





SRC ENERGY

**SECTION 15, T6N, R66W
HARVESTERS STATE 7-15 PAD
HARVESTERS STATE 30C-16-M**

OH

Plan: PLAN #1

Standard Planning Report

02 October, 2017



Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HARVESTERS STATE 30C-16-
Company:	SRC ENERGY	TVD Reference:	M KB @ 4822.00ft (Original Well
Project:	SECTION 15, T6N, R66W	MD Reference:	Elev) KB @ 4822.00ft (Original Well
Site:	HARVESTERS STATE 7-15 PAD	North Reference:	Elev) True
Well:	HARVESTERS STATE 30C-16-	Survey Calculation Method:	Minimum Curvature
Wellbore:	M OH		
Design:	PLAN #1		

Project	SECTION 15, T6N, R66W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	HARVESTERS STATE 7-15 PAD			
Site Position:		Northing:	1,422,648.53 usft	Latitude: 40.4912300
From:	Lat/Long	Easting:	3,205,120.94 usft	Longitude: -104.7625060
Position Uncertainty:	3.28 ft	Slot Radius:	13.200 in	Grid Convergence: 0.48 °

Well	HARVESTERS STATE 30C-16-M, 1593' FNL & 2332' FEL			
Well Position	+N/-S	-0.01 ft	Northing:	1,422,648.52 usft
	+E/-W	0.00 ft	Easting:	3,205,120.94 usft
Position Uncertainty		3.28 ft	Wellhead Elevation:	Ground Level: 4,802.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/26/2017	8.19	66.92	52,408

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	269.55

Plan Survey Tool Program	Date	10/2/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,216.01	PLAN #1 (OH)	MWD+IFR1
				OWSG MWD + IFR1

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
1,046.16	16.92	354.27	1,033.91	123.44	-12.39	2.00	2.00	0.00	354.27	
5,390.87	16.92	354.27	5,190.47	1,381.80	-138.73	0.00	0.00	0.00	0.00	
6,237.02	0.00	0.00	6,024.38	1,505.24	-151.12	2.00	-2.00	0.00	180.00	
6,837.02	0.00	0.00	6,624.38	1,505.24	-151.12	0.00	0.00	0.00	0.00	
7,839.44	90.22	269.55	7,261.00	1,500.24	-790.14	9.00	9.00	-9.02	269.55	
15,216.01	90.22	269.55	7,233.00	1,442.56	-8,166.43	0.00	0.00	0.00	0.00	PBHL_HARVESTERS

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HARVESTERS STATE 30C-16-
Company:	SRC ENERGY	TVD Reference:	M KB @ 4822.00ft (Original Well
Project:	SECTION 15, T6N, R66W	MD Reference:	Elev) KB @ 4822.00ft (Original Well
Site:	HARVESTERS STATE 7-15 PAD	North Reference:	Elev) True
Well:	HARVESTERS STATE 30C-16-	Survey Calculation Method:	Minimum Curvature
Wellbore:	M OH		
Design:	PLAN #1		

Planned 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)
0.00	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
Start Build 2.00									
300.00	2.00	354.27	299.98	1.74	-0.17	0.16	2.00	2.00	0.00
400.00	4.00	354.27	399.84	6.94	-0.70	0.64	2.00	2.00	0.00
500.00	6.00	354.27	499.45	15.62	-1.57	1.45	2.00	2.00	0.00
600.00	8.00	354.27	598.70	27.74	-2.79	2.57	2.00	2.00	0.00
700.00	10.00	354.27	697.47	43.30	-4.35	4.01	2.00	2.00	0.00
800.00	12.00	354.27	795.62	62.29	-6.25	5.77	2.00	2.00	0.00
900.00	14.00	354.27	893.06	84.67	-8.50	7.84	2.00	2.00	0.00
1,000.00	16.00	354.27	989.64	110.42	-11.09	10.22	2.00	2.00	0.00
1,046.16	16.92	354.27	1,033.91	123.44	-12.39	11.43	2.00	2.00	0.00
Start 4344.71 hold at 1046.16 MD									
1,100.00	16.92	354.27	1,085.42	139.03	-13.96	12.87	0.00	0.00	0.00
1,200.00	16.92	354.27	1,181.09	167.99	-16.87	15.55	0.00	0.00	0.00
1,300.00	16.92	354.27	1,276.76	196.96	-19.77	18.23	0.00	0.00	0.00
1,400.00	16.92	354.27	1,372.43	225.92	-22.68	20.91	0.00	0.00	0.00
1,500.00	16.92	354.27	1,468.10	254.88	-25.59	23.60	0.00	0.00	0.00
1,600.00	16.92	354.27	1,563.77	283.85	-28.50	26.28	0.00	0.00	0.00
1,700.00	16.92	354.27	1,659.44	312.81	-31.40	28.96	0.00	0.00	0.00
1,794.66	16.92	354.27	1,750.00	340.23	-34.16	31.50	0.00	0.00	0.00
9 5/8"									
1,800.00	16.92	354.27	1,755.11	341.77	-34.31	31.64	0.00	0.00	0.00
1,900.00	16.92	354.27	1,850.78	370.74	-37.22	34.32	0.00	0.00	0.00
2,000.00	16.92	354.27	1,946.45	399.70	-40.13	37.00	0.00	0.00	0.00
2,100.00	16.92	354.27	2,042.12	428.66	-43.04	39.68	0.00	0.00	0.00
2,200.00	16.92	354.27	2,137.78	457.63	-45.94	42.36	0.00	0.00	0.00
2,300.00	16.92	354.27	2,233.45	486.59	-48.85	45.04	0.00	0.00	0.00
2,400.00	16.92	354.27	2,329.12	515.55	-51.76	47.73	0.00	0.00	0.00
2,500.00	16.92	354.27	2,424.79	544.52	-54.67	50.41	0.00	0.00	0.00
2,600.00	16.92	354.27	2,520.46	573.48	-57.57	53.09	0.00	0.00	0.00
2,700.00	16.92	354.27	2,616.13	602.44	-60.48	55.77	0.00	0.00	0.00
2,800.00	16.92	354.27	2,711.80	631.41	-63.39	58.45	0.00	0.00	0.00
2,900.00	16.92	354.27	2,807.47	660.37	-66.30	61.13	0.00	0.00	0.00
3,000.00	16.92	354.27	2,903.14	689.33	-69.21	63.81	0.00	0.00	0.00
3,100.00	16.92	354.27	2,998.81	718.30	-72.11	66.49	0.00	0.00	0.00
3,200.00	16.92	354.27	3,094.48	747.26	-75.02	69.18	0.00	0.00	0.00
3,300.00	16.92	354.27	3,190.15	776.22	-77.93	71.86	0.00	0.00	0.00
3,400.00	16.92	354.27	3,285.82	805.19	-80.84	74.54	0.00	0.00	0.00
3,500.00	16.92	354.27	3,381.49	834.15	-83.75	77.22	0.00	0.00	0.00
3,600.00	16.92	354.27	3,477.16	863.11	-86.65	79.90	0.00	0.00	0.00
3,700.00	16.92	354.27	3,572.83	892.07	-89.56	82.58	0.00	0.00	0.00
3,800.00	16.92	354.27	3,668.50	921.04	-92.47	85.26	0.00	0.00	0.00
3,900.00	16.92	354.27	3,764.17	950.00	-95.38	87.94	0.00	0.00	0.00
4,000.00	16.92	354.27	3,859.84	978.96	-98.28	90.62	0.00	0.00	0.00
4,100.00	16.92	354.27	3,955.51	1,007.93	-101.19	93.31	0.00	0.00	0.00
4,200.00	16.92	354.27	4,051.18	1,036.89	-104.10	95.99	0.00	0.00	0.00
4,300.00	16.92	354.27	4,146.85	1,065.85	-107.01	98.67	0.00	0.00	0.00
4,400.00	16.92	354.27	4,242.52	1,094.82	-109.92	101.35	0.00	0.00	0.00
4,500.00	16.92	354.27	4,338.19	1,123.78	-112.82	104.03	0.00	0.00	0.00
4,600.00	16.92	354.27	4,433.86	1,152.74	-115.73	106.71	0.00	0.00	0.00
4,700.00	16.92	354.27	4,529.53	1,181.71	-118.64	109.39	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HARVESTERS STATE 30C-16-
Company:	SRC ENERGY	TVD Reference:	M KB @ 4822.00ft (Original Well
Project:	SECTION 15, T6N, R66W	MD Reference:	Elev) KB @ 4822.00ft (Original Well
Site:	HARVESTERS STATE 7-15 PAD	North Reference:	Elev) True
Well:	HARVESTERS STATE 30C-16-	Survey Calculation Method:	Minimum Curvature
Wellbore:	M OH		
Design:	PLAN #1		

Planned 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)
4,800.00	16.92	354.27	4,625.19	1,210.67	-121.55	112.07	0.00	0.00	0.00
4,900.00	16.92	354.27	4,720.86	1,239.63	-124.45	114.76	0.00	0.00	0.00
5,000.00	16.92	354.27	4,816.53	1,268.60	-127.36	117.44	0.00	0.00	0.00
5,100.00	16.92	354.27	4,912.20	1,297.56	-130.27	120.12	0.00	0.00	0.00
5,200.00	16.92	354.27	5,007.87	1,326.52	-133.18	122.80	0.00	0.00	0.00
5,300.00	16.92	354.27	5,103.54	1,355.49	-136.09	125.48	0.00	0.00	0.00
5,390.87	16.92	354.27	5,190.47	1,381.80	-138.73	127.92	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	16.74	354.27	5,199.22	1,384.44	-138.99	128.16	2.00	-2.00	0.00
5,500.00	14.74	354.27	5,295.46	1,411.43	-141.70	130.66	2.00	-2.00	0.00
5,600.00	12.74	354.27	5,392.60	1,435.06	-144.07	132.85	2.00	-2.00	0.00
5,700.00	10.74	354.27	5,490.50	1,455.30	-146.11	134.72	2.00	-2.00	0.00
5,800.00	8.74	354.27	5,589.05	1,472.14	-147.80	136.28	2.00	-2.00	0.00
5,900.00	6.74	354.27	5,688.14	1,485.54	-149.14	137.52	2.00	-2.00	0.00
6,000.00	4.74	354.27	5,787.63	1,495.49	-150.14	138.44	2.00	-2.00	0.00
6,100.00	2.74	354.27	5,887.41	1,501.98	-150.79	139.04	2.00	-2.00	0.00
6,200.00	0.74	354.27	5,987.36	1,505.00	-151.10	139.32	2.00	-2.00	0.00
6,237.02	0.00	0.00	6,024.38	1,505.24	-151.12	139.34	2.00	-2.00	0.00
Start 600.00 hold at 6237.02 MD									
6,300.00	0.00	0.00	6,087.36	1,505.24	-151.12	139.34	0.00	0.00	0.00
6,400.00	0.00	0.00	6,187.36	1,505.24	-151.12	139.34	0.00	0.00	0.00
6,500.00	0.00	0.00	6,287.36	1,505.24	-151.12	139.34	0.00	0.00	0.00
6,600.00	0.00	0.00	6,387.36	1,505.24	-151.12	139.34	0.00	0.00	0.00
6,700.00	0.00	0.00	6,487.36	1,505.24	-151.12	139.34	0.00	0.00	0.00
6,800.00	0.00	0.00	6,587.36	1,505.24	-151.12	139.34	0.00	0.00	0.00
6,837.02	0.00	0.00	6,624.38	1,505.24	-151.12	139.34	0.00	0.00	0.00
Start DLS 9.00 TFO 269.55									
6,900.00	5.67	269.55	6,687.26	1,505.22	-154.23	142.46	9.00	9.00	0.00
7,000.00	14.67	269.55	6,785.58	1,505.08	-171.87	160.09	9.00	9.00	0.00
7,100.00	23.67	269.55	6,879.94	1,504.82	-204.67	192.89	9.00	9.00	0.00
7,200.00	32.67	269.55	6,968.01	1,504.45	-251.82	240.05	9.00	9.00	0.00
7,300.00	41.67	269.55	7,047.61	1,503.98	-312.17	300.40	9.00	9.00	0.00
7,400.00	50.67	269.55	7,116.80	1,503.42	-384.24	372.47	9.00	9.00	0.00
7,500.00	59.67	269.55	7,173.86	1,502.78	-466.23	454.46	9.00	9.00	0.00
7,600.00	68.67	269.55	7,217.38	1,502.07	-556.14	544.38	9.00	9.00	0.00
7,700.00	77.67	269.55	7,246.31	1,501.32	-651.76	640.00	9.00	9.00	0.00
7,800.00	86.67	269.55	7,259.92	1,500.55	-750.72	738.96	9.00	9.00	0.00
7,839.44	90.22	269.55	7,261.00	1,500.24	-790.14	778.38	9.00	9.00	0.00
Start 7376.58 hold at 7839.44 MD - TOP HARVESTERS STATE 30C-16-M(96 FNL 2216 FWL)									
7,900.00	90.22	269.55	7,260.77	1,499.77	-850.70	838.94	0.00	0.00	0.00
8,000.00	90.22	269.55	7,260.39	1,498.99	-950.69	938.94	0.00	0.00	0.00
8,100.00	90.22	269.55	7,260.01	1,498.21	-1,050.69	1,038.94	0.00	0.00	0.00
8,200.00	90.22	269.55	7,259.63	1,497.42	-1,150.68	1,138.94	0.00	0.00	0.00
8,300.00	90.22	269.55	7,259.25	1,496.64	-1,250.68	1,238.94	0.00	0.00	0.00
8,400.00	90.22	269.55	7,258.87	1,495.86	-1,350.68	1,338.94	0.00	0.00	0.00
8,500.00	90.22	269.55	7,258.49	1,495.08	-1,450.67	1,438.94	0.00	0.00	0.00
8,600.00	90.22	269.55	7,258.11	1,494.29	-1,550.67	1,538.94	0.00	0.00	0.00
8,700.00	90.22	269.55	7,257.73	1,493.51	-1,650.67	1,638.94	0.00	0.00	0.00
8,800.00	90.22	269.55	7,257.35	1,492.73	-1,750.66	1,738.93	0.00	0.00	0.00
8,900.00	90.22	269.55	7,256.97	1,491.95	-1,850.66	1,838.93	0.00	0.00	0.00
9,000.00	90.22	269.55	7,256.59	1,491.17	-1,950.65	1,938.93	0.00	0.00	0.00
9,100.00	90.22	269.55	7,256.21	1,490.38	-2,050.65	2,038.93	0.00	0.00	0.00
9,200.00	90.22	269.55	7,255.83	1,489.60	-2,150.65	2,138.93	0.00	0.00	0.00
9,300.00	90.22	269.55	7,255.45	1,488.82	-2,250.64	2,238.93	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HARVESTERS STATE 30C-16-
Company:	SRC ENERGY	TVD Reference:	M KB @ 4822.00ft (Original Well
Project:	SECTION 15, T6N, R66W	MD Reference:	Elev) KB @ 4822.00ft (Original Well
Site:	HARVESTERS STATE 7-15 PAD	North Reference:	Elev) True
Well:	HARVESTERS STATE 30C-16-	Survey Calculation Method:	Minimum Curvature
Wellbore:	M OH		
Design:	PLAN #1		

Planned 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)
9,400.00	90.22	269.55	7,255.07	1,488.04	-2,350.64	2,338.93	0.00	0.00	0.00
9,500.00	90.22	269.55	7,254.69	1,487.26	-2,450.64	2,438.93	0.00	0.00	0.00
9,600.00	90.22	269.55	7,254.31	1,486.47	-2,550.63	2,538.93	0.00	0.00	0.00
9,700.00	90.22	269.55	7,253.93	1,485.69	-2,650.63	2,638.93	0.00	0.00	0.00
9,800.00	90.22	269.55	7,253.55	1,484.91	-2,750.62	2,738.93	0.00	0.00	0.00
9,900.00	90.22	269.55	7,253.18	1,484.13	-2,850.62	2,838.93	0.00	0.00	0.00
10,000.00	90.22	269.55	7,252.80	1,483.35	-2,950.62	2,938.93	0.00	0.00	0.00
10,100.00	90.22	269.55	7,252.42	1,482.56	-3,050.61	3,038.93	0.00	0.00	0.00
10,200.00	90.22	269.55	7,252.04	1,481.78	-3,150.61	3,138.92	0.00	0.00	0.00
10,300.00	90.22	269.55	7,251.66	1,481.00	-3,250.61	3,238.92	0.00	0.00	0.00
10,400.00	90.22	269.55	7,251.28	1,480.22	-3,350.60	3,338.92	0.00	0.00	0.00
10,500.00	90.22	269.55	7,250.90	1,479.44	-3,450.60	3,438.92	0.00	0.00	0.00
10,600.00	90.22	269.55	7,250.52	1,478.65	-3,550.59	3,538.92	0.00	0.00	0.00
10,700.00	90.22	269.55	7,250.14	1,477.87	-3,650.59	3,638.92	0.00	0.00	0.00
10,800.00	90.22	269.55	7,249.76	1,477.09	-3,750.59	3,738.92	0.00	0.00	0.00
10,900.00	90.22	269.55	7,249.38	1,476.31	-3,850.58	3,838.92	0.00	0.00	0.00
11,000.00	90.22	269.55	7,249.00	1,475.53	-3,950.58	3,938.92	0.00	0.00	0.00
11,100.00	90.22	269.55	7,248.62	1,474.74	-4,050.58	4,038.92	0.00	0.00	0.00
11,200.00	90.22	269.55	7,248.24	1,473.96	-4,150.57	4,138.92	0.00	0.00	0.00
11,300.00	90.22	269.55	7,247.86	1,473.18	-4,250.57	4,238.92	0.00	0.00	0.00
11,400.00	90.22	269.55	7,247.48	1,472.40	-4,350.56	4,338.92	0.00	0.00	0.00
11,500.00	90.22	269.55	7,247.10	1,471.62	-4,450.56	4,438.92	0.00	0.00	0.00
11,600.00	90.22	269.55	7,246.72	1,470.83	-4,550.56	4,538.91	0.00	0.00	0.00
11,700.00	90.22	269.55	7,246.34	1,470.05	-4,650.55	4,638.91	0.00	0.00	0.00
11,800.00	90.22	269.55	7,245.96	1,469.27	-4,750.55	4,738.91	0.00	0.00	0.00
11,900.00	90.22	269.55	7,245.58	1,468.49	-4,850.55	4,838.91	0.00	0.00	0.00
12,000.00	90.22	269.55	7,245.21	1,467.71	-4,950.54	4,938.91	0.00	0.00	0.00
12,100.00	90.22	269.55	7,244.83	1,466.92	-5,050.54	5,038.91	0.00	0.00	0.00
12,200.00	90.22	269.55	7,244.45	1,466.14	-5,150.53	5,138.91	0.00	0.00	0.00
12,300.00	90.22	269.55	7,244.07	1,465.36	-5,250.53	5,238.91	0.00	0.00	0.00
12,400.00	90.22	269.55	7,243.69	1,464.58	-5,350.53	5,338.91	0.00	0.00	0.00
12,500.00	90.22	269.55	7,243.31	1,463.80	-5,450.52	5,438.91	0.00	0.00	0.00
12,600.00	90.22	269.55	7,242.93	1,463.01	-5,550.52	5,538.91	0.00	0.00	0.00
12,700.00	90.22	269.55	7,242.55	1,462.23	-5,650.52	5,638.91	0.00	0.00	0.00
12,800.00	90.22	269.55	7,242.17	1,461.45	-5,750.51	5,738.91	0.00	0.00	0.00
12,900.00	90.22	269.55	7,241.79	1,460.67	-5,850.51	5,838.91	0.00	0.00	0.00
13,000.00	90.22	269.55	7,241.41	1,459.89	-5,950.50	5,938.90	0.00	0.00	0.00
13,100.00	90.22	269.55	7,241.03	1,459.10	-6,050.50	6,038.90	0.00	0.00	0.00
13,200.00	90.22	269.55	7,240.65	1,458.32	-6,150.50	6,138.90	0.00	0.00	0.00
13,300.00	90.22	269.55	7,240.27	1,457.54	-6,250.49	6,238.90	0.00	0.00	0.00
13,400.00	90.22	269.55	7,239.89	1,456.76	-6,350.49	6,338.90	0.00	0.00	0.00
13,500.00	90.22	269.55	7,239.51	1,455.98	-6,450.48	6,438.90	0.00	0.00	0.00
13,600.00	90.22	269.55	7,239.13	1,455.19	-6,550.48	6,538.90	0.00	0.00	0.00
13,700.00	90.22	269.55	7,238.75	1,454.41	-6,650.48	6,638.90	0.00	0.00	0.00
13,800.00	90.22	269.55	7,238.37	1,453.63	-6,750.47	6,738.90	0.00	0.00	0.00
13,900.00	90.22	269.55	7,237.99	1,452.85	-6,850.47	6,838.90	0.00	0.00	0.00
14,000.00	90.22	269.55	7,237.62	1,452.07	-6,950.47	6,938.90	0.00	0.00	0.00
14,100.00	90.22	269.55	7,237.24	1,451.28	-7,050.46	7,038.90	0.00	0.00	0.00
14,200.00	90.22	269.55	7,236.86	1,450.50	-7,150.46	7,138.90	0.00	0.00	0.00
14,300.00	90.22	269.55	7,236.48	1,449.72	-7,250.45	7,238.89	0.00	0.00	0.00
14,400.00	90.22	269.55	7,236.10	1,448.94	-7,350.45	7,338.89	0.00	0.00	0.00
14,500.00	90.22	269.55	7,235.72	1,448.16	-7,450.45	7,438.89	0.00	0.00	0.00
14,600.00	90.22	269.55	7,235.34	1,447.37	-7,550.44	7,538.89	0.00	0.00	0.00
14,700.00	90.22	269.55	7,234.96	1,446.59	-7,650.44	7,638.89	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HARVESTERS STATE 30C-16-
Company:	SRC ENERGY	TVD Reference:	M KB @ 4822.00ft (Original Well
Project:	SECTION 15, T6N, R66W	MD Reference:	Elev) KB @ 4822.00ft (Original Well
Site:	HARVESTERS STATE 7-15 PAD	North Reference:	Elev) True
Well:	HARVESTERS STATE 30C-16-	Survey Calculation Method:	Minimum Curvature
Wellbore:	M OH		
Design:	PLAN #1		

Planned 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)
14,800.00	90.22	269.55	7,234.58	1,445.81	-7,750.44	7,738.89	0.00	0.00	0.00
14,900.00	90.22	269.55	7,234.20	1,445.03	-7,850.43	7,838.89	0.00	0.00	0.00
15,000.00	90.22	269.55	7,233.82	1,444.25	-7,950.43	7,938.89	0.00	0.00	0.00
15,100.00	90.22	269.55	7,233.44	1,443.46	-8,050.42	8,038.89	0.00	0.00	0.00
15,200.00	90.22	269.55	7,233.06	1,442.68	-8,150.42	8,138.89	0.00	0.00	0.00
15,216.01	90.22	269.55	7,233.00	1,442.56	-8,166.43	8,154.90	0.00	0.00	0.00
TD at 15216.01 - PBHL_HARVESTERS STATE 30C-16-M(83 FNL 150 FWL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_HARVESTERS S	0.00	0.00	7,233.00	1,442.56	-8,166.43	1,424,023.10	3,196,942.81	40.4951860	-104.7918690
- plan hits target center									
- Point									
TOP_HARVESTERS ST	0.00	0.00	7,261.00	1,500.24	-790.14	1,424,142.12	3,204,318.36	40.4953480	-104.7653470
- plan misses target center by 0.01ft at 7839.44ft MD (7261.00 TVD, 1500.24 N, -790.14 E)									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,794.66	1,750.00	9 5/8"	9.625	13.500	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
200.00	200.00	0.00	0.00	Start Build 2.00
1,046.16	1,033.91	123.44	-12.39	Start 4344.71 hold at 1046.16 MD
5,390.87	5,190.47	1,381.80	-138.73	Start Drop -2.00
6,237.02	6,024.38	1,505.24	-151.12	Start 600.00 hold at 6237.02 MD
6,837.02	6,624.38	1,505.24	-151.12	Start DLS 9.00 TFO 269.55
7,839.44	7,261.00	1,500.24	-790.14	Start 7376.58 hold at 7839.44 MD
15,216.01	7,233.00	1,442.56	-8,166.43	TD at 15216.01