

300-25-41452



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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
From:	Map	Easting:	760,014.79 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	32° 6' 58.317 N
		Longitude:	103° 37' 37.240 W
		Grid Convergence:	0.38 °

Well	Resolute BTO Federal Com #2H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 6' 58.317 N
		Longitude:	103° 37' 37.240 W
		Ground Level:	3,456.00 usft

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

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

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

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(usft)			(usft)			(usft)	(usft)		
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
4,904.00	0.50	117.00	4,903.90	-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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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
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	9,248.84	3,024.62	-26.87	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	759,993.98	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
12,981.00	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' 37.088 W
16,465.00	91.40	0.00	9,212.97	7,367.31	-33.02	414,063.41	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 BHTD									



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/VD

Checked By: _____ Approved By: _____ Date: _____



ATES
Petroleum
Project: Lea County, NM (NAD-83 2015)
Site: Resolute BTO Federal Com #2H
Well: Resolute BTO Federal Com #2H
Wellbore: Lateral #1
Plan: Design #1

Section Details									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	8782.54	0.00	0.00	8782.54	0.00	0.00	0.00	0.00	0.00
3	9535.24	90.32	359.66	9260.00	480.16	-2.82	12.00	359.66	480.17
4	16598.17	90.32	359.66	9220.00	7542.85	-44.23	0.00	0.00	7542.98

PBHL (RBFC #2H/L1)

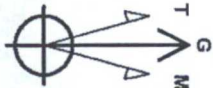
WELL DETAILS: Resolute BTO Federal Com #2H

Ground Elevation: 3458.00

RKB Elevation: KB @ 3479.50usft (Nomac 22)

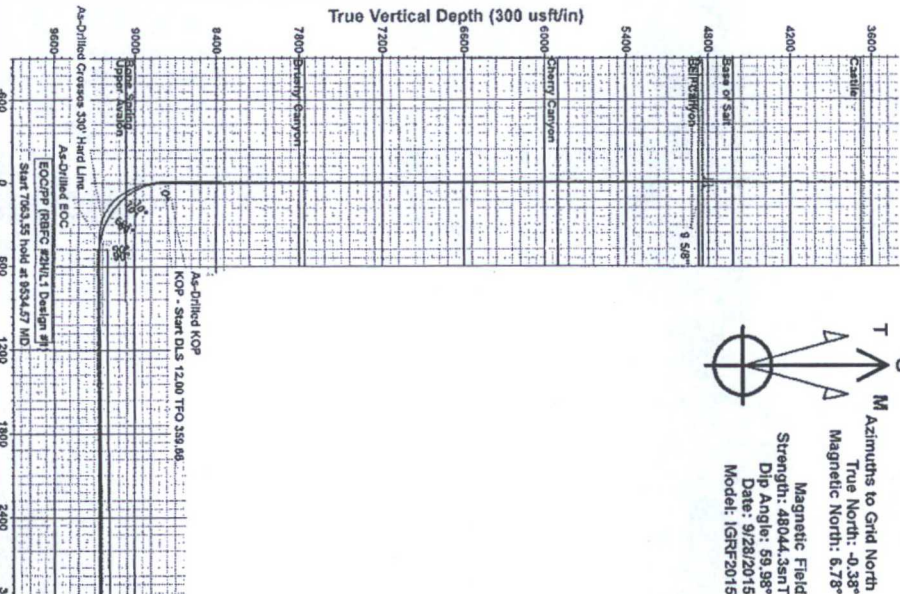
Rig Name: Nomac 22

North 406726.10 Easting 760014.79 Latitude 32° 6' 56.317 N Longitude 103° 37' 37.240 W

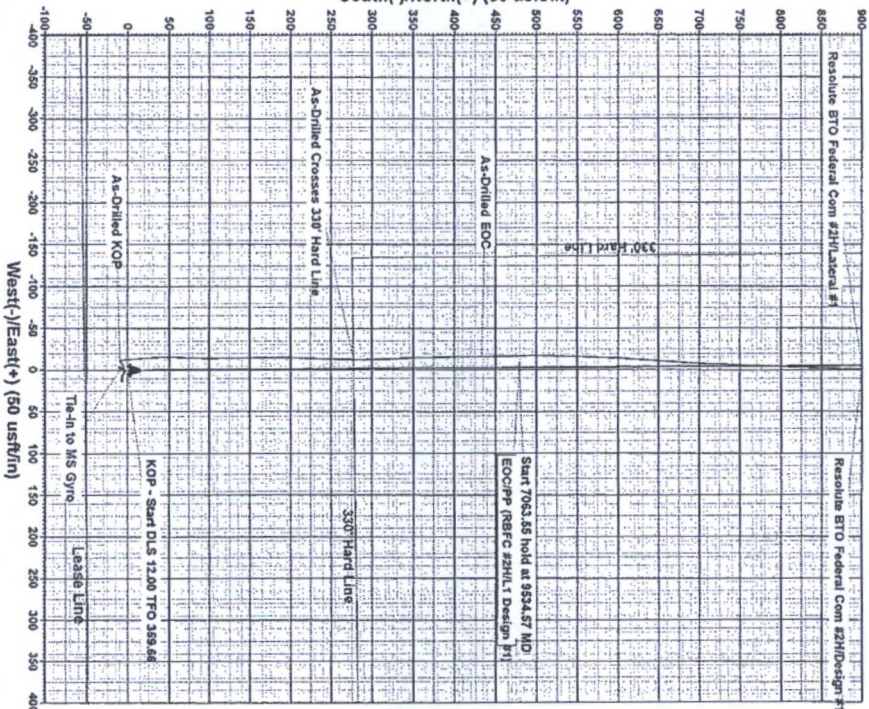


Magnetic Field
Strength: 4804.35nT
Dip Angle: 59.98°
Date: 9/28/2015
Model: IGRF2015

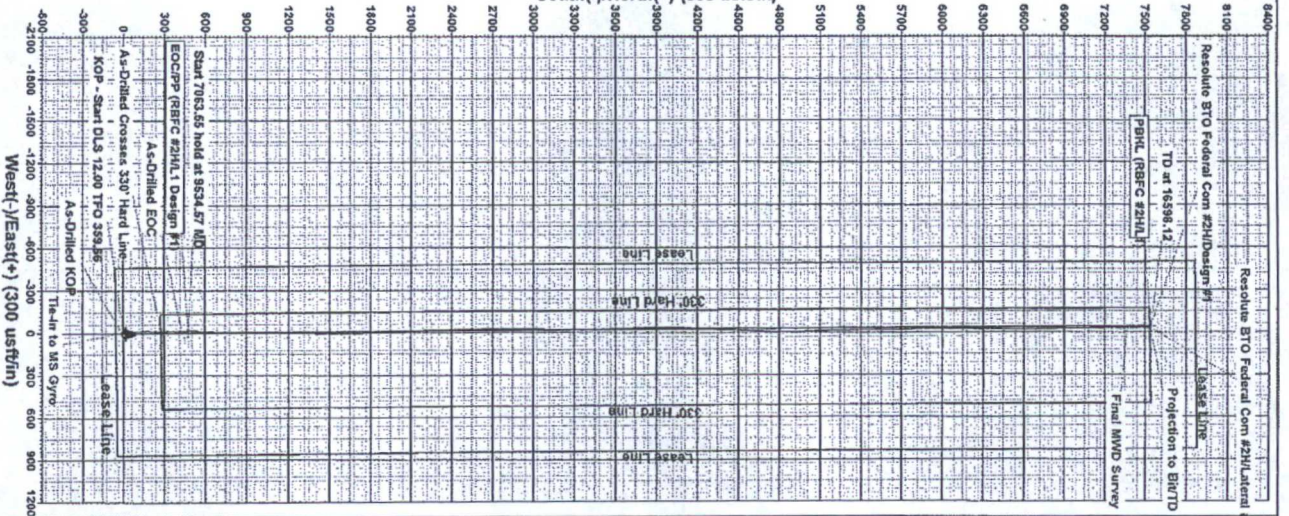
True Vertical Depth (300 usft/in)



South(-)/North(+) (50 usft/in)



South(-)/North(+) (300 usft/in)



Terra Directional Services LLC
3705 S CR 1210, Midland, TX 79706
Phone: (432) 618-1210

PROJECT DETAILS: Lea County, NM (NAD-83 2015)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
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-12015SU-1\YATESP-1\MO\RESOLU-22H.SV
 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.
 JmstBenson 11/21/15
 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	Distance FT	CLOSURE 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