	5,619.3	-131.9	-884.1	114.8	0.73	-0.67	-1.80	
5,803.0	9.30	256.70	5,707.2	-134.5	-897.7	116.0	1.12	0.67	-5.73	

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Wellbore:	Wellbore #1	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)	
5,892.0	8.10	254.80	5,795.2	-137.8	-910.8	116.4	1.39	-1.35	-2.13	
5,981.0	8.60	253.90	5,883.3	-141.3	-923.2	116.4	0.58	0.56	-1.01	
6,071.0	7.70	254.60	5,972.4	-144.8	-935.5	116.5	1.01	-1.00	0.78	
6,160.0	5.80	255.00	6,060.7	-147.5	-945.6	116.6	2.14	-2.13	0.45	
6,249.0	3.20	263.60	6,149.5	-148.9	-952.4	117.1	3.01	-2.92	9.66	
6,338.0	2.10	275.70	6,238.4	-149.1	-956.5	118.1	1.38	-1.24	13.60	
6,427.0	1.70	291.00	6,327.3	-148.4	-959.4	119.5	0.72	-0.45	17.19	
6,516.0	5.60	354.10	6,416.1	-143.6	-961.0	124.5	5.69	4.38	70.90	
6,605.0	9.80	15.40	6,504.3	-132.0	-959.5	135.3	5.63	4.72	23.93	
6,694.0	16.40	19.30	6,591.0	-112.8	-953.3	152.0	7.48	7.42	4.38	
6,783.0	24.70	10.80	6,674.3	-82.6	-945.6	179.0	9.89	9.33	-9.55	
6,872.0	31.60	2.60	6,752.7	-41.0	-941.1	217.8	8.87	7.75	-9.21	
6,961.0	36.80	358.70	6,826.3	9.0	-940.6	265.7	6.34	5.84	-4.38	
7,050.0	42.30	356.60	6,894.9	65.6	-943.0	320.8	6.36	6.18	-2.36	
7,140.0	50.30	352.40	6,957.1	130.2	-949.4	384.8	9.50	8.89	-4.67	
7,229.0	58.70	355.70	7,008.7	202.2	-956.8	456.1	9.91	9.44	3.71	
7,318.0	63.80	354.70	7,051.5	280.0	-963.3	532.6	5.81	5.73	-1.12	
7,407.0	70.30	354.00	7,086.2	361.5	-971.4	613.2	7.34	7.30	-0.79	
7,496.0	75.90	354.10	7,112.0	446.1	-980.2	697.1	6.29	6.29	0.11	
7,585.0	82.70	355.20	7,128.6	533.2	-988.4	783.0	7.74	7.64	1.24	
7,621.0	85.34	355.34	7,132.3	568.8	-991.3	818.1	7.34	7.33	0.40	
7"										
7,660.0	88.20	355.50	7,134.5	607.6	-994.4	856.3	7.34	7.33	0.40	
7,749.0	88.20	353.60	7,137.3	696.2	-1,002.9	943.8	2.13	0.00	-2.13	
7,838.0	88.50	352.40	7,139.9	784.5	-1,013.7	1,031.7	1.39	0.34	-1.35	
7,928.0	88.30	352.90	7,142.4	873.7	-1,025.2	1,120.7	0.60	-0.22	0.56	
8,017.0	88.10	354.00	7,145.2	962.1	-1,035.4	1,208.5	1.26	-0.22	1.24	
8,106.0	89.20	355.70	7,147.3	1,050.7	-1,043.4	1,295.9	2.27	1.24	1.91	
8,195.0	90.60	355.90	7,147.4	1,139.5	-1,049.9	1,383.0	1.59	1.57	0.22	
8,284.0	89.90	356.60	7,147.0	1,228.3	-1,055.7	1,470.1	1.11	-0.79	0.79	
8,374.0	91.90	356.40	7,145.6	1,318.1	-1,061.2	1,558.0	2.23	2.22	-0.22	
8,463.0	91.20	356.10	7,143.2	1,406.9	-1,067.0	1,644.9	0.86	-0.79	-0.34	
8,552.0	90.40	356.10	7,142.0	1,495.6	-1,073.1	1,732.0	0.90	-0.90	0.00	
8,641.0	90.20	355.90	7,141.5	1,584.4	-1,079.3	1,819.1	0.32	-0.22	-0.22	
8,730.0	89.30	355.40	7,141.9	1,673.2	-1,086.0	1,906.3	1.16	-1.01	-0.56	
8,819.0	87.10	357.80	7,144.7	1,762.0	-1,091.3	1,993.2	3.66	-2.47	2.70	
8,908.0	89.10	359.20	7,147.6	1,850.9	-1,093.6	2,079.3	2.74	2.25	1.57	
8,998.0	90.30	358.00	7,148.1	1,940.8	-1,095.8	2,166.5	1.89	1.33	-1.33	
9,087.0	91.40	358.20	7,146.8	2,029.8	-1,098.8	2,252.8	1.26	1.24	0.22	
9,176.0	89.60	355.90	7,146.0	2,118.6	-1,103.4	2,339.6	3.28	-2.02	-2.58	
9,265.0	90.00	354.50	7,146.3	2,207.3	-1,110.8	2,426.9	1.64	0.45	-1.57	
9,355.0	89.50	354.30	7,146.7	2,296.9	-1,119.6	2,515.5	0.60	-0.56	-0.22	
9,444.0	89.60	353.30	7,147.4	2,385.4	-1,129.2	2,603.2	1.13	0.11	-1.12	
9,533.0	89.50	354.80	7,148.1	2,473.9	-1,138.4	2,690.9	1.69	-0.11	1.69	
9,622.0	90.60	356.80	7,148.0	2,562.6	-1,145.0	2,778.0	2.56	1.24	2.25	
9,711.0	91.20	356.20	7,146.6	2,651.5	-1,150.4	2,864.9	0.95	0.67	-0.67	
9,800.0	90.00	356.90	7,145.7	2,740.3	-1,155.7	2,951.9	1.56	-1.35	0.79	
9,890.0	90.20	356.60	7,145.6	2,830.2	-1,160.8	3,039.7	0.40	0.22	-0.33	
9,979.0	89.30	357.10	7,145.9	2,919.0	-1,165.7	3,126.5	1.16	-1.01	0.56	
10,068.0	89.80	357.50	7,146.6	3,007.9	-1,169.9	3,213.2	0.72	0.56	0.45	
10,157.0	91.00	357.70	7,146.0	3,096.8	-1,173.7	3,299.7	1.37	1.35	0.22	
10,246.0	92.40	356.20	7,143.4	3,185.7	-1,178.4	3,386.4	2.30	1.57	-1.69	
10,335.0	90.80	355.50	7,140.9	3,274.4	-1,184.8	3,473.6	1.96	-1.80	-0.79	
10,424.0	90.70	356.10	7,139.7	3,363.1	-1,191.3	3,560.7	0.68	-0.11	0.67	

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Survey									
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10,513.0	89.10	356.10	7,139.9	3,451.9	-1,197.4	3,647.8	1.80	-1.80	0.00
10,603.0	87.80	356.60	7,142.3	3,541.7	-1,203.1	3,735.7	1.55	-1.44	0.56
10,692.0	88.40	356.10	7,145.3	3,630.5	-1,208.8	3,822.6	0.88	0.67	-0.56
10,781.0	90.00	355.70	7,146.5	3,719.2	-1,215.1	3,909.8	1.85	1.80	-0.45
10,871.0	89.70	356.60	7,146.7	3,809.0	-1,221.2	3,997.8	1.05	-0.33	1.00
10,958.0	91.10	356.60	7,146.1	3,895.9	-1,226.4	4,082.7	1.61	1.61	0.00
11,047.0	91.00	356.10	7,144.5	3,984.7	-1,232.0	4,169.7	0.57	-0.11	-0.56
11,137.0	90.90	356.90	7,143.0	4,074.5	-1,237.5	4,257.6	0.90	-0.11	0.89
11,226.0	90.60	356.10	7,141.9	4,163.3	-1,242.9	4,344.5	0.96	-0.34	-0.90
11,315.0	90.10	356.40	7,141.3	4,252.1	-1,248.8	4,431.5	0.66	-0.56	0.34
11,404.0	90.10	357.10	7,141.2	4,341.0	-1,253.8	4,518.4	0.79	0.00	0.79
11,440.0	90.70	356.80	7,140.9	4,376.9	-1,255.7	4,553.5	1.86	1.67	-0.83
11,490.0	90.70	356.80	7,140.3	4,426.9	-1,258.5	4,602.3	0.00	0.00	0.00
BHL 470'FNL & 2365'FWL									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,621.0	7,132.3	7"	7	7-1/2

Checked By: _____	Approved By: _____	Date: _____
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