



Directional Survey

30-015-38624

JUL 03 2014

District DELAWARE BASIN	County EDDY	Field Name INGLE WELLS	Project Group DELAWARE BASIN REG	State/Province NM		
Surface Legal Location SEC26 T23S R31E	API/UWI 3001538624	Latitude (°) 32° 16' 9.404" N	Longitude (°) 103° 44' 29.453" W	Ground Elev (ft) 3,470.60	Orig KB Elev (ft) 3,498.60	Tubing Head Elevation (ft) 28.00

Wellbores				
Wellbore Name OH	Parent Wellbore OH	SAP Well ID 34025	Kick Off Depth (ftKB) 357.03	Vertical Section Direction (°) 357.03
Actual Deviation Survey	Definitive?	Proposed?	Proposed Deviation Survey	

Deviation Survey					
Date		Description			
MD Tie In (ftKB)	TVD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NSTie 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
Wellbore Name ST01	Parent Wellbore OH	SAP Well ID 34025	Kick Off Depth (ftKB)	Vertical Section Direction (°)						
Actual Deviation Survey	Definitive?	Proposed?	Proposed Deviation Survey							
GYRO/MWD/ST01, Proposed? No	Yes	No								

Deviation Survey					
Date 12/8/2013		Description GYRO/MWD/ST01			
MD Tie In (ftKB)	TVD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NSTie 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
11/27/2...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	108.10	0.30	328.95	108.10	0.25	0.24	-0.15	0.28	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	226.24	0.47	297.08	226.24	0.76	0.73	-0.74	0.23	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	344.38	0.42	324.19	344.37	1.37	1.30	-1.42	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	436.56	0.53	291.61	436.55	1.83	1.73	-2.02	0.31	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	528.74	0.47	286.42	528.73	2.13	1.99	-2.77	0.08	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	620.92	0.47	306.72	620.90	2.50	2.33	-3.44	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	713.10	0.54	304.76	713.08	3.00	2.80	-4.10	0.08	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	805.28	0.92	284.37	805.25	3.49	3.23	-5.17	0.49	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	897.46	1.00	298.28	897.42	4.13	3.80	-6.60	0.27	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	989.64	1.29	287.03	989.58	4.90	4.48	-8.30	0.40	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,081.82	1.44	281.33	1,081.74	5.53	5.01	-10.43	0.22	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,174.00	1.48	258.08	1,173.89	5.63	5.00	-12.73	0.64	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,269.86	1.57	255.93	1,269.71	5.18	4.42	-15.21	0.11	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,365.72	1.58	254.15	1,365.54	4.63	3.74	-17.76	0.05	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,461.58	1.50	240.76	1,461.36	3.78	2.77	-20.12	0.38	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,557.44	1.40	237.02	1,557.19	2.64	1.52	-22.20	0.14	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,653.30	1.08	231.16	1,653.03	1.52	0.31	-23.89	0.36	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,749.16	0.90	241.41	1,748.87	0.66	-0.61	-25.25	0.26	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,845.02	0.77	254.71	1,844.72	0.20	-1.14	-26.53	0.24	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	1,940.88	0.87	253.23	1,940.57	-0.11	-1.52	-27.85	0.11	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,036.74	0.70	283.83	2,036.43	-0.12	-1.59	-29.12	0.46	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,132.60	0.79	286.54	2,132.28	0.27	-1.27	-30.32	0.10	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,228.46	0.90	305.99	2,228.13	0.96	-0.64	-31.56	0.32	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,324.32	0.94	317.49	2,323.98	2.04	0.39	-32.70	0.20	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,420.18	1.15	321.10	2,419.82	3.42	1.71	-33.84	0.23	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,516.04	0.98	315.43	2,515.66	4.81	3.05	-35.02	0.21	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,611.90	1.09	329.22	2,611.51	6.23	4.41	-36.06	0.28	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,707.76	1.41	332.17	2,707.34	8.11	6.24	-37.08	0.34	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,803.62	1.36	337.17	2,803.18	10.25	8.33	-38.07	0.14	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,899.48	1.02	327.73	2,899.02	12.06	10.10	-38.97	0.41	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	2,995.34	0.82	336.75	2,994.86	13.45	11.45	-39.69	0.26	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,091.20	0.54	330.35	3,090.72	14.49	12.48	-40.19	0.30	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,187.06	0.51	339.95	3,186.57	15.30	13.27	-40.56	0.10	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,282.92	0.31	348.09	3,282.43	15.97	13.92	-40.76	0.22	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,378.78	0.15	313.48	3,378.29	16.31	14.26	-40.90	0.21	GYRO	VAUHG N ENERGY SERVICES



Directional Survey

District DELAWARE BASIN	County EDDY	Field Name INGLE WELLS	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC26 T23S R31E	API/UWI 3001538624	Latitude (°) 32° 16' 9.404" N	Longitude (°) 103° 44' 29.453" W	Ground Elev. 3,470.60
				KB - GL (ft) 28.00
				Orig KB Elev (ft) 3,498.60
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
11/27/2...	3,474.64	0.19	186.57	3,474.15	16.25	14.19	-41.01	0.32	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,570.50	0.39	140.98	3,570.01	15.83	13.78	-40.82	0.30	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,666.36	0.99	137.28	3,665.86	14.93	12.92	-40.06	0.63	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,762.22	1.29	125.33	3,761.70	13.62	11.69	-38.61	0.40	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,858.08	1.53	124.45	3,857.53	12.18	10.34	-36.68	0.25	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	3,953.94	1.98	114.83	3,953.35	10.63	8.92	-34.12	0.56	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,049.80	2.86	130.27	4,049.12	8.23	6.68	-30.79	1.13	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,145.66	2.95	137.15	4,144.86	4.70	3.32	-27.29	0.38	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,241.52	2.83	139.69	4,240.60	0.93	-0.29	-24.08	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,337.38	2.35	140.26	4,336.36	-2.52	-3.60	-21.29	0.50	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,433.24	1.93	143.58	4,432.15	-5.44	-6.41	-19.08	0.46	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,529.10	2.01	141.43	4,527.96	-8.15	-9.03	-17.07	0.11	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,624.96	2.29	147.65	4,623.75	-11.19	-11.96	-15.00	0.38	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,720.82	2.16	148.65	4,719.54	-14.44	-15.12	-13.03	0.14	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,816.68	2.12	145.05	4,815.33	-17.53	-18.12	-11.08	0.15	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	4,912.54	1.91	125.56	4,911.13	-20.03	-20.50	-8.76	0.74	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,008.40	1.87	117.67	5,006.94	-21.82	-22.15	-6.08	0.27	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,104.26	2.06	132.07	5,102.74	-23.83	-24.04	-3.42	0.55	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,200.12	2.17	139.75	5,198.54	-26.49	-26.57	-0.96	0.32	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,295.98	2.11	135.50	5,294.33	-29.25	-29.22	1.45	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,391.84	1.75	135.59	5,390.14	-31.67	-31.52	3.71	0.38	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,487.70	1.69	140.30	5,485.95	-33.90	-33.66	5.63	0.16	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,583.56	1.61	151.86	5,581.77	-36.25	-35.93	7.17	0.36	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,679.42	1.82	143.78	5,677.59	-38.74	-38.35	8.71	0.33	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,775.28	1.89	158.84	5,773.40	-41.51	-41.05	10.18	0.51	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,871.14	1.51	156.86	5,869.22	-44.20	-43.68	11.24	0.40	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	5,967.00	1.65	136.95	5,965.04	-46.44	-45.85	12.68	0.59	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,062.86	1.73	145.69	6,060.86	-48.73	-48.06	14.44	0.28	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,158.72	1.87	148.99	6,156.67	-51.34	-50.59	16.06	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,254.58	1.87	154.89	6,252.48	-54.17	-53.35	17.53	0.20	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,350.44	1.93	149.69	6,348.29	-57.05	-56.16	19.01	0.19	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,446.30	1.78	145.07	6,444.10	-59.74	-58.77	20.68	0.22	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,542.16	1.72	150.41	6,539.92	-62.29	-61.25	22.24	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,638.02	1.91	154.24	6,635.73	-65.05	-63.94	23.64	0.24	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,733.88	1.94	151.57	6,731.53	-67.99	-66.80	25.11	0.10	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,829.74	1.90	153.77	6,827.34	-70.91	-69.65	26.59	0.09	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	6,925.60	1.72	158.63	6,923.15	-73.73	-72.42	27.81	0.25	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,021.46	1.62	153.86	7,018.97	-76.34	-74.98	28.93	0.18	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,117.32	1.73	165.31	7,114.79	-79.00	-77.59	29.90	0.37	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,213.18	1.85	152.07	7,210.60	-81.82	-80.36	30.99	0.45	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,309.04	1.73	156.69	7,306.42	-84.58	-83.05	32.29	0.20	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,404.90	1.75	165.81	7,402.23	-87.37	-85.80	33.22	0.29	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,500.76	1.85	152.85	7,498.05	-90.22	-88.60	34.28	0.44	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,596.62	1.71	164.66	7,593.86	-93.03	-91.35	35.37	0.41	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,692.48	1.38	153.16	7,689.69	-95.48	-93.76	36.27	0.47	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,788.34	1.69	158.43	7,785.51	-97.87	-96.11	37.31	0.36	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,884.20	1.63	160.54	7,881.33	-100.52	-98.71	38.28	0.09	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	7,980.06	1.80	156.22	7,977.15	-103.23	-101.37	39.34	0.22	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,075.92	1.80	162.41	8,072.96	-106.09	-104.18	40.40	0.20	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,171.78	1.52	163.67	8,168.78	-108.79	-106.84	41.22	0.29	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,267.64	1.54	160.24	8,264.61	-111.26	-109.27	42.01	0.10	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,363.50	2.00	168.27	8,360.42	-114.14	-112.12	42.79	0.54	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,459.36	2.05	184.68	8,456.22	-117.49	-115.47	42.99	0.61	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,555.22	1.91	201.56	8,552.02	-120.65	-118.66	42.26	0.62	GYRO	VAUHG N ENERGY SERVICES
11/27/2...	8,651.08	0.75	243.96	8,647.86	-122.35	-120.42	41.11	1.51	GYRO	VAUHG N ENERGY SERVICES



Directional Survey

District DELAWARE BASIN	County EDDY	Field Name INGLE WELLS	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC26 T23S R31E	API/UWI 3001538624	Latitude (°) 32° 16' 9.404" N	Longitude (°) 103° 44' 29.453" W	Ground Elev... 3,470.60
			KB - GL (ft) 28.00	Orig KB Elev (ft) 3,498.60
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
11/27/2...	8,746.94	0.45	213.68	8,743.71	-122.90	-121.01	40.34	0.45	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	8,842.80	1.03	266.83	8,839.57	-123.20	-121.37	39.27	0.88	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	8,938.66	1.19	285.43	8,935.41	-122.89	-121.16	37.45	0.41	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,034.52	1.36	274.34	9,031.25	-122.44	-120.81	35.35	0.31	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,130.38	0.76	255.28	9,127.09	-122.43	-120.88	33.60	0.72	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,226.24	0.76	194.82	9,222.94	-123.16	-121.66	32.83	0.80	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,322.10	0.80	176.37	9,318.79	-124.44	-122.94	32.71	0.26	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,417.96	1.29	164.22	9,414.64	-126.16	-124.65	33.04	0.56	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,513.82	0.98	141.90	9,510.48	-127.88	-126.33	33.84	0.56	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,609.68	0.97	123.92	9,606.32	-129.03	-127.43	35.02	0.32	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,705.54	1.61	126.21	9,702.16	-130.37	-128.68	36.78	0.67	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,801.40	2.00	141.65	9,797.97	-132.58	-130.78	38.90	0.65	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,897.26	1.64	168.92	9,893.79	-135.30	-133.44	40.21	0.97	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	9,993.12	1.79	167.34	9,989.60	-138.14	-136.25	40.80	0.16	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,088.98	2.21	171.64	10,085.40	-141.45	-139.54	41.39	0.46	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,184.84	1.85	177.47	10,181.20	-144.84	-142.91	41.73	0.43	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,280.70	1.62	187.79	10,277.02	-147.72	-145.80	41.62	0.40	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,376.56	1.62	177.59	10,372.84	-150.40	-148.50	41.49	0.30	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,472.42	1.63	183.62	10,468.66	-153.11	-151.21	41.46	0.18	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,568.28	1.89	174.47	10,564.48	-156.05	-154.15	41.53	0.40	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,664.14	2.63	181.77	10,660.26	-159.82	-157.92	41.61	0.83	GYRO	VAUHGN ENERGY SERVICES
11/27/2...	10,805.00	2.33	177.79	10,800.99	-165.90	-164.01	41.62	0.25	GYRO	VAUHGN ENERGY SERVICES
11/28/2...	10,925.00	1.10	279.80	10,920.95	-168.09	-166.25	40.58	2.31	MWD	LEAM DRILLING SYSTEMS
11/28/2...	10,957.00	4.20	344.50	10,952.92	-166.88	-165.07	39.96	12.06	MWD	LEAM DRILLING SYSTEMS
11/28/2...	10,988.00	8.40	353.30	10,983.73	-163.51	-161.72	39.40	13.86	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,020.00	12.40	354.70	11,015.20	-157.74	-155.98	38.81	12.52	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,051.00	14.90	356.50	11,045.32	-150.43	-148.69	38.26	8.18	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,083.00	16.80	357.70	11,076.10	-141.69	-139.96	37.82	6.02	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,114.00	18.40	357.70	11,105.65	-132.32	-130.59	37.44	5.16	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,146.00	20.30	357.00	11,135.84	-121.72	-120.00	36.95	5.98	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,178.00	21.70	356.60	11,165.71	-110.25	-108.55	36.31	4.40	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,209.00	23.20	356.80	11,194.36	-98.41	-96.73	35.63	4.84	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,241.00	25.40	357.70	11,223.53	-85.24	-83.58	35.00	6.97	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,273.00	27.30	358.70	11,252.20	-71.04	-69.39	34.56	6.10	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,304.00	28.80	358.20	11,279.56	-56.47	-54.81	34.16	4.90	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,335.00	30.50	357.70	11,306.50	-41.14	-39.49	33.61	5.54	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,367.00	33.40	356.80	11,333.65	-24.21	-22.58	32.79	9.18	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,398.00	35.30	355.40	11,359.24	-6.72	-5.13	31.60	6.64	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,430.00	37.50	354.70	11,385.00	12.26	13.79	29.96	7.00	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,462.00	41.00	354.30	11,409.77	32.48	33.94	28.02	10.97	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,494.00	43.70	353.80	11,433.42	54.00	55.38	25.78	8.50	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,526.00	46.10	353.50	11,456.08	76.55	77.82	23.28	7.53	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,557.00	49.50	353.30	11,476.90	99.46	100.63	20.64	10.98	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,589.00	52.70	354.20	11,497.00	124.32	125.39	17.93	10.24	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,621.00	55.80	355.20	11,515.69	150.26	151.24	15.54	10.01	MWD	LEAM DRILLING SYSTEMS
11/28/2...	11,652.00	59.20	356.80	11,532.35	176.40	177.32	13.72	11.80	MWD	LEAM DRILLING SYSTEMS
11/29/2...	11,684.00	62.80	357.50	11,547.86	204.38	205.27	12.33	11.41	MWD	LEAM DRILLING SYSTEMS
11/29/2...	11,716.00	65.30	357.50	11,561.86	233.15	234.01	11.08	7.81	MWD	LEAM DRILLING SYSTEMS
11/29/2...	11,747.00	66.20	358.40	11,574.59	261.41	262.26	10.07	3.93	MWD	LEAM DRILLING SYSTEMS
11/30/2...	11,776.00	68.30	360.00	11,585.81	288.14	289.00	9.70	8.85	MWD	LEAM DRILLING SYSTEMS
11/30/2...	11,808.00	72.30	360.00	11,596.59	318.22	319.12	9.70	12.50	MWD	LEAM DRILLING SYSTEMS
12/9/2013	11,842.00	73.00	354.90	11,606.74	350.66	351.52	8.25	14.46	MWD	LEAM DRILLING SYSTEMS
12/9/2013	11,873.00	78.10	353.80	11,614.47	380.63	381.39	5.29	16.81	MWD	LEAM DRILLING SYSTEMS
12/9/2013	11,905.00	83.60	353.30	11,619.56	412.15	412.77	1.74	17.26	MWD	LEAM DRILLING SYSTEMS
12/10/2...	11,968.00	90.70	354.00	11,622.69	474.92	475.26	-5.21	11.32	MWD	LEAM DRILLING SYSTEMS



Directional Survey

District DELAWARE BASIN	County EDDY	Field Name INGLE WELLS	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC26 T23S R31E	API/UWI 3001538624	Latitude (°) 32° 16' 9.404" N	Longitude (°) 103° 44' 29.453" W	Ground Elev... 3,470.60
			KB - GL (ft) 28.00	Orig KB Elev (ft) 3,498.60
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azmi (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
12/10/2...	12,062.00	90.80	354.20	11,621.46	568.78	568.76	-14.87	0.24	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,156.00	91.80	353.50	11,619.32	662.61	662.19	-24.94	1.30	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,252.00	91.50	353.90	11,616.56	758.40	757.57	-35.47	0.52	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,346.00	91.40	353.50	11,614.18	852.20	850.97	-45.78	0.44	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,440.00	91.30	353.50	11,611.97	945.99	944.34	-56.42	0.11	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,536.00	91.00	353.70	11,610.04	1,041.79	1,039.73	-67.12	0.38	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,630.00	90.30	353.20	11,608.97	1,135.59	1,133.11	-77.84	0.92	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,725.00	89.90	353.20	11,608.81	1,230.37	1,227.44	-89.09	0.42	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,820.00	89.60	353.00	11,609.22	1,325.14	1,321.75	-100.50	0.38	MWD	LEAM DRILLING SYSTEMS
12/10/2...	12,914.00	89.00	352.80	11,610.37	1,418.88	1,415.02	-112.12	0.67	MWD	LEAM DRILLING SYSTEMS
12/10/2...	13,009.00	89.10	353.50	11,611.94	1,513.64	1,509.33	-123.45	0.74	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,104.00	89.90	354.70	11,612.77	1,608.50	1,603.82	-133.21	1.52	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,200.00	90.30	355.10	11,612.61	1,704.43	1,699.44	-141.74	0.59	MWD	LEAM DRILLING SYSTEMS
12/1/2013	13,200.00	87.80	356.10	11,612.61	1,704.43	1,699.44	-141.74	0.59	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,294.00	90.10	354.60	11,614.33	1,798.36	1,793.10	-149.36	2.92	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,389.00	89.40	354.70	11,614.74	1,893.27	1,887.69	-158.22	0.74	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,484.00	90.90	355.40	11,614.49	1,988.21	1,982.33	-166.42	1.74	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,579.00	91.50	356.30	11,612.51	2,083.16	2,077.06	-173.29	1.14	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,674.00	91.10	356.20	11,610.35	2,178.13	2,171.83	-179.50	0.43	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,769.00	90.90	356.70	11,608.69	2,273.11	2,266.63	-185.38	0.57	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,864.00	90.70	357.00	11,607.37	2,368.10	2,361.48	-190.60	0.38	MWD	LEAM DRILLING SYSTEMS
12/11/2...	13,959.00	90.20	357.60	11,606.62	2,463.09	2,456.37	-195.08	0.82	MWD	LEAM DRILLING SYSTEMS
12/11/2...	14,054.00	89.70	357.90	11,606.70	2,558.09	2,551.30	-198.81	0.61	MWD	LEAM DRILLING SYSTEMS
12/11/2...	14,150.00	89.50	357.60	11,607.37	2,654.08	2,647.22	-202.58	0.38	MWD	LEAM DRILLING SYSTEMS
12/11/2...	14,245.00	90.00	357.60	11,607.79	2,749.07	2,742.14	-206.56	0.53	MWD	LEAM DRILLING SYSTEMS
12/11/2...	14,340.00	90.70	357.90	11,607.21	2,844.06	2,837.06	-210.29	0.80	MWD	LEAM DRILLING SYSTEMS
12/11/2...	14,435.00	91.50	359.10	11,605.38	2,939.02	2,932.01	-212.77	1.52	MWD	LEAM DRILLING SYSTEMS
12/11/2...	14,530.00	91.50	359.10	11,602.90	3,033.93	3,026.96	-214.26	0.00	MWD	LEAM DRILLING SYSTEMS
12/12/2...	14,625.00	91.10	359.30	11,600.74	3,128.84	3,121.93	-215.59	0.47	MWD	LEAM DRILLING SYSTEMS
12/12/2...	14,720.00	90.90	359.30	11,599.08	3,223.75	3,216.91	-216.75	0.21	MWD	LEAM DRILLING SYSTEMS
12/12/2...	14,815.00	91.50	359.30	11,597.09	3,318.66	3,311.88	-217.91	0.63	MWD	LEAM DRILLING SYSTEMS
12/12/2...	14,910.00	91.50	359.80	11,594.61	3,413.54	3,406.85	-218.66	0.53	MWD	LEAM DRILLING SYSTEMS
12/12/2...	15,005.00	91.50	0.00	11,592.12	3,508.40	3,501.81	-218.82	0.21	MWD	LEAM DRILLING SYSTEMS
12/12/2...	15,100.00	90.90	0.20	11,590.13	3,603.25	3,596.79	-218.66	0.67	MWD	LEAM DRILLING SYSTEMS
12/12/2...	15,196.00	91.00	0.50	11,588.54	3,699.08	3,692.78	-218.07	0.33	MWD	LEAM DRILLING SYSTEMS
12/12/2...	15,291.00	90.40	0.90	11,587.38	3,793.88	3,787.76	-216.91	0.76	MWD	LEAM DRILLING SYSTEMS
12/12/2...	15,386.00	88.90	358.80	11,587.96	3,888.76	3,882.75	-217.16	2.72	MWD	LEAM DRILLING SYSTEMS
12/14/2...	15,480.00	88.90	358.60	11,589.76	3,982.71	3,976.71	-219.29	0.21	MWD	LEAM DRILLING SYSTEMS
12/14/2...	15,576.00	89.40	358.60	11,591.19	4,078.67	4,072.67	-221.64	0.52	MWD	LEAM DRILLING SYSTEMS
12/14/2...	15,671.00	88.90	358.60	11,592.60	4,173.62	4,167.63	-223.96	0.53	MWD	LEAM DRILLING SYSTEMS
12/14/2...	15,765.00	88.40	359.00	11,594.81	4,267.56	4,261.58	-225.92	0.68	MWD	LEAM DRILLING SYSTEMS
12/14/2...	15,859.00	88.80	359.00	11,597.11	4,361.48	4,355.54	-227.56	0.43	MWD	LEAM DRILLING SYSTEMS
12/14/2...	15,955.00	88.20	358.80	11,599.62	4,457.40	4,451.49	-229.41	0.66	MWD	LEAM DRILLING SYSTEMS
12/14/2...	16,049.00	88.90	358.60	11,602.00	4,551.33	4,545.43	-231.54	0.77	MWD	LEAM DRILLING SYSTEMS
12/14/2...	16,104.00	88.90	358.60	11,603.05	4,606.30	4,600.41	-232.88	0.00	BIT	LEAM DRILLING SYSTEMS