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Yates Petroleum Corp.

Lea County, NM (NAD-83 2015)

Resolute BTO Federal Com #2H

Resolute BTO Federal Com #2H

30-025-41452

Lateral #1

Design: Lateral #1

Survey Report - Geographic

16 November, 2015



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TDS
Survey Report - Geographic



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Resolute BTO Federal Com #2H
Project:	Lea County, NM (NAD-83 2015)	TVD Reference:	KB @ 3479.50usft (Nomac 22)
Site:	Resolute BTO Federal Com #2H	MD Reference:	KB @ 3479.50usft (Nomac 22)
Well:	Resolute BTO Federal Com #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD-83 2015)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Resolute BTO Federal Com #2H			
Site Position:		Northing:	406,726.10 usft	Latitude: 32° 6' 58.317 N
From:	Map	Easting:	760,014.79 usft	Longitude: 103° 37' 37.240 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: 0.38 °

Well	Resolute BTO Federal Com #2H			
Well Position	+N/-S	0.00 usft	Northing:	406,726.10 usft
	+E/-W	0.00 usft	Easting:	760,014.79 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	3,458.00 usft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/28/2015	7.16	59.98	48,044

Design	Lateral #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.66

Survey Program	Date 11/16/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	1,000.00	MS Gyro #1 (Lateral #1)	ISCWSA-GYRO-3	Biaxial Semi-Cont. Gyro
1,027.00	16,639.00	TDS MWD #2 (Lateral #1)	MWD	MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	406,726.10	760,014.79	32° 6' 58.317 N	103° 37' 37.240 W
100.00	0.52	171.38	100.00	-0.45	0.07	406,725.65	760,014.86	32° 6' 58.313 N	103° 37' 37.239 W
200.00	0.48	181.56	199.99	-1.32	0.12	406,724.78	760,014.92	32° 6' 58.304 N	103° 37' 37.239 W
300.00	0.47	178.14	299.99	-2.14	0.13	406,723.96	760,014.92	32° 6' 58.296 N	103° 37' 37.239 W
400.00	0.47	189.27	399.99	-2.96	0.07	406,723.14	760,014.86	32° 6' 58.288 N	103° 37' 37.239 W
500.00	0.49	196.73	499.98	-3.77	-0.12	406,722.33	760,014.68	32° 6' 58.280 N	103° 37' 37.242 W
600.00	0.63	209.20	599.98	-4.66	-0.51	406,721.44	760,014.28	32° 6' 58.271 N	103° 37' 37.246 W
700.00	0.66	211.07	699.97	-5.64	-1.07	406,720.46	760,013.72	32° 6' 58.262 N	103° 37' 37.253 W
800.00	0.57	227.88	799.97	-6.46	-1.74	406,719.64	760,013.05	32° 6' 58.253 N	103° 37' 37.261 W
900.00	0.64	220.43	899.96	-7.22	-2.47	406,718.88	760,012.32	32° 6' 58.246 N	103° 37' 37.269 W



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Site:	Resolute BTO Federal Com #2H	MD Reference:	KB @ 3479.50usft (Nomac 22)
Well:	Resolute BTO Federal Com #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,000.00	0.45	209.86	999.96	-7.99	-3.03	406,718.11	760,011.76	32° 6' 58.238 N	103° 37' 37.276 W
Tie-In to MS Gyro									
1,027.00	0.50	208.20	1,026.96	-8.18	-3.14	406,717.92	760,011.66	32° 6' 58.236 N	103° 37' 37.277 W
1,214.00	0.30	170.30	1,213.95	-9.39	-3.44	406,716.71	760,011.35	32° 6' 58.225 N	103° 37' 37.281 W
1,401.00	0.30	175.30	1,400.95	-10.36	-3.32	406,715.74	760,011.47	32° 6' 58.215 N	103° 37' 37.279 W
1,588.00	0.10	133.20	1,587.95	-10.96	-3.16	406,715.14	760,011.63	32° 6' 58.209 N	103° 37' 37.278 W
1,775.00	0.00	84.50	1,774.95	-11.07	-3.04	406,715.03	760,011.75	32° 6' 58.208 N	103° 37' 37.276 W
1,962.00	0.10	54.10	1,961.95	-10.97	-2.91	406,715.13	760,011.89	32° 6' 58.209 N	103° 37' 37.275 W
2,147.00	0.20	32.00	2,146.95	-10.60	-2.60	406,715.50	760,012.19	32° 6' 58.212 N	103° 37' 37.271 W
2,335.00	0.30	12.40	2,334.95	-9.84	-2.32	406,716.26	760,012.47	32° 6' 58.220 N	103° 37' 37.268 W
2,522.00	0.20	11.00	2,521.94	-9.05	-2.16	406,717.05	760,012.63	32° 6' 58.228 N	103° 37' 37.266 W
2,709.00	0.30	13.70	2,708.94	-8.25	-1.98	406,717.85	760,012.81	32° 6' 58.236 N	103° 37' 37.264 W
2,896.00	0.40	26.30	2,895.94	-7.19	-1.57	406,718.91	760,013.22	32° 6' 58.246 N	103° 37' 37.259 W
3,083.00	0.30	21.40	3,082.94	-6.15	-1.11	406,719.95	760,013.69	32° 6' 58.256 N	103° 37' 37.253 W
3,270.00	0.20	351.30	3,269.93	-5.37	-0.98	406,720.73	760,013.81	32° 6' 58.264 N	103° 37' 37.252 W
3,457.00	0.20	5.90	3,456.93	-4.72	-0.99	406,721.38	760,013.80	32° 6' 58.271 N	103° 37' 37.252 W
3,645.00	0.30	29.30	3,644.93	-3.97	-0.72	406,722.13	760,014.07	32° 6' 58.278 N	103° 37' 37.249 W
3,831.00	0.40	55.80	3,830.93	-3.18	0.06	406,722.92	760,014.85	32° 6' 58.286 N	103° 37' 37.240 W
4,018.00	0.10	3.40	4,017.93	-2.65	0.61	406,723.45	760,015.40	32° 6' 58.291 N	103° 37' 37.233 W
4,206.00	0.30	101.30	4,205.92	-2.58	1.10	406,723.52	760,015.89	32° 6' 58.292 N	103° 37' 37.228 W
4,392.00	0.70	127.10	4,391.92	-3.36	2.48	406,722.74	760,017.27	32° 6' 58.284 N	103° 37' 37.211 W
4,579.00	0.50	172.10	4,578.91	-4.86	3.51	406,721.24	760,018.30	32° 6' 58.269 N	103° 37' 37.200 W
4,767.00	0.60	113.40	4,766.90	-6.06	4.52	406,720.04	760,019.31	32° 6' 58.257 N	103° 37' 37.188 W
4,804.00	0.50	117.00	4,803.90	-6.21	4.84	406,719.89	760,019.64	32° 6' 58.255 N	103° 37' 37.184 W
4,985.00	0.50	108.80	4,984.89	-6.82	6.30	406,719.28	760,021.09	32° 6' 58.249 N	103° 37' 37.167 W
5,141.00	0.40	99.20	5,140.89	-7.13	7.48	406,718.97	760,022.27	32° 6' 58.246 N	103° 37' 37.154 W
5,328.00	0.40	109.90	5,327.88	-7.46	8.74	406,718.64	760,023.53	32° 6' 58.243 N	103° 37' 37.139 W
5,515.00	0.50	91.50	5,514.88	-7.70	10.16	406,718.40	760,024.96	32° 6' 58.240 N	103° 37' 37.123 W
5,701.00	0.40	89.00	5,700.87	-7.71	11.63	406,718.39	760,026.42	32° 6' 58.240 N	103° 37' 37.106 W
5,889.00	0.40	71.20	5,888.87	-7.49	12.90	406,718.61	760,027.69	32° 6' 58.242 N	103° 37' 37.091 W
6,076.00	0.10	259.00	6,075.87	-7.31	13.36	406,718.79	760,028.15	32° 6' 58.244 N	103° 37' 37.085 W
6,264.00	0.50	279.50	6,263.86	-7.20	12.39	406,718.90	760,027.18	32° 6' 58.245 N	103° 37' 37.097 W
6,451.00	0.40	279.40	6,450.86	-6.96	10.94	406,719.14	760,025.73	32° 6' 58.248 N	103° 37' 37.113 W
6,637.00	0.30	289.30	6,636.85	-6.70	9.84	406,719.40	760,024.63	32° 6' 58.250 N	103° 37' 37.126 W
6,824.00	0.60	280.70	6,823.85	-6.35	8.42	406,719.75	760,023.21	32° 6' 58.254 N	103° 37' 37.143 W
7,010.00	0.60	272.60	7,009.84	-6.13	6.49	406,719.97	760,021.28	32° 6' 58.256 N	103° 37' 37.165 W
7,198.00	0.50	312.10	7,197.83	-5.53	4.90	406,720.57	760,019.69	32° 6' 58.262 N	103° 37' 37.184 W
7,384.00	0.70	269.60	7,383.82	-5.00	3.16	406,721.10	760,017.95	32° 6' 58.268 N	103° 37' 37.204 W
7,573.00	0.70	270.00	7,572.81	-5.00	0.85	406,721.10	760,015.64	32° 6' 58.268 N	103° 37' 37.231 W
7,760.00	0.60	265.90	7,759.79	-5.07	-1.27	406,721.03	760,013.52	32° 6' 58.267 N	103° 37' 37.255 W
7,947.00	0.50	259.20	7,946.79	-5.30	-3.05	406,720.80	760,011.74	32° 6' 58.265 N	103° 37' 37.276 W
8,133.00	0.70	255.90	8,132.77	-5.73	-4.95	406,720.37	760,009.84	32° 6' 58.261 N	103° 37' 37.298 W
8,320.00	0.60	231.80	8,319.76	-6.61	-6.83	406,719.49	760,007.97	32° 6' 58.252 N	103° 37' 37.320 W
8,414.00	0.70	228.10	8,413.76	-7.30	-7.64	406,718.80	760,007.15	32° 6' 58.246 N	103° 37' 37.329 W
8,508.00	0.70	226.70	8,507.75	-8.08	-8.48	406,718.02	760,006.31	32° 6' 58.238 N	103° 37' 37.339 W
8,602.00	0.80	224.70	8,601.74	-8.94	-9.36	406,717.16	760,005.43	32° 6' 58.229 N	103° 37' 37.350 W
8,695.00	0.70	229.30	8,694.73	-9.77	-10.25	406,716.33	760,004.54	32° 6' 58.221 N	103° 37' 37.360 W
8,710.00	0.80	221.80	8,709.73	-9.91	-10.39	406,716.19	760,004.40	32° 6' 58.220 N	103° 37' 37.362 W
8,767.00	0.60	287.90	8,766.73	-10.11	-10.94	406,715.99	760,003.85	32° 6' 58.218 N	103° 37' 37.368 W
As-Drilled KOP									
8,814.00	4.10	346.30	8,813.69	-8.40	-11.57	406,717.70	760,003.22	32° 6' 58.235 N	103° 37' 37.375 W
8,861.00	7.50	355.40	8,860.44	-3.71	-12.22	406,722.39	760,002.57	32° 6' 58.281 N	103° 37' 37.382 W
8,907.00	11.60	355.40	8,905.79	3.90	-12.83	406,730.00	760,001.96	32° 6' 58.357 N	103° 37' 37.389 W
8,954.00	16.10	356.50	8,951.41	15.12	-13.61	406,741.22	760,001.19	32° 6' 58.468 N	103° 37' 37.397 W
9,002.00	19.80	356.30	8,997.07	29.88	-14.54	406,755.98	760,000.25	32° 6' 58.614 N	103° 37' 37.407 W



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Well:	Resolute BTO Federal Com #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,033.00	22.70	358.00	9,025.96	41.10	-15.08	406,767.20	759,999.71	32° 6' 58.725 N	103° 37' 37.412 W
9,064.00	25.10	0.50	9,054.30	53.65	-15.24	406,779.75	759,999.56	32° 6' 58.849 N	103° 37' 37.413 W
9,095.00	28.00	2.30	9,082.03	67.50	-14.89	406,793.60	759,999.90	32° 6' 58.986 N	103° 37' 37.408 W
9,126.00	33.80	1.90	9,108.62	83.40	-14.31	406,809.50	760,000.48	32° 6' 59.143 N	103° 37' 37.400 W
9,157.00	38.90	0.10	9,133.58	101.77	-14.00	406,827.87	760,000.79	32° 6' 59.325 N	103° 37' 37.395 W
9,188.00	44.70	358.70	9,156.68	122.42	-14.24	406,848.52	760,000.56	32° 6' 59.530 N	103° 37' 37.396 W
9,219.00	50.50	358.70	9,177.57	145.29	-14.75	406,871.39	760,000.04	32° 6' 59.756 N	103° 37' 37.401 W
9,251.00	55.00	359.90	9,196.94	170.76	-15.06	406,896.86	759,999.73	32° 7' 0.008 N	103° 37' 37.402 W
9,282.00	59.10	1.20	9,213.79	196.76	-14.80	406,922.86	759,999.99	32° 7' 0.265 N	103° 37' 37.397 W
9,313.00	63.50	2.30	9,228.68	223.93	-13.97	406,950.03	760,000.83	32° 7' 0.534 N	103° 37' 37.385 W
9,344.00	69.10	1.80	9,241.13	252.29	-12.95	406,978.39	760,001.84	32° 7' 0.815 N	103° 37' 37.371 W
9,370.50	74.57	0.25	9,249.39	277.46	-12.51	407,003.56	760,002.28	32° 7' 1.064 N	103° 37' 37.364 W
As-Drilled Crosses 330' Hard Line									
9,375.00	75.50	0.00	9,250.55	281.80	-12.50	407,007.90	760,002.29	32° 7' 1.107 N	103° 37' 37.364 W
9,407.00	81.70	358.50	9,256.88	313.15	-12.91	407,039.25	760,001.88	32° 7' 1.417 N	103° 37' 37.366 W
9,438.00	85.30	357.60	9,260.39	343.93	-13.96	407,070.03	760,000.83	32° 7' 1.722 N	103° 37' 37.376 W
9,469.00	86.60	358.30	9,262.57	374.83	-15.07	407,100.93	759,999.72	32° 7' 2.027 N	103° 37' 37.387 W
9,500.00	87.80	359.50	9,264.09	405.79	-15.66	407,131.89	759,999.13	32° 7' 2.334 N	103° 37' 37.391 W
9,526.94	90.32	359.07	9,264.53	432.72	-16.00	407,158.82	759,998.79	32° 7' 2.600 N	103° 37' 37.393 W
As-Drilled EOC									
9,531.00	90.70	359.00	9,264.49	436.78	-16.07	407,162.88	759,998.72	32° 7' 2.640 N	103° 37' 37.394 W
9,594.00	92.00	359.00	9,263.01	499.75	-17.17	407,225.85	759,997.62	32° 7' 3.264 N	103° 37' 37.402 W
9,688.00	90.40	4.00	9,261.04	593.67	-14.71	407,319.77	760,000.08	32° 7' 4.193 N	103° 37' 37.366 W
9,782.00	90.40	3.30	9,260.38	687.47	-8.72	407,413.57	760,006.07	32° 7' 5.121 N	103° 37' 37.289 W
9,875.00	89.10	1.80	9,260.79	780.37	-4.58	407,506.47	760,010.21	32° 7' 6.040 N	103° 37' 37.234 W
9,969.00	90.60	1.90	9,261.04	874.32	-1.55	407,600.42	760,013.24	32° 7' 6.969 N	103° 37' 37.192 W
10,062.00	91.90	0.50	9,259.01	967.28	0.40	407,693.38	760,015.19	32° 7' 7.889 N	103° 37' 37.162 W
10,156.00	90.90	0.60	9,256.71	1,061.24	1.30	407,787.34	760,016.09	32° 7' 8.819 N	103° 37' 37.144 W
10,249.00	90.70	0.50	9,255.41	1,154.23	2.19	407,880.33	760,016.98	32° 7' 9.739 N	103° 37' 37.127 W
10,343.00	89.80	359.70	9,255.00	1,248.23	2.36	407,974.33	760,017.15	32° 7' 10.669 N	103° 37' 37.118 W
10,437.00	90.40	0.20	9,254.84	1,342.22	2.27	408,068.32	760,017.06	32° 7' 11.599 N	103° 37' 37.111 W
10,531.00	90.00	0.60	9,254.51	1,436.22	2.93	408,162.32	760,017.72	32° 7' 12.529 N	103° 37' 37.097 W
10,624.00	89.20	358.90	9,255.16	1,529.21	2.52	408,255.31	760,017.32	32° 7' 13.449 N	103° 37' 37.094 W
10,717.00	90.50	1.10	9,255.40	1,622.21	2.52	408,348.31	760,017.32	32° 7' 14.370 N	103° 37' 37.087 W
10,811.00	89.50	358.30	9,255.40	1,716.19	2.03	408,442.29	760,016.82	32° 7' 15.300 N	103° 37' 37.086 W
10,905.00	89.50	357.90	9,256.22	1,810.14	-1.08	408,536.24	760,013.71	32° 7' 16.229 N	103° 37' 37.115 W
10,998.00	90.10	357.60	9,256.55	1,903.07	-4.74	408,629.17	760,010.06	32° 7' 17.149 N	103° 37' 37.150 W
11,092.00	90.90	358.30	9,255.73	1,997.00	-8.10	408,723.10	760,006.69	32° 7' 18.079 N	103° 37' 37.182 W
11,185.00	89.80	357.90	9,255.16	2,089.95	-11.18	408,816.05	760,003.61	32° 7' 18.999 N	103° 37' 37.211 W
11,278.00	89.60	357.40	9,255.65	2,182.87	-14.99	408,908.97	759,999.80	32° 7' 19.919 N	103° 37' 37.248 W
11,372.00	90.50	357.70	9,255.56	2,276.78	-19.01	409,002.88	759,995.78	32° 7' 20.848 N	103° 37' 37.288 W
11,465.00	90.90	359.10	9,254.43	2,369.73	-21.61	409,095.83	759,993.18	32° 7' 21.768 N	103° 37' 37.311 W
11,559.00	90.50	359.40	9,253.28	2,463.72	-22.84	409,189.82	759,991.95	32° 7' 22.698 N	103° 37' 37.318 W
11,652.00	89.50	358.90	9,253.28	2,556.71	-24.22	409,282.81	759,990.57	32° 7' 23.619 N	103° 37' 37.327 W
11,746.00	89.60	359.30	9,254.02	2,650.69	-25.70	409,376.79	759,989.10	32° 7' 24.549 N	103° 37' 37.337 W
11,840.00	90.50	359.20	9,253.94	2,744.68	-26.93	409,470.78	759,987.87	32° 7' 25.479 N	103° 37' 37.344 W
11,933.00	91.20	359.70	9,252.56	2,837.67	-27.82	409,563.77	759,986.97	32° 7' 26.399 N	103° 37' 37.347 W
12,026.00	90.90	0.60	9,250.85	2,930.65	-27.58	409,656.75	759,987.22	32° 7' 27.319 N	103° 37' 37.337 W
12,120.00	91.80	0.50	9,248.64	3,024.62	-26.67	409,750.72	759,988.12	32° 7' 28.249 N	103° 37' 37.320 W
12,213.00	91.40	1.90	9,246.04	3,117.56	-24.73	409,843.66	759,990.06	32° 7' 29.169 N	103° 37' 37.290 W
12,306.00	90.80	1.60	9,244.26	3,210.50	-21.89	409,936.60	759,992.90	32° 7' 30.088 N	103° 37' 37.250 W
12,399.00	89.10	359.70	9,244.34	3,303.49	-20.83	410,029.59	759,993.96	32° 7' 31.008 N	103° 37' 37.231 W
12,493.00	89.40	359.20	9,245.57	3,397.47	-21.73	410,123.57	759,993.06	32° 7' 31.938 N	103° 37' 37.234 W
12,587.00	90.30	358.90	9,245.81	3,491.46	-23.29	410,217.56	759,991.50	32° 7' 32.868 N	103° 37' 37.245 W
12,681.00	90.00	357.30	9,245.57	3,585.40	-26.41	410,311.50	759,988.38	32° 7' 33.798 N	103° 37' 37.274 W



TDS
Survey Report - Geographic



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Resolute BTO Federal Com #2H
Project:	Lea County, NM (NAD-83 2015)	TVD Reference:	KB @ 3479.50usft (Nomac 22)
Site:	Resolute BTO Federal Com #2H	MD Reference:	KB @ 3479.50usft (Nomac 22)
Well:	Resolute BTO Federal Com #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,775.00	89.70	358.00	9,245.81	3,679.32	-30.26	410,405.42	759,984.53	32° 7' 34.728 N	103° 37' 37.312 W
12,867.00	93.10	358.80	9,243.57	3,771.25	-32.83	410,497.35	759,981.96	32° 7' 35.638 N	103° 37' 37.334 W
12,961.00	93.20	359.10	9,238.40	3,865.09	-34.55	410,591.19	759,980.24	32° 7' 36.566 N	103° 37' 37.347 W
13,054.00	92.00	359.70	9,234.18	3,957.98	-35.52	410,684.08	759,979.27	32° 7' 37.486 N	103° 37' 37.351 W
13,147.00	91.60	0.90	9,231.26	4,050.94	-35.04	410,777.04	759,979.75	32° 7' 38.405 N	103° 37' 37.339 W
13,241.00	90.30	2.70	9,229.70	4,144.87	-32.08	410,870.97	759,982.71	32° 7' 39.335 N	103° 37' 37.297 W
13,334.00	88.70	3.00	9,230.51	4,237.75	-27.46	410,963.85	759,987.33	32° 7' 40.254 N	103° 37' 37.236 W
13,427.00	90.40	3.00	9,231.24	4,330.62	-22.59	411,056.72	759,992.20	32° 7' 41.172 N	103° 37' 37.173 W
13,521.00	90.10	2.90	9,230.83	4,424.49	-17.76	411,150.59	759,997.03	32° 7' 42.101 N	103° 37' 37.109 W
13,614.00	90.20	2.80	9,230.59	4,517.37	-13.13	411,243.47	760,001.66	32° 7' 43.020 N	103° 37' 37.048 W
13,708.00	89.80	2.70	9,230.59	4,611.27	-8.62	411,337.37	760,006.17	32° 7' 43.948 N	103° 37' 36.989 W
13,801.00	90.60	1.40	9,230.27	4,704.20	-5.30	411,430.30	760,009.50	32° 7' 44.868 N	103° 37' 36.943 W
13,894.00	89.70	359.90	9,230.02	4,797.19	-4.24	411,523.29	760,010.55	32° 7' 45.788 N	103° 37' 36.924 W
13,987.00	90.80	0.00	9,229.62	4,890.19	-4.32	411,616.29	760,010.47	32° 7' 46.708 N	103° 37' 36.918 W
14,080.00	90.80	358.60	9,228.32	4,983.17	-5.46	411,709.27	760,009.33	32° 7' 47.628 N	103° 37' 36.924 W
14,173.00	90.20	358.50	9,227.51	5,076.14	-7.81	411,802.24	760,006.98	32° 7' 48.549 N	103° 37' 36.944 W
14,266.00	88.70	359.00	9,228.40	5,169.11	-9.84	411,895.21	760,004.95	32° 7' 49.469 N	103° 37' 36.960 W
14,360.00	89.70	358.80	9,229.71	5,263.08	-11.64	411,989.18	760,003.15	32° 7' 50.399 N	103° 37' 36.974 W
14,453.00	89.50	358.30	9,230.36	5,356.05	-14.00	412,082.15	760,000.79	32° 7' 51.319 N	103° 37' 36.995 W
14,546.00	90.90	358.50	9,230.04	5,449.01	-16.59	412,175.11	759,998.20	32° 7' 52.239 N	103° 37' 37.018 W
14,640.00	90.70	359.00	9,228.72	5,542.98	-18.64	412,269.08	759,996.15	32° 7' 53.169 N	103° 37' 37.034 W
14,734.00	91.20	359.10	9,227.16	5,636.95	-20.20	412,363.05	759,994.59	32° 7' 54.099 N	103° 37' 37.045 W
14,827.00	91.40	358.70	9,225.05	5,729.91	-21.99	412,456.01	759,992.80	32° 7' 55.019 N	103° 37' 37.059 W
14,921.00	89.80	358.10	9,224.07	5,823.87	-24.61	412,549.97	759,990.18	32° 7' 55.949 N	103° 37' 37.082 W
15,014.00	90.60	359.00	9,223.75	5,916.83	-26.97	412,642.93	759,987.83	32° 7' 56.869 N	103° 37' 37.103 W
15,108.00	89.80	0.10	9,223.42	6,010.83	-27.70	412,736.93	759,987.09	32° 7' 57.799 N	103° 37' 37.104 W
15,202.00	88.00	0.80	9,225.22	6,104.80	-26.97	412,830.90	759,987.83	32° 7' 58.729 N	103° 37' 37.088 W
15,295.00	88.60	0.50	9,227.98	6,197.76	-25.91	412,923.86	759,988.88	32° 7' 59.649 N	103° 37' 37.069 W
15,389.00	90.00	0.60	9,229.13	6,291.74	-25.01	413,017.84	759,989.78	32° 8' 0.579 N	103° 37' 37.051 W
15,485.00	89.60	0.80	9,229.46	6,387.73	-23.84	413,113.83	759,990.95	32° 8' 1.528 N	103° 37' 37.030 W
15,580.00	88.90	0.50	9,230.71	6,482.72	-22.76	413,208.82	759,992.03	32° 8' 2.468 N	103° 37' 37.011 W
15,675.00	90.00	0.30	9,231.62	6,577.71	-22.10	413,303.81	759,992.70	32° 8' 3.408 N	103° 37' 36.996 W
15,769.00	91.20	359.90	9,230.64	6,671.70	-21.93	413,397.80	759,992.86	32° 8' 4.338 N	103° 37' 36.987 W
15,865.00	90.50	359.30	9,229.21	6,767.69	-22.60	413,493.79	759,992.19	32° 8' 5.288 N	103° 37' 36.987 W
15,960.00	90.20	358.40	9,228.63	6,862.67	-24.51	413,588.77	759,990.28	32° 8' 6.228 N	103° 37' 37.002 W
16,055.00	92.20	358.60	9,226.64	6,957.61	-26.99	413,683.71	759,987.80	32° 8' 7.168 N	103° 37' 37.024 W
16,150.00	92.20	358.30	9,222.99	7,052.50	-29.56	413,778.60	759,985.23	32° 8' 8.107 N	103° 37' 37.046 W
16,244.00	92.30	359.10	9,219.30	7,146.41	-31.69	413,872.51	759,983.10	32° 8' 9.036 N	103° 37' 37.064 W
16,339.00	91.50	359.70	9,216.15	7,241.35	-32.69	413,967.45	759,982.10	32° 8' 9.976 N	103° 37' 37.068 W
16,465.00	91.40	0.00	9,212.97	7,367.31	-33.02	414,093.41	759,981.77	32° 8' 11.222 N	103° 37' 37.062 W
Final MWD Survey									
16,639.00	91.40	0.00	9,208.72	7,541.26	-33.02	414,267.36	759,981.77	32° 8' 12.944 N	103° 37' 37.049 W
Projection to Bit/TD									



TDS
Survey Report - Geographic



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Resolute BTO Federal Com #2H
Project:	Lea County, NM (NAD-83 2015)	TVD Reference:	KB @ 3479.50usft (Nomac 22)
Site:	Resolute BTO Federal Com #2H	MD Reference:	KB @ 3479.50usft (Nomac 22)
Well:	Resolute BTO Federal Com #2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	999.96	-7.99	-3.03	Tie-In to MS Gyro
8,767.00	8,766.73	-10.11	-10.94	As-Drilled KOP
9,370.50	9,249.39	277.46	-12.51	As-Drilled Crosses 330' Hard Line
9,526.94	9,264.53	432.72	-16.00	As-Drilled EOC
16,465.00	9,212.97	7,367.31	-33.02	Final MWD Survey
16,639.00	9,208.72	7,541.26	-33.02	Projection to Bit/TD

Checked By: _____	Approved By: _____	Date: _____
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System Datum: Mean Sea Level
Local North: Grid



Job Number: SVMO-150822

Company: Yates Petroleum Corporation

Lease/Well: Resolute BTO Federal Com 2H

Location: Lea County, NM

Rig Name: Nomac #22

RKB: 21.5'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

Declination: 6.78°

Grid: East To Grid North

File name: W:WINSER~1\2015SU~1\YATESP~1\MO\RESOLU~2\H.SVY

Date/Time: 02-Nov-15 / 14:49

Curve Name: Surface - 1000' M.D. (Rate Gyro)

MS Survey

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane .00

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
Surface MD to 1000' MD is, to the best of
our knowledge a true and accurate account of
the well bore.
James Benson 11/2/15 Date
MS Energy Services

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	.52	171.38	100.00	-.45	.07	-.45	.45	171.38	.52
200.00	.48	181.56	199.99	-1.32	.12	-1.32	1.32	174.59	.10
300.00	.47	178.14	299.99	-2.14	.13	-2.14	2.15	176.62	.03
400.00	.47	189.27	399.99	-2.96	.07	-2.96	2.96	178.57	.09
500.00	.49	196.73	499.98	-3.77	-.12	-3.77	3.78	181.75	.07
600.00	.63	209.20	599.98	-4.66	-.51	-4.66	4.69	186.20	.18
700.00	.66	211.07	699.97	-5.64	-1.07	-5.64	5.74	190.77	.04
800.00	.57	227.88	799.97	-6.46	-1.74	-6.46	6.69	195.05	.20
900.00	.64	220.43	899.96	-7.22	-2.47	-7.22	7.63	198.88	.11

Last Survey Depth Recorded

1000.00	.45	209.86	999.96	-7.99	-3.03	-7.99	8.54	200.76	.21
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