

30-015-42452



Job Number: SVMO-141611
 Company: BOPCO, LP
 Lease/Well: Big Eddy DI 4 Unit 271H
 Location: Eddy County, NM
 Rig Name: ICD #202
 RKB: 26
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.13°
 Grid: East To Grid North
 File name: Y:\WINSER~1\2014SU~1\BOPCO\MO\BIGEDD-24\UNIT271H.SVY
 Date/Time: 03-Dec-14 / 11:16
 Curve Name: Surface - 3918' M.D. (Rate Gyro)

NM OIL CONSERVATION
 ARTESIA DISTRICT

NOV 21 2016

RECEIVED

MS Survey

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 3918' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Harley Patterson 12-3-14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.55	321.49	100.00	.38	-.30	.38	.48	321.49	.55
200.00	.30	314.79	200.00	.94	-.78	.94	1.22	320.06	.25
300.00	.08	10.61	300.00	1.19	-.96	1.19	1.53	321.18	.26
400.00	.09	99.70	400.00	1.24	-.87	1.24	1.52	325.15	.12
500.00	.09	106.36	499.99	1.21	-.71	1.21	1.40	329.45	.01
600.00	.01	180.23	599.99	1.18	-.64	1.18	1.34	331.55	.09
700.00	.17	66.10	699.99	1.23	-.50	1.23	1.33	337.77	.17
800.00	.40	67.96	799.99	1.42	-.04	1.42	1.42	358.26	.23
900.00	.46	90.54	899.99	1.55	.68	1.55	1.69	23.77	.18

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
1000.00	.58	68.55	999.99	1.73	1.55	1.73	2.32	41.96	.23
1100.00	.69	61.78	1099.98	2.20	2.56	2.20	3.37	49.30	.13
1200.00	.78	74.00	1199.97	2.67	3.74	2.67	4.60	54.47	.18
1300.00	.64	63.38	1299.96	3.11	4.89	3.11	5.80	57.58	.19
1400.00	.81	69.55	1399.96	3.61	6.06	3.61	7.05	59.23	.19
1500.00	.87	81.59	1499.95	3.96	7.47	3.96	8.46	62.04	.19
1600.00	.79	89.50	1599.94	4.08	8.91	4.08	9.80	65.39	.14
1700.00	.90	77.43	1699.92	4.26	10.37	4.26	11.21	67.67	.21
1800.00	.88	67.89	1799.91	4.72	11.84	4.72	12.75	68.28	.15
1900.00	1.05	42.06	1899.90	5.69	13.17	5.69	14.34	66.64	.46
2000.00	1.46	25.15	1999.88	7.52	14.32	7.52	16.18	62.30	.55
2100.00	1.82	15.90	2099.83	10.20	15.30	10.20	18.39	56.31	.45
2200.00	2.17	4.57	2199.77	13.62	15.89	13.62	20.92	49.40	.53
2300.00	2.52	353.71	2299.69	17.69	15.80	17.69	23.71	41.77	.56
2400.00	3.07	342.51	2399.57	22.43	14.75	22.43	26.84	33.33	.77
2500.00	3.19	339.69	2499.42	27.59	12.98	27.59	30.49	25.19	.20
2600.00	3.20	339.07	2599.27	32.81	11.02	32.81	34.61	18.56	.04
2700.00	3.25	340.90	2699.11	38.09	9.09	38.09	39.16	13.43	.11
2800.00	3.15	351.73	2798.95	43.49	7.77	43.49	44.18	10.13	.61
2900.00	2.65	350.00	2898.83	48.49	6.97	48.49	48.98	8.18	.51
3000.00	1.81	341.49	2998.75	52.26	6.07	52.26	52.61	6.63	.90
3100.00	1.28	326.68	3098.71	54.69	4.96	54.69	54.91	5.18	.66
3200.00	1.00	259.50	3198.70	55.47	3.48	55.47	55.57	3.59	1.28
3300.00	1.28	212.20	3298.68	54.36	2.03	54.36	54.40	2.14	.95
3400.00	1.45	211.01	3398.65	52.33	.78	52.33	52.34	.86	.17
3500.00	1.51	214.80	3498.62	50.17	-.62	50.17	50.17	359.29	.11
3600.00	2.13	214.05	3598.57	47.54	-.241	47.54	47.60	357.09	.62
3700.00	2.18	219.98	3698.50	44.55	-.468	44.55	44.79	354.01	.23
3800.00	1.41	231.41	3798.45	42.32	-.686	42.32	42.87	350.79	.85

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
3900.00	1.03	228.39	3898.42	40.96	-8.49	40.96	41.83	348.29	.39
Last Survey Depth Recorded									
3918.00	1.02	234.22	3916.42	40.76	-8.74	40.76	41.68	347.89	.58