



Directional Survey

Well Name: TAYLOR DRAW 7 FED COM 2Y

Sub-Location DELAWARE BASIN WEST		Region SLOPE EAST		Field Name LUSK		County LEA		State/Province NM					
Surface Legal Location SEC 7-19S-32E		AP/WVI 3002542693		Latitude (°) 32° 40' 10.062" N		Longitude (°) 103° 47' 52.261" W		Orig KB Elevation (ft) 3,637.10		Ground Elev MSL (ft) 3,612.10		KB - GL (ft) 25.00	
Wellbores		Parent Wellbore OH		SAP Well ID 38681		Vertical Section Direction (°)							
Kick Offs & Key Depths													
Date 8/1/2015		Type CURVE		Top Depth (ftKB) 8,681.0									
Actual Deviation Survey FLOWDRIFT/MWD, Proposed? No		Definitive? Yes		Proposed? No		Proposed Deviation Survey FLOWDRIFT/MWD, Proposed? No							
Deviation Survey													
Date 7/20/2015		Description FLOWDRIFT/MWD											
MD Tie In (ftKB)		TVD Tie In (ftKB)		Inclination Tie In (°)		Azimuth Tie In (°)		NSTie In (ft)		EWtie In (ft)			
Survey Data													
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company			
7/20/2015	158.00	0.10	269.87	158.00	0.14	0.00	-0.14	0.06	EM	FLOW DRIFT			
7/20/2015	217.00	0.11	238.94	217.00	0.24	-0.03	-0.24	0.10	EM	FLOW DRIFT			
7/20/2015	277.00	0.15	313.59	277.00	0.34	-0.01	-0.34	0.27	EM	FLOW DRIFT			
7/20/2015	337.00	0.17	224.96	337.00	0.46	-0.01	-0.46	0.37	EM	FLOW DRIFT			
7/20/2015	433.00	0.08	276.90	433.00	0.64	-0.11	-0.63	0.14	EM	FLOW DRIFT			
7/20/2015	521.00	0.18	211.50	521.00	0.77	-0.22	-0.76	0.19	EM	FLOW DRIFT			
7/20/2015	617.00	0.23	244.34	617.00	1.04	-0.43	-1.02	0.13	EM	FLOW DRIFT			
7/20/2015	709.00	0.25	226.84	709.00	1.36	-0.65	-1.33	0.08	EM	FLOW DRIFT			
7/20/2015	801.00	0.33	241.83	801.00	1.76	-0.91	-1.71	0.12	EM	FLOW DRIFT			
7/20/2015	819.00	0.41	215.33	819.00	1.84	-0.99	-1.79	1.04	EM	FLOW DRIFT			
7/22/2015	973.00	1.06	208.42	972.98	2.93	-2.69	-2.79	0.43	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,065.00	2.81	184.48	1,064.93	3.67	-5.69	-3.37	2.06	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,160.00	2.99	184.02	1,159.81	4.28	-10.48	-3.73	0.19	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,252.00	2.73	183.62	1,251.69	4.83	-15.06	-4.03	0.28	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,346.00	3.08	182.54	1,345.57	5.34	-19.82	-4.29	0.38	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,440.00	2.90	174.29	1,439.44	5.48	-24.70	-4.16	0.50	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,535.00	2.20	170.75	1,534.35	5.17	-28.90	-3.63	0.75	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,629.00	1.32	145.16	1,628.30	4.41	-31.56	-2.72	1.23	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,723.00	1.32	117.02	1,722.28	2.90	-32.95	-1.14	0.68	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,818.00	1.06	79.37	1,817.26	1.08	-33.28	0.70	0.85	MWD	PATHFINDER ENERGY SE...			
7/23/2015	1,912.00	1.23	75.13	1,911.24	-0.77	-32.86	2.53	0.20	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,006.00	1.06	65.79	2,005.22	-2.56	-32.25	4.30	0.27	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,100.00	0.55	62.51	2,099.22	-3.64	-31.76	5.35	0.76	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,195.00	0.33	37.00	2,194.21	-4.18	-31.27	5.87	0.28	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,289.00	0.88	41.68	2,288.21	-4.97	-30.39	6.61	0.38	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,383.00	0.70	72.63	2,382.20	-6.04	-29.67	7.64	0.48	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,478.00	0.26	308.68	2,477.20	-6.44	-29.37	8.02	0.92	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,572.00	0.26	207.76	2,571.19	-6.17	-29.42	7.76	0.43	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,667.00	0.44	199.97	2,666.19	-5.92	-29.96	7.53	0.20	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,762.00	0.44	160.48	2,761.19	-5.88	-30.64	7.53	0.31	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,856.00	0.26	192.84	2,855.19	-5.92	-31.19	7.60	0.28	MWD	PATHFINDER ENERGY SE...			
7/23/2015	2,950.00	0.53	200.20	2,949.19	-5.69	-31.81	7.41	0.29	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,045.00	0.70	226.43	3,044.18	-5.07	-32.62	6.83	0.34	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,139.00	0.62	230.76	3,138.17	-4.23	-33.34	6.02	0.10	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,234.00	0.44	228.74	3,233.17	-3.53	-33.90	5.35	0.19	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,328.00	0.44	201.44	3,327.17	-3.09	-34.48	4.95	0.22	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,423.00	0.18	243.88	3,422.17	-2.80	-34.88	4.68	0.35	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,517.00	0.35	267.88	3,516.17	-2.38	-34.96	4.26	0.21	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,611.00	0.35	249.13	3,610.16	-1.82	-35.07	3.71	0.12	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,705.00	0.35	233.21	3,704.16	-1.31	-35.34	3.21	0.10	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,800.00	0.35	263.41	3,799.16	-0.78	-35.55	2.69	0.19	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,894.00	0.44	207.07	3,893.16	-0.31	-35.91	2.24	0.41	MWD	PATHFINDER ENERGY SE...			
7/24/2015	3,988.00	0.53	204.91	3,987.16	0.08	-36.62	1.89	0.10	MWD	PATHFINDER ENERGY SE...			
7/24/2015	4,083.00	0.44	227.29	4,082.15	0.56	-37.27	1.44	0.22	MWD	PATHFINDER ENERGY SE...			
7/24/2015	4,177.00	0.44	227.30	4,176.15	1.12	-37.76	0.91	0.00	MWD	PATHFINDER ENERGY SE...			
7/24/2015	4,271.00	0.62	195.98	4,270.15	1.56	-38.49	0.50	0.36	MWD	PATHFINDER ENERGY SE...			
7/24/2015	4,366.00	0.53	207.45	4,365.14	1.95	-39.37	0.16	0.15	MWD	PATHFINDER ENERGY SE...			
7/24/2015	4,472.00	0.62	202.56	4,471.14	2.45	-40.34	-0.29	0.10	MWD	PATHFINDER ENERGY SE...			
7/28/2015	4,655.00	0.62	193.92	4,654.12	3.17	-42.21	-0.91	0.05	MWD	PATHFINDER ENERGY SE...			
7/28/2015	4,749.00	0.97	155.72	4,748.12	3.03	-43.43	-0.70	0.66	MWD	PATHFINDER ENERGY SE...			
7/28/2015	4,844.00	0.97	167.92	4,843.10	2.61	-44.95	-0.20	0.22	MWD	PATHFINDER ENERGY SE...			
7/28/2015	4,939.00	1.49	146.00	4,938.08	1.85	-46.76	0.66	0.73	MWD	PATHFINDER ENERGY SE...			
7/28/2015	5,033.00	2.20	121.53	5,032.03	-0.26	-48.72	2.88	1.11	MWD	PATHFINDER ENERGY SE...			
7/28/2015	5,128.00	3.08	117.47	5,126.93	-3.96	-50.85	6.70	0.95	MWD	PATHFINDER ENERGY SE...			
7/24/2015	5,222.00	3.78	126.07	5,220.76	-8.54	-53.84	11.44	0.92	MWD	PATHFINDER ENERGY SE...			
7/28/2015	5,317.00	5.10	128.94	5,315.48	-14.10	-58.34	17.26	1.41	MWD	PATHFINDER ENERGY SE...			
7/24/2015	5,411.00	5.01	136.15	5,409.11	-19.89	-63.92	23.35	0.68	MWD	PATHFINDER ENERGY SE...			
7/28/2015	5,506.00	6.33	134.96	5,503.64	-26.10	-70.62	29.93	1.39	MWD	PATHFINDER ENERGY SE...			
7/28/2015	5,600.00	7.21	137.21	5,596.99	-33.34	-78.61	37.60	0.98	MWD	PATHFINDER ENERGY SE...			
7/28/2015	5,695.00	7.30	137.00	5,691.23	-41.02	-87.40	45.77	0.10	MWD	PATHFINDER ENERGY SE...			
7/29/2015	5,789.00	6.95	137.76	5,784.50	-48.44	-95.97	53.67	0.39	MWD	PATHFINDER ENERGY SE...			
7/29/2015	5,884.00	8.18	135.85	5,878.67	-56.51	-105.08	62.24	1.32	MWD	PATHFINDER ENERGY SE...			
7/29/2015	5,978.00	8.18	136.92	5,971.72	-65.21	-114.76	71.46	0.16	MWD	PATHFINDER ENERGY SE...			

FEB 15 2016



Directional Survey

Well Name: TAYLOR DRAW 7 FED COM 2Y

Sub-Division		Region	Field Name		County	State/Province				
DELAWARE BASIN WEST		SLOPE EAST	LUSK		LEA	NM				
Surface Legal Location		APRUW	Latitude (°)	Longitude (°)	Orig KB Elevation (ft)	Ground Elev MSL (ft)	KB - GL (ft)			
SEC 7-19S-32E		3002542693	32° 40' 10.062" N	103° 47' 52.261" W	3,637.10	3,612.10	25.00			
Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company
8/3/2015	11,476.00	90.84	271.09	9,243.89	2,259.52	-251.17	-2,249.29	0.57	MWD	PATHFINDER ENERGY SE...
8/3/2015	11,570.00	90.84	271.69	9,242.51	2,353.23	-248.89	-2,343.25	0.64	MWD	PATHFINDER ENERGY SE...
8/5/2015	11,665.00	91.36	271.85	9,240.68	2,447.87	-245.96	-2,438.19	0.57	MWD	PATHFINDER ENERGY SE...
8/5/2015	11,759.00	91.10	270.31	9,238.67	2,541.60	-244.19	-2,532.15	1.66	MWD	PATHFINDER ENERGY SE...
8/5/2015	11,854.00	89.87	271.25	9,237.85	2,636.38	-242.90	-2,627.13	1.63	MWD	PATHFINDER ENERGY SE...
8/5/2015	11,949.00	89.69	271.87	9,238.23	2,731.06	-240.31	-2,722.09	0.68	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,067.00	89.60	270.00	9,238.95	2,848.77	-238.38	-2,840.07	1.59	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,162.00	89.78	270.38	9,239.47	2,943.61	-238.07	-2,936.07	0.44	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,266.00	88.37	270.14	9,240.99	3,037.44	-237.54	-3,029.05	1.52	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,351.00	88.37	270.34	9,243.69	3,132.24	-237.25	-3,124.01	0.21	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,445.00	87.14	267.82	9,247.37	3,226.09	-238.75	-3,217.92	2.08	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,539.00	86.88	266.75	9,252.28	3,319.96	-243.20	-3,311.69	1.17	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,634.00	87.49	266.74	9,256.94	3,414.85	-248.59	-3,406.42	0.64	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,728.00	87.41	266.99	9,261.13	3,508.75	-253.72	-3,500.18	0.28	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,822.00	88.02	268.21	9,264.87	3,602.67	-257.66	-3,594.02	1.45	MWD	PATHFINDER ENERGY SE...
8/7/2015	12,917.00	90.13	269.12	9,266.41	3,697.61	-259.87	-3,688.98	2.42	MWD	PATHFINDER ENERGY SE...
8/7/2015	13,011.00	90.75	269.65	9,265.68	3,791.52	-260.88	-3,782.97	0.87	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,106.00	90.57	270.49	9,264.59	3,886.37	-260.76	-3,877.96	0.90	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,200.00	91.54	271.61	9,262.86	3,980.11	-259.04	-3,971.93	1.58	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,295.00	91.36	271.31	9,260.46	4,074.78	-256.62	-4,066.87	0.37	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,389.00	90.92	270.85	9,258.59	4,168.51	-254.85	-4,160.83	0.68	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,483.00	91.01	270.39	9,257.00	4,262.30	-253.83	-4,254.81	0.50	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,578.00	91.01	271.29	9,255.33	4,357.07	-252.44	-4,349.79	0.95	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,672.00	90.66	271.66	9,253.96	4,450.76	-250.02	-4,443.75	0.54	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,766.00	90.04	270.34	9,253.38	4,544.52	-248.38	-4,537.73	1.55	MWD	PATHFINDER ENERGY SE...
8/8/2015	13,845.00	90.04	270.34	9,253.33	4,623.38	-247.91	-4,616.73	0.00	MWD	PATHFINDER ENERGY SE...