

# **Unit Petroleum**

**Reno County, Kansas [NAD 83]**

**Section 15 T25S-R10W**

**Haw 15 #2H**

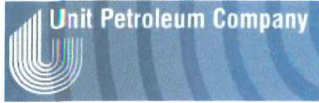
**OH**

**Design: OH**

## **Standard Survey Report**

**29 July, 2014**





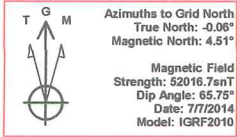
Unit Petroleum  
 Project: Reno County, Kansas [NAD 83]  
 Site: Section 15 T26S-R10W  
 Well: Haw 15 #2H  
 Wellbore: OH  
 Design: Design #2  
 Lat: 37° 52' 7.214 N  
 Long: 98° 24' 25.556 W  
 Pad GL: 1742.00  
 KB: 14' KB @ 1756.00usft (UDI 331)



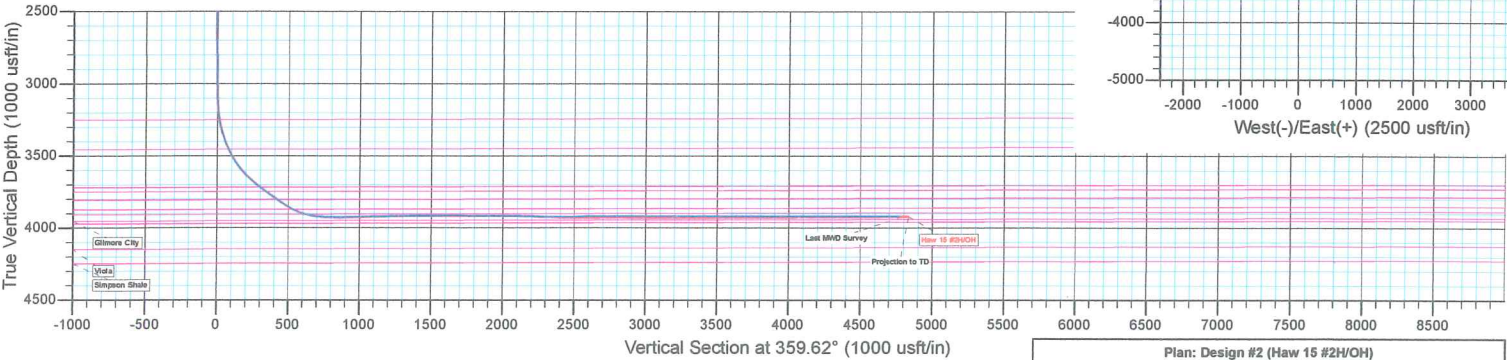
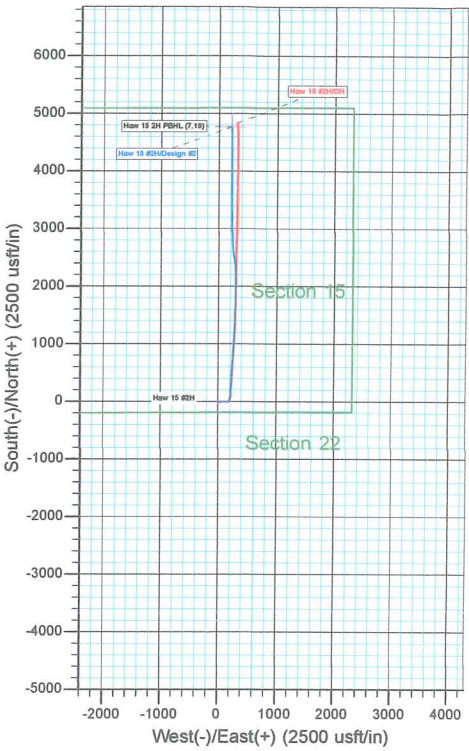
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
5773.00	87.80	0.00	3918.05	2189.63	293.31	0.00	0.00	2187.64	
5817.00	87.80	0.00	3919.74	2233.60	293.31	0.00	0.00	2231.60	
6040.09	91.05	349.33	3921.98	2455.36	272.59	5.00	-73.15	2453.49	
6150.36	91.05	349.33	3919.96	2563.70	252.17	0.00	0.00	2561.97	
6357.25	96.00	359.62	3918.05	2769.35	232.28	5.00	95.78	2767.75	
6357.25	96.00	359.62	3916.05	4769.30	219.01	0.00	0.00	4767.75	

WELL DETAILS: Haw 15 #2H						
+N/-S	+E/-W	Northing	Ground Level: Easting	1742.00 Latitude	Longitude	Slot
0.00	0.00	1750023.00	1339150.00	37° 52' 7.214 N	98° 24' 25.556 W	

PROJECT DETAILS: Reno County, Kansas [NAD 83]  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Kansas Southern Zone  
 System Datum: Mean Sea Level



NOTE: All Lease lines and Hard lines are estimates only and are subject to the customers' approval.



Plan: Design #2 (Haw 15 #2H/OH)  
 Created By: Derek Stephens Date: 6:26, July 29 2014

Survey Report



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Haw 15 #2H
<b>Project:</b>	Reno County, Kansas [NAD 83]	<b>TVD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Site:</b>	Section 15 T25S-R10W	<b>MD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Well:</b>	Haw 15 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Reno County, Kansas [NAD 83]		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Kansas Southern Zone		Using geodetic scale factor

<b>Site</b>	Section 15 T25S-R10W				
<b>Site Position:</b>		<b>Northing:</b>	1,750,023.00 usft	<b>Latitude:</b>	37° 52' 7.214 N
<b>From:</b>	Map	<b>Easting:</b>	1,339,150.00 usft	<b>Longitude:</b>	98° 24' 25.556 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.06 °

<b>Well</b>	Haw 15 #2H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,750,023.00 usft	<b>Latitude:</b>	37° 52' 7.214 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	1,339,150.00 usft	<b>Longitude:</b>	98° 24' 25.556 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	1,742.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/7/2014	4.57	65.75	52,017

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	359.62	

<b>Survey Program</b>	<b>Date</b>	7/29/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	1,472.00	Gyro (OH)	CB-GYRO-MS	Camera based gyro multishot	
1,565.00	8,420.00	MWD (OH)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.36	263.33	100.00	-0.04	-0.31	-0.03	0.36	0.36	0.00	0.00
200.00	0.28	251.22	200.00	-0.15	-0.86	-0.15	0.10	-0.08	-12.11	
300.00	0.30	247.61	300.00	-0.33	-1.33	-0.32	0.03	0.02	-3.61	
400.00	0.29	230.85	400.00	-0.59	-1.77	-0.58	0.09	-0.01	-16.76	
500.00	0.43	223.24	499.99	-1.02	-2.22	-1.01	0.15	0.14	-7.61	
600.00	0.34	224.83	599.99	-1.51	-2.69	-1.49	0.09	-0.09	1.59	
700.00	0.35	230.84	699.99	-1.91	-3.13	-1.89	0.04	0.01	6.01	
800.00	0.33	195.79	799.99	-2.38	-3.45	-2.36	0.21	-0.02	-35.05	
900.00	0.29	179.93	899.99	-2.91	-3.53	-2.89	0.09	-0.04	-15.86	



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Haw 15 #2H
<b>Project:</b>	Reno County, Kansas [NAD 83]	<b>TVD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Site:</b>	Section 15 T25S-R10W	<b>MD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Well:</b>	Haw 15 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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)	
3,766.00	49.40	2.70	3,679.07	253.14	217.46	251.70	7.68	7.50	2.19	
3,798.00	51.90	3.50	3,699.36	277.85	218.81	276.39	8.05	7.81	2.50	
3,830.00	53.20	3.70	3,718.82	303.20	220.40	301.73	4.09	4.06	0.63	
3,871.00	54.20	3.70	3,743.09	336.18	222.53	334.69	2.44	2.44	0.00	
3,892.00	54.40	3.50	3,755.34	353.20	223.60	351.71	1.23	0.95	-0.95	
3,924.00	54.70	3.50	3,773.90	379.22	225.20	377.71	0.94	0.94	0.00	
3,956.00	55.00	3.30	3,792.33	405.33	226.75	403.82	1.07	0.94	-0.63	
3,988.00	55.20	3.00	3,810.63	431.54	228.19	430.02	0.99	0.63	-0.94	
4,025.00	56.60	3.00	3,831.38	462.14	229.79	460.60	3.78	3.78	0.00	
4,050.00	58.80	3.50	3,844.74	483.23	230.99	481.69	8.96	8.80	2.00	
4,082.00	61.90	3.70	3,860.56	510.98	232.74	509.43	9.70	9.69	0.63	
4,114.00	65.20	3.60	3,874.82	539.57	234.56	538.00	10.32	10.31	-0.31	
4,145.00	68.70	3.60	3,886.95	568.04	236.35	566.46	11.29	11.29	0.00	
4,177.00	72.20	3.80	3,897.66	598.12	238.30	596.53	10.95	10.94	0.63	
4,209.00	75.50	3.80	3,906.56	628.79	240.34	627.18	10.31	10.31	0.00	
4,241.00	78.80	4.00	3,913.67	659.91	242.46	658.29	10.33	10.31	0.63	
4,272.00	82.20	4.00	3,918.79	690.41	244.59	688.77	10.97	10.97	0.00	
4,287.00	83.80	3.90	3,920.62	705.26	245.62	703.61	10.69	10.67	-0.67	
4,349.00	88.20	3.60	3,924.94	766.96	249.66	765.29	7.11	7.10	-0.48	
4,411.00	90.00	3.50	3,925.91	828.83	253.50	827.13	2.91	2.90	-0.16	
4,474.00	90.80	3.50	3,925.47	891.71	257.34	889.99	1.27	1.27	0.00	
4,535.00	91.70	3.50	3,924.14	952.58	261.07	950.83	1.48	1.48	0.00	
4,597.00	90.80	3.40	3,922.79	1,014.46	264.80	1,012.68	1.46	-1.45	-0.16	
4,660.00	91.70	3.50	3,921.42	1,077.33	268.59	1,075.52	1.44	1.43	0.16	
4,722.00	90.90	3.10	3,920.01	1,139.21	272.15	1,137.38	1.44	-1.29	-0.65	
4,784.00	92.00	2.90	3,918.44	1,201.10	275.40	1,199.25	1.80	1.77	-0.32	
4,846.00	91.00	2.80	3,916.82	1,263.00	278.48	1,261.13	1.62	-1.61	-0.16	
4,908.00	90.80	2.00	3,915.85	1,324.94	281.08	1,323.05	1.33	-0.32	-1.29	
4,971.00	90.10	2.80	3,915.35	1,387.88	283.71	1,385.97	1.69	-1.11	1.27	
5,033.00	90.20	2.10	3,915.19	1,449.82	286.36	1,447.89	1.14	0.16	-1.13	
5,096.00	90.70	1.50	3,914.69	1,512.79	288.34	1,510.84	1.24	0.79	-0.95	
5,157.00	89.40	1.40	3,914.64	1,573.77	289.89	1,571.81	2.14	-2.13	-0.16	
5,219.00	89.30	1.50	3,915.34	1,635.75	291.46	1,633.78	0.23	-0.16	0.16	
5,280.00	89.80	1.00	3,915.82	1,696.73	292.79	1,694.75	1.16	0.82	-0.82	
5,342.00	89.90	1.10	3,915.98	1,758.72	293.92	1,756.73	0.23	0.16	0.16	
5,402.00	89.80	0.40	3,916.14	1,818.71	294.71	1,816.72	1.18	-0.17	-1.17	
5,464.00	90.30	359.80	3,916.09	1,880.71	294.82	1,878.71	1.26	0.81	-0.97	
5,525.00	91.30	0.10	3,915.24	1,941.70	294.76	1,939.71	1.71	1.64	0.49	
5,588.00	90.50	359.60	3,914.25	2,004.70	294.60	2,002.70	1.50	-1.27	-0.79	
5,650.00	89.30	359.80	3,914.35	2,066.69	294.27	2,064.70	1.96	-1.94	0.32	
5,712.00	88.00	359.20	3,915.82	2,128.67	293.73	2,126.68	2.31	-2.10	-0.97	
5,773.00	87.80	0.00	3,918.05	2,189.63	293.31	2,187.64	1.35	-0.33	1.31	
5,835.00	86.70	359.40	3,921.03	2,251.56	292.98	2,249.56	2.02	-1.77	-0.97	

Survey Report



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Haw 15 #2H
<b>Project:</b>	Reno County, Kansas [NAD 83]	<b>TVD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Site:</b>	Section 15 T25S-R10W	<b>MD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Well:</b>	Haw 15 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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)
1,000.00	0.27	196.07	999.98	-3.39	-3.59	-3.37	0.08	-0.02	16.14
1,100.00	0.24	150.52	1,099.98	-3.80	-3.55	-3.77	0.20	-0.03	-45.55
1,200.00	0.23	195.26	1,199.98	-4.17	-3.50	-4.15	0.18	-0.01	44.74
1,300.00	0.14	212.10	1,299.98	-4.47	-3.62	-4.45	0.10	-0.09	16.84
1,400.00	0.12	207.67	1,399.98	-4.67	-3.73	-4.64	0.02	-0.02	-4.43
1,472.00	0.16	230.97	1,471.98	-4.80	-3.85	-4.77	0.10	0.06	32.36
1,565.00	0.30	202.10	1,564.98	-5.10	-4.04	-5.08	0.19	0.15	-31.04
1,660.00	0.10	187.80	1,659.98	-5.42	-4.14	-5.39	0.22	-0.21	-15.05
1,755.00	2.20	104.00	1,754.96	-5.94	-2.39	-5.92	2.31	2.21	-88.21
1,850.00	4.80	97.60	1,849.77	-6.91	3.32	-6.93	2.76	2.74	-6.74
1,943.00	5.00	100.00	1,942.43	-8.13	11.17	-8.20	0.31	0.22	2.58
2,038.00	6.40	87.30	2,036.96	-8.60	20.54	-8.73	1.98	1.47	-13.37
2,134.00	8.00	86.10	2,132.20	-7.89	32.55	-8.10	1.67	1.67	-1.25
2,229.00	8.00	86.90	2,226.28	-7.08	45.75	-7.39	0.12	0.00	0.84
2,321.00	8.00	88.30	2,317.38	-6.55	58.54	-6.93	0.21	0.00	1.52
2,416.00	8.80	89.60	2,411.36	-6.30	72.41	-6.78	0.87	0.84	1.37
2,511.00	8.50	91.20	2,505.28	-6.40	86.70	-6.97	0.40	-0.32	1.68
2,606.00	8.60	85.80	2,599.23	-6.02	100.80	-6.69	0.85	0.11	-5.68
2,703.00	8.60	85.80	2,695.14	-4.96	115.27	-5.72	0.00	0.00	0.00
2,798.00	8.30	84.80	2,789.11	-3.82	129.18	-4.67	0.35	-0.32	-1.05
2,892.00	8.40	86.50	2,882.11	-2.78	142.79	-3.73	0.28	0.11	1.81
2,987.00	8.30	83.60	2,976.10	-1.60	156.53	-2.63	0.46	-0.11	-3.05
3,082.00	7.90	82.30	3,070.16	0.04	169.81	-1.08	0.46	-0.42	-1.37
3,131.00	7.90	80.50	3,118.69	1.05	176.47	-0.12	0.50	0.00	-3.67
3,162.00	8.50	69.50	3,149.38	2.20	180.72	1.01	5.41	1.94	-35.48
3,194.00	9.30	55.10	3,181.00	4.51	185.06	3.28	7.37	2.50	-45.00
3,226.00	10.10	39.90	3,212.54	8.14	188.98	6.89	8.36	2.50	-47.50
3,258.00	11.60	29.60	3,243.97	13.10	192.37	11.82	7.64	4.69	-32.19
3,290.00	13.60	23.20	3,275.20	19.35	195.44	18.05	7.61	6.25	-20.00
3,322.00	15.40	17.80	3,306.18	26.86	198.22	25.54	7.03	5.63	-16.88
3,353.00	17.20	13.10	3,335.94	35.24	200.52	33.91	7.19	5.81	-15.16
3,385.00	19.10	9.50	3,366.34	45.01	202.45	43.67	6.89	5.94	-11.25
3,417.00	20.70	7.80	3,396.43	55.78	204.09	54.43	5.32	5.00	-5.31
3,449.00	22.50	6.20	3,426.18	67.47	205.51	66.11	5.92	5.63	-5.00
3,481.00	25.00	5.30	3,455.47	80.29	206.80	78.92	7.89	7.81	-2.81
3,513.00	28.00	4.70	3,484.11	94.52	208.04	93.14	9.41	9.38	-1.88
3,544.00	30.90	4.90	3,511.10	109.70	209.32	108.31	9.36	9.35	0.65
3,575.00	34.00	4.90	3,537.26	126.27	210.74	124.87	10.00	10.00	0.00
3,607.00	36.40	4.40	3,563.40	144.66	212.23	143.25	7.55	7.50	-1.56
3,639.00	39.40	3.60	3,588.65	164.27	213.60	162.84	9.50	9.38	-2.50
3,670.00	42.40	2.90	3,612.08	184.53	214.74	183.10	9.79	9.68	-2.26
3,703.00	44.30	2.00	3,636.07	207.16	215.71	205.72	6.05	5.76	-2.73
3,734.00	47.00	2.00	3,657.74	229.31	216.48	227.87	8.71	8.71	0.00



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Haw 15 #2H
<b>Project:</b>	Reno County, Kansas [NAD 83]	<b>TVD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Site:</b>	Section 15 T25S-R10W	<b>MD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Well:</b>	Haw 15 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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)	
5,896.00	87.80	0.30	3,923.95	2,312.48	292.82	2,310.49	2.33	1.80	1.48	
5,959.00	89.20	0.90	3,925.60	2,375.46	293.48	2,373.46	2.42	2.22	0.95	
6,019.00	88.80	0.90	3,926.65	2,435.44	294.42	2,433.43	0.67	-0.67	0.00	
6,081.00	90.00	1.50	3,927.30	2,497.42	295.72	2,495.41	2.16	1.94	0.97	
6,142.00	91.40	1.60	3,926.55	2,558.39	297.37	2,556.37	2.30	2.30	0.16	
6,204.00	90.90	1.90	3,925.31	2,620.35	299.27	2,618.31	0.94	-0.81	0.48	
6,265.00	89.80	1.80	3,924.94	2,681.32	301.24	2,679.26	1.81	-1.80	-0.16	
6,326.00	89.50	2.20	3,925.31	2,742.28	303.36	2,740.21	0.82	-0.49	0.66	
6,387.00	89.70	2.10	3,925.73	2,803.24	305.65	2,801.15	0.37	0.33	-0.16	
6,449.00	89.30	2.60	3,926.27	2,865.18	308.19	2,863.07	1.03	-0.65	0.81	
6,510.00	89.20	2.30	3,927.07	2,926.12	310.80	2,923.99	0.52	-0.16	-0.49	
6,573.00	90.20	1.90	3,927.40	2,989.08	313.11	2,986.93	1.71	1.59	-0.63	
6,636.00	90.10	1.70	3,927.24	3,052.04	315.09	3,049.89	0.35	-0.16	-0.32	
6,699.00	89.80	1.40	3,927.29	3,115.02	316.79	3,112.85	0.67	-0.48	-0.48	
6,763.00	89.90	0.80	3,927.46	3,179.01	318.02	3,176.83	0.95	0.16	-0.94	
6,827.00	90.20	359.90	3,927.40	3,243.01	318.41	3,240.82	1.48	0.47	-1.41	
6,889.00	89.40	359.40	3,927.62	3,305.00	318.03	3,302.82	1.52	-1.29	-0.81	
6,952.00	89.70	359.60	3,928.12	3,368.00	317.48	3,365.82	0.57	0.48	0.32	
7,016.00	90.40	359.40	3,928.06	3,432.00	316.93	3,429.82	1.14	1.09	-0.31	
7,078.00	91.70	359.90	3,926.92	3,493.98	316.55	3,491.81	2.25	2.10	0.81	
7,143.00	89.80	1.10	3,926.07	3,558.97	317.11	3,556.79	3.46	-2.92	1.85	
7,206.00	90.80	1.00	3,925.74	3,621.96	318.27	3,619.77	1.60	1.59	-0.16	
7,268.00	89.50	1.00	3,925.58	3,683.95	319.35	3,681.75	2.10	-2.10	0.00	
7,332.00	90.40	0.50	3,925.64	3,747.94	320.19	3,745.74	1.61	1.41	-0.78	
7,395.00	91.00	0.60	3,924.87	3,810.93	320.79	3,808.72	0.97	0.95	0.16	
7,459.00	90.40	1.50	3,924.09	3,874.92	321.97	3,872.70	1.69	-0.94	1.41	
7,522.00	91.30	1.30	3,923.15	3,937.89	323.51	3,935.66	1.46	1.43	-0.32	
7,585.00	89.80	1.40	3,922.55	4,000.87	324.99	3,998.63	2.39	-2.38	0.16	
7,649.00	90.00	1.90	3,922.66	4,064.84	326.83	4,062.59	0.84	0.31	0.78	
7,712.00	90.60	1.20	3,922.33	4,127.82	328.54	4,125.55	1.46	0.95	-1.11	
7,776.00	88.80	359.70	3,922.66	4,191.81	329.04	4,189.54	3.66	-2.81	-2.34	
7,840.00	89.60	359.70	3,923.56	4,255.80	328.70	4,253.53	1.25	1.25	0.00	
7,904.00	90.20	0.00	3,923.67	4,319.80	328.54	4,317.53	1.05	0.94	0.47	
7,965.00	90.90	359.40	3,923.08	4,380.80	328.22	4,378.52	1.51	1.15	-0.98	
8,028.00	90.30	358.90	3,922.42	4,443.79	327.28	4,441.52	1.24	-0.95	-0.79	
8,091.00	90.10	358.50	3,922.20	4,506.77	325.85	4,504.51	0.71	-0.32	-0.63	
8,155.00	90.80	358.30	3,921.70	4,570.74	324.07	4,568.49	1.14	1.09	-0.31	
8,217.00	89.70	358.00	3,921.43	4,632.71	322.06	4,630.47	1.84	-1.77	-0.48	
8,280.00	89.70	358.10	3,921.76	4,695.67	319.92	4,693.45	0.16	0.00	0.16	
8,344.00	90.20	357.60	3,921.82	4,759.63	317.52	4,757.42	1.10	0.78	-0.78	
8,357.14	90.36	357.93	3,921.75	4,772.75	317.01	4,770.54	2.80	1.25	2.50	
<b>Haw 15 2H PBHL (7.19)</b>										
8,376.00	90.60	358.40	3,921.59	4,791.61	316.40	4,789.40	2.80	1.25	2.50	
<b>Last MWD Survey</b>										



<b>Company:</b>	Unit Petroleum	<b>Local Co-ordinate Reference:</b>	Well Haw 15 #2H
<b>Project:</b>	Reno County, Kansas [NAD 83]	<b>TVD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Site:</b>	Section 15 T25S-R10W	<b>MD Reference:</b>	14' KB @ 1756.00usft (UDI 331)
<b>Well:</b>	Haw 15 #2H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

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)	
8,420.00	90.60	358.40	3,921.13	4,835.59	315.17	4,833.39	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,376.00	3,921.59	4,791.61	316.40	Last MWD Survey	
8,420.00	3,921.13	4,835.59	315.17	Projection to TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_