



Directional Survey

HOBSOCD

OCT 16 2015

RECEIVED

Well Name: PAINT 33 FED 1H

Sub-Division DELAWARE BASIN WEST	Region BASIN WEST	Field Name PADUCA	County LEA	State/Province NM
Surface Legal Location SEC33 T24S R32E	AP/W/U/W 3002542516	Latitude (°) 32° 10' 2.107" N	Longitude (°) 103° 41' 1.951" W	Orig KB Elevation (ft) 3,514.50
			Ground Elev MSL (ft) 3,489.50	KB - GL (ft) 25.00

Wellbores			
Wellbore Name OH	Parent Wellbore OH	SAP Well ID 38587	Vertical Section Direction (°)

Kick Offs & Key Depths			
Date 6/5/2015	Type CURVE	Top Depth (ftKB) 10,152.0	
Actual Deviation Survey EXTREME, Proposed? No	Definitive? Yes	Proposed? No	Proposed Deviation Survey

Deviation Survey			
Date 5/22/2015	Description EXTREME		
MD Tie In (ftKB)	TVD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)
		NS Tie In (ft)	EW Tie In (ft)

Survey Data											
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company	
5/22/2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD	EXTREME	
5/22/2015	147.00	0.40	155.35	147.00	-0.49	-0.47	0.21	0.27	MWD	EXTREME	
5/22/2015	206.00	0.48	152.23	206.00	-0.92	-0.87	0.42	0.14	MWD	EXTREME	
5/22/2015	267.00	0.70	187.51	266.99	-1.52	-1.47	0.49	0.68	MWD	EXTREME	
5/23/2015	326.00	0.62	193.94	325.99	-2.16	-2.13	0.36	0.18	MWD	EXTREME	
5/23/2015	416.00	0.70	208.91	415.98	-3.06	-3.09	-0.02	0.21	MWD	EXTREME	
5/23/2015	507.00	1.01	224.91	506.97	-4.00	-4.14	-0.86	0.43	MWD	EXTREME	
5/23/2015	599.00	1.19	222.14	598.96	-5.13	-5.43	-2.07	0.20	MWD	EXTREME	
5/23/2015	689.00	1.41	218.63	688.93	-6.51	-6.98	-3.39	0.26	MWD	EXTREME	
5/23/2015	776.00	1.10	214.23	775.91	-7.88	-8.51	-4.53	0.37	MWD	EXTREME	
5/23/2015	792.00	0.88	209.22	791.91	-8.09	-8.74	-4.67	1.48	MWD	EXTREME	
5/23/2015	961.66	0.31	207.24	961.56	-9.52	-10.29	-5.52	0.34	MWD	EXTREME	
5/23/2015	1,053.66	0.22	0.04	1,053.56	-9.55	-10.33	-5.63	0.56	MWD	EXTREME	
5/23/2015	1,143.22	0.48	359.65	1,143.12	-8.01	-9.79	-5.63	0.29	MWD	EXTREME	
5/23/2015	1,234.00	1.01	358.24	1,233.89	-7.84	-8.61	-5.66	0.58	MWD	EXTREME	
5/23/2015	1,328.00	1.32	0.75	1,327.87	-5.94	-6.70	-5.67	0.33	MWD	EXTREME	
5/23/2015	1,423.00	1.19	0.83	1,422.85	-3.88	-4.62	-5.64	0.14	MWD	EXTREME	
5/23/2015	1,514.00	1.49	6.63	1,513.82	-1.79	-2.50	-5.49	0.36	MWD	EXTREME	
5/23/2015	1,609.00	1.71	2.94	1,608.79	0.80	0.15	-5.28	0.26	MWD	EXTREME	
5/23/2015	1,707.00	1.89	12.83	1,706.74	3.76	3.18	-4.84	0.37	MWD	EXTREME	
5/23/2015	1,802.00	1.58	15.64	1,801.69	6.44	5.97	-4.14	0.34	MWD	EXTREME	
5/23/2015	1,904.00	1.89	19.33	1,903.65	9.24	8.91	-3.21	0.32	MWD	EXTREME	
5/23/2015	1,990.00	1.80	16.13	1,989.60	11.75	11.55	-2.36	0.16	MWD	EXTREME	
5/23/2015	2,084.00	2.02	22.54	2,083.55	14.55	14.50	-1.32	0.33	MWD	EXTREME	
5/23/2015	2,179.00	1.89	34.32	2,178.50	17.18	17.34	0.21	0.44	MWD	EXTREME	
5/23/2015	2,274.00	1.89	34.72	2,273.44	19.52	19.92	1.98	0.01	MWD	EXTREME	
5/23/2015	2,368.00	2.29	44.43	2,367.38	21.84	22.53	4.18	0.57	MWD	EXTREME	
5/23/2015	2,463.00	2.02	41.44	2,462.31	24.12	25.14	6.62	0.31	MWD	EXTREME	
5/23/2015	2,557.00	2.11	46.01	2,556.25	26.26	27.59	8.96	0.20	MWD	EXTREME	
5/23/2015	2,651.19	2.29	57.74	2,650.37	28.09	29.80	11.80	0.51	MWD	EXTREME	
5/23/2015	2,746.00	2.29	64.25	2,745.11	29.50	31.63	15.10	0.27	MWD	EXTREME	
5/23/2015	2,840.00	2.42	76.11	2,839.03	30.33	32.92	18.72	0.54	MWD	EXTREME	
5/23/2015	2,930.00	2.20	80.55	2,928.96	30.63	33.66	22.27	0.31	MWD	EXTREME	
5/23/2015	3,029.00	2.20	81.82	3,027.88	30.74	34.24	26.03	0.05	MWD	EXTREME	
5/23/2015	3,124.00	1.80	88.42	3,122.83	30.62	34.55	29.32	0.49	MWD	EXTREME	
5/23/2015	3,219.00	1.89	90.92	3,217.78	30.26	34.56	32.38	0.13	MWD	EXTREME	
5/23/2015	3,313.00	1.58	85.82	3,311.73	29.97	34.63	35.22	0.37	MWD	EXTREME	
5/23/2015	3,408.00	2.29	78.75	3,406.68	30.04	35.10	38.39	0.79	MWD	EXTREME	
5/23/2015	3,503.00	2.59	77.21	3,501.59	30.39	35.94	42.35	0.32	MWD	EXTREME	
5/23/2015	3,597.00	1.89	76.55	3,595.52	30.77	36.77	45.92	0.75	MWD	EXTREME	
5/23/2015	3,691.00	1.71	50.01	3,689.48	31.70	38.03	48.51	0.90	MWD	EXTREME	
5/23/2015	3,786.00	1.80	49.27	3,784.43	33.29	39.92	50.72	0.10	MWD	EXTREME	
5/23/2015	3,880.00	2.68	78.31	3,878.36	34.28	41.33	53.99	1.50	MWD	EXTREME	
5/23/2015	3,974.00	4.31	98.44	3,972.19	33.51	41.25	59.64	2.15	MWD	EXTREME	
5/23/2015	4,069.00	4.09	96.94	4,066.93	31.72	40.32	66.53	0.26	MWD	EXTREME	
5/27/2015	4,163.00	5.19	96.55	4,160.62	29.90	39.43	74.09	1.17	MWD	EXTREME	
5/27/2015	4,257.00	5.71	103.84	4,254.20	27.21	37.83	82.85	0.92	MWD	EXTREME	
5/27/2015	4,351.00	6.20	112.85	4,347.69	23.00	34.74	92.07	1.12	MWD	EXTREME	
5/27/2015	4,442.00	6.28	118.65	4,438.15	17.63	30.44	100.97	0.70	MWD	EXTREME	
5/27/2015	4,639.00	3.17	117.75	4,634.46	8.21	22.74	115.25	1.58	MWD	PATHFINDER ENERGY SE...	
5/27/2015	4,733.00	1.67	117.15	4,728.37	5.95	20.90	118.76	1.60	MWD	PATHFINDER ENERGY SE...	
5/27/2015	4,828.00	1.49	116.59	4,823.34	4.48	19.72	121.10	0.19	MWD	PATHFINDER ENERGY SE...	
5/27/2015	4,923.00	0.79	73.60	4,918.32	3.90	19.35	122.83	1.12	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,017.00	0.88	64.90	5,012.31	4.23	19.84	124.11	0.17	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,111.00	0.18	1.90	5,106.31	4.60	20.29	124.77	0.87	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,206.00	0.26	323.88	5,201.31	4.93	20.62	124.64	0.17	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,300.00	0.44	332.05	5,295.30	5.46	21.11	124.35	0.20	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,395.00	0.44	338.07	5,390.30	6.15	21.77	124.04	0.05	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,489.00	0.53	350.83	5,484.30	6.93	22.53	123.84	0.15	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,583.00	0.44	354.93	5,578.29	7.73	23.32	123.74	0.10	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,678.00	0.53	340.39	5,673.29	8.52	24.10	123.56	0.16	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,772.00	0.62	339.17	5,767.29	9.44	24.98	123.23	0.10	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,866.00	0.62	342.03	5,861.28	10.44	25.94	122.89	0.03	MWD	PATHFINDER ENERGY SE...	
5/27/2015	5,961.00	0.53	345.15	5,956.28	11.38	26.86	122.62	0.10	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,056.00	0.70	345.30	6,051.27	12.39	27.84	122.36	0.18	MWD	PATHFINDER ENERGY SE...	

NOV 10 2015



Directional Survey

Well Name: PAINT 33 FED 1H

Sub-Division		Region		Field Name				County	State/Province		
DELAWARE BASIN WEST		BASIN WEST		PADUCA				LEA	NM		
Surface Legal Location		APRUWI		Latitude (°)		Longitude (°)		Orig KB Elevation (ft)		Ground Elev MSL (ft)	KB - GL (ft)
SEC33 T24S R32E		3002542516		32° 10' 2.107" N		103° 41' 1.951" W		3,514.50		3,489.50	25.00
Survey Data											
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company	
5/27/2015	6,150.00	0.97	346.30	6,145.26	13.75	29.17	122.03	0.29	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,244.00	1.23	283.21	6,239.25	14.89	30.17	120.86	1.25	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,339.00	3.08	264.01	6,334.18	15.29	30.14	117.33	2.06	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,434.00	4.22	259.75	6,428.98	15.16	29.25	111.35	1.23	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,529.00	5.01	255.36	6,523.67	14.43	27.58	103.90	0.91	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,623.00	6.24	257.21	6,617.22	13.39	25.41	94.94	1.32	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,718.00	7.74	259.14	6,711.51	12.47	23.07	83.62	1.60	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,812.00	8.79	255.02	6,804.53	11.08	20.02	70.47	1.28	MWD	PATHFINDER ENERGY SE...	
5/27/2015	6,906.00	8.35	254.90	6,897.48	9.16	16.38	56.94	0.47	MWD	PATHFINDER ENERGY SE...	
5/27/2015	7,001.00	8.00	252.47	6,991.52	7.02	12.59	43.98	0.52	MWD	PATHFINDER ENERGY SE...	
5/27/2015	7,095.00	9.06	244.35	7,084.48	3.49	7.42	31.07	1.70	MWD	PATHFINDER ENERGY SE...	
5/27/2015	7,190.00	8.09	244.34	7,178.42	-1.00	1.29	18.30	1.02	MWD	PATHFINDER ENERGY SE...	
5/27/2015	7,284.00	7.30	243.58	7,271.57	-5.07	-4.23	6.99	0.85	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,379.00	6.24	244.82	7,365.91	-8.66	-9.12	-3.09	1.13	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,473.00	6.24	244.66	7,459.35	-11.84	-13.48	-12.33	0.02	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,568.00	6.51	249.19	7,553.76	-14.72	-17.60	-22.03	0.60	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,662.00	7.56	250.80	7,647.05	-17.27	-21.53	-32.85	1.14	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,757.00	8.18	244.35	7,741.16	-20.72	-26.51	-44.85	1.13	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,851.00	7.56	241.90	7,834.27	-25.05	-32.31	-56.33	0.75	MWD	PATHFINDER ENERGY SE...	
5/31/2015	7,946.00	7.21	240.79	7,928.49	-29.52	-38.17	-67.04	0.40	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,041.00	6.33	247.01	8,022.82	-33.19	-43.12	-77.07	1.20	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,135.00	5.72	246.98	8,116.30	-35.88	-46.98	-86.15	0.65	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,230.00	5.28	245.49	8,210.87	-38.48	-50.64	-94.49	0.49	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,324.00	5.89	248.26	8,304.42	-40.99	-54.22	-102.90	0.71	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,418.00	5.54	248.26	8,397.95	-43.34	-57.69	-111.60	0.37	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,512.00	6.24	250.39	8,491.46	-45.59	-61.09	-120.62	0.78	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,607.00	6.68	249.52	8,585.85	-47.97	-64.75	-130.66	0.47	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,701.00	5.28	247.11	8,679.34	-50.41	-68.35	-139.77	1.51	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,795.00	4.92	245.69	8,772.97	-52.77	-71.69	-147.43	0.41	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,890.00	4.92	234.31	8,867.62	-55.92	-75.74	-154.45	1.03	MWD	PATHFINDER ENERGY SE...	
5/31/2015	8,984.00	7.03	228.38	8,961.10	-61.10	-81.92	-162.02	2.34	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,079.00	7.65	233.49	9,055.33	-67.49	-89.54	-171.45	0.95	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,173.00	6.68	230.51	9,148.59	-73.48	-96.74	-180.70	1.10	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,268.00	7.12	233.82	9,242.90	-79.29	-103.73	-189.72	0.62	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,362.00	7.65	240.66	9,336.13	-84.48	-110.23	-199.87	1.09	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,456.00	8.09	246.22	9,429.24	-88.74	-115.97	-211.38	0.93	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,551.00	7.47	245.90	9,523.37	-92.45	-121.18	-223.14	0.65	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,646.00	6.68	245.51	9,617.64	-95.90	-126.00	-233.80	0.83	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,740.00	7.21	245.97	9,710.95	-99.24	-130.66	-244.16	0.57	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,834.00	7.03	242.72	9,804.23	-102.93	-135.70	-254.66	0.47	MWD	PATHFINDER ENERGY SE...	
5/31/2015	9,929.00	7.30	240.99	9,898.49	-107.18	-141.29	-265.11	0.36	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,023.00	6.51	244.43	9,991.80	-111.08	-146.49	-275.14	0.95	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,098.00	5.89	243.53	10,066.36	-113.70	-150.04	-282.42	0.84	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,140.00	5.63	244.40	10,108.15	-115.06	-151.89	-286.21	0.65	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,172.00	7.03	260.83	10,139.96	-115.63	-152.88	-289.56	7.11	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,204.00	8.44	280.62	10,171.67	-114.98	-152.76	-293.80	9.35	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,235.00	10.11	294.18	10,202.27	-112.87	-151.23	-298.52	8.84	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,267.00	9.23	305.08	10,233.82	-109.69	-148.60	-303.18	6.34	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,298.00	10.29	309.84	10,264.37	-105.99	-145.40	-307.34	4.29	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,329.00	12.13	313.25	10,294.78	-101.45	-141.39	-311.84	6.31	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,361.00	14.77	315.72	10,325.90	-95.61	-136.17	-317.14	8.44	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,392.00	16.71	317.24	10,355.73	-88.84	-130.07	-322.92	6.40	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,424.00	18.55	318.52	10,386.23	-80.89	-122.87	-329.42	5.88	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,455.00	21.98	320.06	10,415.31	-71.94	-114.73	-336.41	11.20	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,487.00	26.47	321.70	10,444.48	-60.79	-104.54	-344.68	14.19	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,518.00	30.34	323.61	10,471.74	-48.04	-92.81	-353.61	12.82	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,550.00	33.15	328.05	10,498.96	-33.04	-78.87	-363.04	11.41	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,581.00	36.58	332.49	10,524.39	-16.68	-63.48	-371.79	13.76	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,613.00	40.10	336.04	10,549.49	2.13	-45.60	-380.39	12.97	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,644.00	43.53	336.98	10,572.59	21.96	-26.64	-388.62	11.25	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,676.00	47.92	339.57	10,594.93	44.14	-5.36	-397.08	14.89	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,707.00	50.83	342.65	10,615.11	67.17	16.90	-404.68	12.04	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,739.00	53.73	346.19	10,634.69	92.20	41.28	-411.46	12.60	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,770.00	57.51	348.30	10,652.20	117.66	66.22	-417.10	13.42	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,802.00	60.41	350.79	10,668.70	145.02	93.18	-422.06	11.25	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,833.00	63.93	353.42	10,683.17	172.43	120.33	-425.82	13.61	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,864.00	66.83	355.80	10,696.08	200.59	148.38	-428.46	11.67	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,896.00	69.73	357.18	10,707.93	230.25	178.05	-430.27	9.91	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,927.00	73.69	357.99	10,717.65	259.58	207.45	-431.51	13.01	MWD	PATHFINDER ENERGY SE...	
5/31/2015	10,981.00	78.61	359.27	10,730.58	311.73	259.85	-432.76	9.40	MWD	PATHFINDER ENERGY SE...	
5/31/2015	11,013.00	80.99	359.21	10,736.24	343.02	291.34	-433.18	7.44	MWD	PATHFINDER ENERGY SE...	
5/31/2015	11,044.00	83.80	359.48	10,740.34	373.55	322.06	-433.53	9.11	MWD	PATHFINDER ENERGY SE...	
5/31/2015	11,076.00	86.09	359.54	10,743.16	405.21	353.94	-433.80	7.16	MWD	PATHFINDER ENERGY SE...	
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