

Results of Directional Survey

API number:	30-025-41562		
OGRID:		Operator:	YATES PETROLEUM CORPORATION
		Property:	TANGO BTP STATE COM # 4H

surface	ULSTR:	A	36	T 20S	R 33E
				200 FNL	660 FEL

BH Loc	ULSTR:	P	36	T 20S	R 33E
15882	MD	11341.7	TVD	227 FSL	639 FEL
				5053 FNL	

Top Perf/OH	ULSTR:	A	36	T 20S	R 33E
11566	MD	11269.8	TVD	738 FNL	664 FEL

Bot Perf/OH	ULSTR:	P	36	T 20S	R 33E
15767	MD	11340.8	TVD	342 FSL	640 FEL
				4938 FNL	

	MD	N/S	E/W	VD
	11555	-527.10	-4.30	11269
TOP PERFS/OH	11566	-538.06	-4.39	11269.82
	11648	-619.80	-5.10	11275.90
	15757	-4727.50	19.40	11340.70
BOT PERFS/OH	15767	-4737.50	19.60	11340.82
	15782	-4752.50	19.90	11341.00

NEXT TO LAST	15826	-4796.50	20.50	11341.30
LAST READING	15882	-4852.60	21.00	11341.70
TD	15882	-4852.60	21.00	11341.70

Surface Location	200	FN	660	FE
Projected BHL	5053	FN	639	FE
Location of				
Top Perfs/OH	738	FN	664	FE
Bottom Perfs/OH	4938	FN	640	FE

SUMMARY of Subsurface Locations

Surface Location	A-36-20S-33E	200	FN	660	FE	Vert. Depth
Top Perfs/OH	A-36-20S-33E	738	FN	664	FE	11269.82
Bottom Perfs/OH	P-36-20S-33E	4938	FN	640	FE	11340.82
Projected TD	P-36-20S-33E	5053	FN	639	FE	11341.70

NOV 01 2014



Job Number: SVMO-140685
 Company: Yates Petroleum Corporation
 Lease/Well: Tango BTP State Com 004H
 Location: Lea County, NM
 Rig Name: Nomac #22
 RKB: 21.5'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 6.88°
 Grid: East To Grid North
 File name: S:\2014SU-1\YATES\MO\TANGOB-1\004H.SVY
 Date/Time: 27-May-14 / 16:07
 Curve Name: Surface - 1800' M.D. (Rate Gyro)

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MS SURVEY

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 179.62

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 1800' MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.
 Shawn Moloney 5/27/14
 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		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.34	39.68	100.00	.23	.19	-.23	.30	39.68	.34
200.00	.18	101.59	200.00	.43	.53	-.42	.68	51.41	.30
300.00	.35	356.92	300.00	.70	.67	-.69	.97	43.81	.43
400.00	.18	162.64	400.00	.85	.70	-.85	1.10	39.38	.53
500.00	.21	146.98	500.00	.55	.85	-.54	1.01	57.01	.06
600.00	.27	272.90	600.00	.41	.71	-.40	.82	60.17	.43
700.00	.19	34.17	700.00	.56	.57	-.55	.80	45.63	.40
800.00	.10	71.60	800.00	.72	.75	-.72	1.04	45.92	.13
900.00	.18	293.34	900.00	.81	.68	-.81	1.06	40.12	.26

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1000.00	.19	286.19	999.99	.92	.38	-.92	1.00	22.48	.03
1100.00	.29	255.02	1099.99	.90	-.02	-.90	.90	358.55	.16
1200.00	.29	250.03	1199.99	.75	-.51	-.75	.90	326.01	.03
1300.00	.28	241.42	1299.99	.55	-.96	-.55	1.10	299.69	.04
1400.00	.21	257.21	1399.99	.39	-1.35	-.40	1.41	286.05	.10
1500.00	.29	243.52	1499.99	.24	-1.76	-.25	1.77	277.63	.10
1600.00	.31	196.51	1599.99	-.14	-2.06	.12	2.06	266.19	.24
1700.00	1.05	87.48	1699.98	-.36	-1.22	.35	1.27	253.74	1.19
Last Survey Depth Recorded									
1800.00	1.16	75.81	1799.96	-.07	.68	.07	.68	95.72	.25

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Yates Petroleum

Lea County, NM (NAD-83)

Tango BTP State Com

#4H

OH

Design: OH

Standard Survey Report

06 June, 2014

Survey Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Site:	Tango BTP State Com	MD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

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

Site		Tango BTP State Com			
Site Position:		Northing:	559,593.80 usft	Latitude:	32° 32' 10.690 N
From:	Map	Easting:	764,150.50 usft	Longitude:	103° 36' 37.159 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well	#4H					
Well Position	+N/-S	0.0 usft	Northing:	559,593.80 usft	Latitude:	32° 32' 10.690 N
	+E/-W	0.0 usft	Easting:	764,150.50 usft	Longitude:	103° 36' 37.159 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,690.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	4/28/2014	7.27	60.40	48,511

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	179.62	

Survey Program	Date	6/6/2014			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
100.0	1,800.0	Survey #1 - Gyros (OH)	CB-GYRO-MS	Camera based gyro multishot	
1,810.0	15,882.1	Survey #2 - Crescent MWD Surveys (OH)	MWD	MWD - Standard	

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.34	39.68	100.0	0.2	0.2	-0.2	0.34	0.34	0.00	
200.0	0.18	101.59	200.0	0.4	0.5	-0.4	0.30	-0.16	61.91	
300.0	0.35	356.92	300.0	0.7	0.7	-0.7	0.43	0.17	-104.67	
400.0	0.18	162.64	400.0	0.9	0.7	-0.8	0.53	-0.17	165.72	
500.0	0.21	146.98	500.0	0.6	0.8	-0.5	0.06	0.03	-15.66	
600.0	0.27	272.90	600.0	0.4	0.7	-0.4	0.43	0.06	125.92	
700.0	0.19	34.17	700.0	0.6	0.6	-0.6	0.40	-0.08	121.27	
800.0	0.10	71.60	800.0	0.7	0.7	-0.7	0.13	-0.09	37.43	
900.0	0.18	293.34	900.0	0.8	0.7	-0.8	0.26	0.08	-138.26	

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Site:	Tango BTP State Com	MD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	0.19	286.19	1,000.0	0.9	0.4	-0.9	0.03	0.01	-7.15
1,100.0	0.29	255.02	1,100.0	0.9	0.0	-0.9	0.16	0.10	-31.17
1,200.0	0.29	250.03	1,200.0	0.7	-0.5	-0.8	0.03	0.00	-4.99
1,300.0	0.28	241.42	1,300.0	0.5	-1.0	-0.6	0.04	-0.01	-8.61
1,400.0	0.21	257.21	1,400.0	0.4	-1.4	-0.4	0.10	-0.07	15.79
1,500.0	0.29	243.52	1,500.0	0.2	-1.8	-0.2	0.10	0.08	-13.69
1,600.0	0.31	196.51	1,600.0	-0.1	-2.1	0.1	0.24	0.02	-47.01
1,700.0	1.05	87.48	1,700.0	-0.4	-1.2	0.3	1.19	0.74	-109.03
1,800.0	1.16	75.81	1,800.0	-0.1	0.7	0.1	0.25	0.11	-11.67
1,810.0	1.10	69.00	1,810.0	0.0	0.9	0.0	1.47	-0.60	-68.10
1,903.0	1.30	67.60	1,902.9	0.7	2.7	-0.7	0.22	0.22	-1.51
2,090.0	1.60	83.10	2,089.9	1.8	7.2	-1.8	0.26	0.16	8.29
2,278.0	0.80	90.60	2,277.8	2.1	11.1	-2.1	0.43	-0.43	3.99
2,465.0	1.10	94.30	2,464.8	2.0	14.2	-1.9	0.16	0.16	1.98
2,652.0	1.40	81.70	2,651.8	2.2	18.3	-2.1	0.22	0.16	-6.74
2,839.0	0.40	97.20	2,838.7	2.4	21.2	-2.3	0.55	-0.53	8.29
3,026.0	0.60	63.80	3,025.7	2.8	22.7	-2.6	0.18	0.11	-17.86
3,213.0	0.90	75.70	3,212.7	3.6	25.0	-3.4	0.18	0.16	6.36
3,401.0	2.10	294.20	3,400.7	5.4	23.3	-5.2	1.52	0.64	-75.27
3,587.0	1.00	229.20	3,586.6	5.7	19.0	-5.6	1.02	-0.59	-34.95
3,774.0	1.10	246.10	3,773.6	3.9	16.1	-3.8	0.17	0.05	9.04
3,961.0	1.20	246.70	3,960.6	2.4	12.7	-2.3	0.05	0.05	0.32
4,147.0	1.70	253.70	4,146.5	0.9	8.2	-0.8	0.28	0.27	3.76
4,334.0	2.20	264.70	4,333.4	-0.3	2.0	0.3	0.33	0.27	5.88
4,521.0	2.00	270.70	4,520.3	-0.6	-4.8	0.5	0.16	-0.11	3.21
4,708.0	1.30	245.10	4,707.2	-1.4	-10.0	1.3	0.53	-0.37	-13.69
4,879.0	1.10	228.70	4,878.2	-3.3	-13.0	3.2	0.23	-0.12	-9.59
5,065.0	1.50	250.90	5,064.1	-5.3	-16.7	5.2	0.34	0.22	11.94
5,251.0	0.30	208.90	5,250.1	-6.5	-19.2	6.4	0.70	-0.65	-22.58
5,438.0	0.40	194.40	5,437.1	-7.6	-19.6	7.4	0.07	0.05	-7.75
5,459.0	0.38	195.80	5,458.1	-7.7	-19.6	7.6	0.12	-0.12	6.65
Cross 330' Hardline at 5459.0' MD, 0.38° INC, 195.80° AZ									
5,624.0	0.20	218.30	5,623.1	-8.4	-20.0	8.3	0.12	-0.11	13.64
5,642.0	0.20	231.40	5,641.1	-8.5	-20.0	8.4	0.25	0.00	72.78
5,746.0	0.40	202.20	5,745.1	-8.9	-20.3	8.8	0.24	0.19	-28.08
5,932.0	0.40	241.70	5,931.1	-9.8	-21.1	9.7	0.15	0.00	21.24
6,118.0	0.20	80.20	6,117.1	-10.1	-21.4	10.0	0.32	-0.11	-86.83
6,306.0	0.50	72.30	6,305.1	-9.8	-20.3	9.7	0.16	0.16	-4.20
6,492.0	0.50	77.70	6,491.1	-9.4	-18.7	9.3	0.03	0.00	2.90
6,679.0	0.70	100.90	6,678.0	-9.4	-16.8	9.3	0.17	0.11	12.41
6,867.0	0.90	94.90	6,866.0	-9.8	-14.2	9.7	0.12	0.11	-3.19
7,054.0	0.90	109.70	7,053.0	-10.4	-11.3	10.3	0.12	0.00	7.91
7,242.0	1.10	112.00	7,241.0	-11.6	-8.3	11.5	0.11	0.11	1.22

Survey Report

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Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,428.0	1.40	112.30	7,426.9	-13.1	-4.5	13.1	0.16	0.16	0.16	
7,615.0	0.40	99.00	7,613.9	-14.1	-1.7	14.0	0.54	-0.53	-7.11	
7,802.0	0.40	101.80	7,800.9	-14.3	-0.5	14.3	0.01	0.00	1.50	
7,989.0	0.20	357.20	7,987.9	-14.1	0.2	14.1	0.26	-0.11	-55.94	
8,175.0	0.20	305.00	8,173.9	-13.6	-0.1	13.6	0.09	0.00	-28.06	
8,361.0	0.20	208.70	8,359.9	-13.7	-0.5	13.7	0.16	0.00	-51.77	
8,548.0	0.50	165.10	8,546.9	-14.8	-0.5	14.8	0.20	0.16	-23.32	
8,735.0	0.40	36.20	8,733.9	-15.0	0.1	15.0	0.43	-0.05	-68.93	
8,922.0	0.70	157.20	8,920.9	-15.6	0.9	15.6	0.52	0.16	64.71	
9,108.0	0.50	248.60	9,106.9	-16.9	0.6	16.9	0.47	-0.11	49.14	
9,295.0	0.40	359.70	9,293.9	-16.5	-0.1	16.5	0.40	-0.05	59.41	
9,481.0	0.50	35.20	9,479.9	-15.2	0.3	15.2	0.16	0.05	19.09	
9,667.0	0.70	87.60	9,665.9	-14.5	1.9	14.5	0.30	0.11	28.17	
9,855.0	0.50	144.50	9,853.9	-15.1	3.5	15.2	0.32	-0.11	30.27	
10,042.0	0.70	307.30	10,040.8	-15.1	3.1	15.1	0.63	0.11	87.06	
10,228.0	0.70	310.30	10,226.8	-13.7	1.3	13.7	0.02	0.00	1.61	
10,415.0	0.50	216.60	10,413.8	-13.6	0.0	13.6	0.47	-0.11	-50.11	
10,590.0	0.90	31.80	10,588.8	-13.0	0.3	13.0	0.80	0.23	100.11	
10,684.0	1.10	37.10	10,682.8	-11.7	1.2	11.7	0.23	0.21	5.64	
10,716.0	0.90	38.20	10,714.8	-11.3	1.5	11.3	0.63	-0.63	3.44	
10,736.0	0.55	163.27	10,734.8	-11.2	1.7	11.2	6.46	-1.77	625.33	
KOP: 10736.0' MD, 10734.8' TVD										
10,747.0	1.20	183.00	10,745.8	-11.4	1.7	11.4	6.46	5.95	179.40	
10,778.0	4.80	189.70	10,776.8	-13.0	1.4	13.0	11.65	11.61	21.61	
10,809.0	8.60	187.10	10,807.5	-16.6	0.9	16.6	12.29	12.26	-8.39	
10,840.0	12.50	186.20	10,838.0	-22.2	0.3	22.2	12.59	12.58	-2.90	
10,871.0	15.80	186.20	10,868.1	-29.7	-0.5	29.7	10.65	10.65	0.00	
10,902.0	19.50	186.70	10,897.6	-39.1	-1.6	39.1	11.95	11.94	1.61	
10,933.0	23.00	186.40	10,926.5	-50.2	-2.9	50.2	11.30	11.29	-0.97	
10,964.0	26.00	185.50	10,954.7	-63.0	-4.2	63.0	9.75	9.68	-2.90	
10,996.0	28.70	183.90	10,983.1	-77.7	-5.4	77.6	8.74	8.44	-5.00	
11,027.0	31.10	183.20	11,010.0	-93.1	-6.4	93.1	7.82	7.74	-2.26	
11,058.0	33.60	182.30	11,036.2	-109.7	-7.2	109.6	8.21	8.06	-2.90	
11,090.0	37.00	180.90	11,062.3	-128.1	-7.7	128.1	10.92	10.63	-4.38	
11,121.0	40.50	179.10	11,086.5	-147.5	-7.6	147.5	11.86	11.29	-5.81	
11,152.0	43.60	178.30	11,109.5	-168.3	-7.2	168.2	10.15	10.00	-2.58	
11,183.0	47.50	178.60	11,131.2	-190.4	-6.6	190.4	12.60	12.58	0.97	
11,215.0	50.50	179.50	11,152.2	-214.6	-6.2	214.5	9.61	9.38	2.81	
11,247.0	53.00	180.60	11,172.0	-239.7	-6.2	239.6	8.27	7.81	3.44	
11,278.0	56.80	180.00	11,189.8	-265.0	-6.3	265.0	12.36	12.26	-1.94	
11,309.0	60.90	179.30	11,205.8	-291.6	-6.2	291.5	13.37	13.23	-2.26	
11,340.0	64.60	179.30	11,220.0	-319.1	-5.8	319.1	11.94	11.94	0.00	
11,371.0	68.10	179.30	11,232.5	-347.5	-5.5	347.5	11.29	11.29	0.00	
11,402.0	72.10	179.00	11,243.0	-376.7	-5.1	376.6	12.94	12.90	-0.97	

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Well:	#4H	North Reference:	Grid
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Design:	OH	Database:	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,433.0	76.40	179.00	11,251.4	-406.5	-4.5	406.4	13.87	13.87	0.00
11,464.0	79.70	179.50	11,257.8	-436.8	-4.1	436.8	10.76	10.65	1.61
11,496.0	82.00	180.20	11,262.9	-468.4	-4.1	468.4	7.50	7.19	2.19
11,524.0	84.30	180.20	11,266.3	-496.2	-4.2	496.1	8.21	8.21	0.00
11,555.0	85.70	180.40	11,269.0	-527.1	-4.3	527.0	4.56	4.52	0.65
EOG: 11555.0' MD, 11269.0' TVD, 85.70° INC, 180.40° AZ, 527.0' VS									
11,648.0	85.70	180.60	11,275.9	-619.8	-5.1	619.8	0.21	0.00	0.22
11,742.0	85.90	180.60	11,282.8	-713.5	-6.1	713.5	0.21	0.21	0.00
11,834.0	86.60	180.40	11,288.8	-805.3	-6.9	805.3	0.79	0.76	-0.22
11,928.0	87.40	180.00	11,293.8	-899.2	-7.2	899.1	0.95	0.85	-0.43
12,022.0	88.50	179.30	11,297.1	-993.1	-6.7	993.1	1.39	1.17	-0.74
12,115.0	89.20	179.80	11,299.0	-1,086.1	-5.9	1,086.1	0.92	0.75	0.54
12,209.0	89.40	179.30	11,300.1	-1,180.1	-5.2	1,180.1	0.57	0.21	-0.53
12,302.0	89.40	179.70	11,301.1	-1,273.1	-4.4	1,273.1	0.43	0.00	0.43
12,395.0	88.90	179.70	11,302.5	-1,366.1	-3.9	1,366.0	0.54	-0.54	0.00
12,488.0	89.00	179.50	11,304.2	-1,459.1	-3.2	1,459.0	0.24	0.11	-0.22
12,581.0	89.60	179.50	11,305.3	-1,552.1	-2.4	1,552.0	0.65	0.65	0.00
12,674.0	90.10	179.70	11,305.6	-1,645.1	-1.8	1,645.0	0.58	0.54	0.22
12,767.0	89.60	179.50	11,305.8	-1,738.1	-1.1	1,738.0	0.58	-0.54	-0.22
12,860.0	88.90	179.10	11,307.0	-1,831.0	0.0	1,831.0	0.87	-0.75	-0.43
12,954.0	89.60	178.80	11,308.3	-1,925.0	1.7	1,925.0	0.81	0.74	-0.32
13,047.0	90.30	179.00	11,308.4	-2,018.0	3.5	2,018.0	0.78	0.75	0.22
13,141.0	89.40	178.80	11,308.6	-2,112.0	5.3	2,112.0	0.98	-0.96	-0.21
13,234.0	89.20	179.10	11,309.7	-2,205.0	7.0	2,205.0	0.39	-0.22	0.32
13,327.0	89.00	179.10	11,311.2	-2,297.9	8.5	2,297.9	0.22	-0.22	0.00
13,421.0	88.50	179.30	11,313.2	-2,391.9	9.8	2,391.9	0.57	-0.53	0.21
13,514.0	88.90	179.00	11,315.4	-2,484.9	11.2	2,484.9	0.54	0.43	-0.32
13,608.0	89.20	179.10	11,316.9	-2,578.8	12.7	2,578.9	0.34	0.32	0.11
13,700.0	89.90	180.00	11,317.6	-2,670.8	13.5	2,670.9	1.24	0.76	0.98
13,794.0	90.30	180.00	11,317.5	-2,764.8	13.5	2,764.9	0.43	0.43	0.00
13,887.0	90.10	179.70	11,317.1	-2,857.8	13.7	2,857.9	0.39	-0.22	-0.32
13,980.0	89.00	179.00	11,317.9	-2,950.8	14.7	2,950.9	1.40	-1.18	-0.75
14,074.0	90.40	179.50	11,318.4	-3,044.8	16.0	3,044.9	1.58	1.49	0.53
14,167.0	89.00	179.70	11,318.9	-3,137.8	16.6	3,137.9	1.52	-1.51	0.22
14,260.0	89.40	180.20	11,320.2	-3,230.8	16.7	3,230.8	0.69	0.43	0.54
14,353.0	89.90	180.90	11,320.7	-3,323.8	15.8	3,323.8	0.92	0.54	0.75
14,447.0	88.90	180.40	11,321.7	-3,417.8	14.8	3,417.8	1.19	-1.06	-0.53
14,541.0	89.20	180.70	11,323.3	-3,511.8	13.8	3,511.8	0.45	0.32	0.32
14,634.0	88.90	180.60	11,324.8	-3,604.7	12.8	3,604.7	0.34	-0.32	-0.11
14,727.0	89.00	180.90	11,326.5	-3,697.7	11.6	3,697.7	0.34	0.11	0.32
14,820.0	88.70	179.70	11,328.4	-3,790.7	11.1	3,790.7	1.33	-0.32	-1.29
14,914.0	88.90	179.70	11,330.3	-3,884.7	11.6	3,884.7	0.21	0.21	0.00
15,008.0	89.00	180.40	11,332.1	-3,978.7	11.5	3,978.6	0.75	0.11	0.74

Survey Report

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Site:	Tango BTP State Com	MD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,101.0	88.50	179.50	11,334.1	-4,071.6	11.6	4,071.6	1.11	-0.54	-0.97
15,196.0	88.90	178.80	11,336.3	-4,166.6	13.0	4,166.6	0.85	0.42	-0.74
15,289.0	89.00	179.30	11,338.0	-4,259.6	14.5	4,259.6	0.55	0.11	0.54
15,383.0	89.20	179.70	11,339.4	-4,353.6	15.4	4,353.6	0.48	0.21	0.43
15,476.0	89.40	179.10	11,340.6	-4,446.5	16.3	4,446.6	0.68	0.22	-0.65
15,570.0	90.10	179.80	11,341.0	-4,540.5	17.2	4,540.6	1.05	0.74	0.74
15,663.0	90.40	179.50	11,340.6	-4,633.5	17.8	4,633.6	0.46	0.32	-0.32
15,757.0	89.40	178.60	11,340.7	-4,727.5	19.4	4,727.5	1.43	-1.06	-0.96
15,782.0	89.47	178.93	11,341.0	-4,752.5	19.9	4,752.5	1.34	0.29	1.30
Cross 330' Hardline at 15782.0' MD, 89.47° INC, 178.93° AZ									
15,826.0	89.60	179.50	11,341.3	-4,796.5	20.5	4,796.5	1.34	0.29	1.30
Final MWD Survey: 15826.0' MD, 11341.3' TVD, -4796.5' +N/-S, 20.5' +E/-W									
15,882.1	89.60	179.50	11,341.7	-4,852.6	21.0	4,852.6	0.00	0.00	0.00
BHL: 15882.1' MD, 11341.7' TVD, 89.60° INC, 179.50° AZ, -4852.6' +N/-S, 21.0' +E/-W, 4852.6' VS - TD: 15882.1' MD, 11341.7' TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,459.0	5,458.1	-7.7	-19.6	Cross 330' Hardline at 5459.0' MD, 0.38° INC, 195.80° AZ
10,736.0	10,734.8	-11.2	1.7	KOP: 10736.0' MD, 10734.8' TVD
11,555.0	11,269.0	-527.1	-4.3	EOC: 11555.0' MD, 11269.0' TVD, 85.70° INC, 180.40° AZ, 527.0' VS
15,782.0	11,341.0	-4,752.5	19.9	Cross 330' Hardline at 15782.0' MD, 89.47° INC, 178.93° AZ
15,826.0	11,341.3	-4,796.5	20.5	Final MWD Survey: 15826.0' MD, 11341.3' TVD, -4796.5' +N/-S, 20.5' +E/-W
15,882.1	11,341.7	-4,852.6	21.0	BHL: 15882.1' MD, 11341.7' TVD, 89.60° INC, 179.50° AZ, -4852.6' +N/-S, 21.0
15,882.1	11,341.7	-4,852.6	21.0	TD: 15882.1' MD, 11341.7' TVD

Checked By: _____	Approved By: _____	Date: _____
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Yates Petroleum

Lea County, NM (NAD-83)
Tango BTP State Com
#4H

OH

Design: OH

Survey Report - Geographic

06 June, 2014

HOBBS OCD

OCT 27 2014

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Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Site:	Tango BTP State Com	MD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

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

Site		Tango BTP State Com			
Site Position:		Northing:	559,593.80 usft	Latitude:	32° 32' 10.690 N
From:	Map	Easting:	764,150.50 usft	Longitude:	103° 36' 37.159 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well	#4H					
Well Position	+N/-S	0.0 usft	Northing:	559,593.80 usft	Latitude:	32° 32' 10.690 N
	+E/-W	0.0 usft	Easting:	764,150.50 usft	Longitude:	103° 36' 37.159 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,690.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	4/28/2014	7.27	60.40	48,511

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	179.62	

Survey Program	Date 6/6/2014			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.0	1,800.0	Survey #1 - Gyros (OH)	CB-GYRO-MS	Camera based gyro multishot
1,810.0	15,882.1	Survey #2 - Crescent MWD Surveys (OH)	MWD	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)		
0.0	0.00	0.00	0.0	0.0	0.0	559,593.80	764,150.50	32° 32' 10.690 N	103° 36' 37.159 W
100.0	0.34	39.68	100.0	0.2	0.2	559,594.03	764,150.69	32° 32' 10.693 N	103° 36' 37.157 W
200.0	0.18	101.59	200.0	0.4	0.5	559,594.23	764,151.03	32° 32' 10.695 N	103° 36' 37.153 W
300.0	0.35	356.92	300.0	0.7	0.7	559,594.50	764,151.17	32° 32' 10.697 N	103° 36' 37.152 W
400.0	0.18	162.64	400.0	0.9	0.7	559,594.66	764,151.20	32° 32' 10.699 N	103° 36' 37.151 W
500.0	0.21	146.98	500.0	0.6	0.8	559,594.35	764,151.34	32° 32' 10.696 N	103° 36' 37.150 W
600.0	0.27	272.90	600.0	0.4	0.7	559,594.21	764,151.21	32° 32' 10.694 N	103° 36' 37.151 W
700.0	0.19	34.17	700.0	0.6	0.6	559,594.36	764,151.07	32° 32' 10.696 N	103° 36' 37.153 W
800.0	0.10	71.60	800.0	0.7	0.7	559,594.52	764,151.24	32° 32' 10.697 N	103° 36' 37.151 W
900.0	0.18	293.34	900.0	0.8	0.7	559,594.61	764,151.18	32° 32' 10.698 N	103° 36' 37.151 W
1,000.0	0.19	286.19	1,000.0	0.9	0.4	559,594.72	764,150.88	32° 32' 10.699 N	103° 36' 37.155 W

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 37.12.0usft (Nomac #22 - KB=22')
Site:	Tango BTP State Com	MD Reference:	RKB @ 37.12.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,100.0	0.29	255.02	1,100.0	0.9	0.0	559,594.70	764,150.47	32° 32' 10.699 N	103° 36' 37.160 W
1,200.0	0.29	250.03	1,200.0	0.7	-0.5	559,594.55	764,149.99	32° 32' 10.698 N	103° 36' 37.165 W
1,300.0	0.28	241.42	1,300.0	0.5	-1.0	559,594.35	764,149.54	32° 32' 10.696 N	103° 36' 37.171 W
1,400.0	0.21	257.21	1,400.0	0.4	-1.4	559,594.19	764,149.15	32° 32' 10.694 N	103° 36' 37.175 W
1,500.0	0.29	243.52	1,500.0	0.2	-1.8	559,594.04	764,148.74	32° 32' 10.693 N	103° 36' 37.180 W
1,600.0	0.31	196.51	1,600.0	-0.1	-2.1	559,593.67	764,148.44	32° 32' 10.689 N	103° 36' 37.184 W
1,700.0	1.05	87.48	1,700.0	-0.4	-1.2	559,593.45	764,149.28	32° 32' 10.687 N	103° 36' 37.174 W
1,800.0	1.16	75.81	1,800.0	-0.1	0.7	559,593.73	764,151.17	32° 32' 10.690 N	103° 36' 37.152 W
1,810.0	1.10	69.00	1,810.0	0.0	0.9	559,593.79	764,151.36	32° 32' 10.690 N	103° 36' 37.149 W
1,903.0	1.30	67.60	1,902.9	0.7	2.7	559,594.52	764,153.17	32° 32' 10.697 N	103° 36' 37.128 W
2,090.0	1.60	83.10	2,089.9	1.8	7.2	559,595.64	764,157.72	32° 32' 10.708 N	103° 36' 37.075 W
2,278.0	0.80	90.60	2,277.8	2.1	11.1	559,595.94	764,161.64	32° 32' 10.711 N	103° 36' 37.029 W
2,465.0	1.10	94.30	2,464.8	2.0	14.2	559,595.79	764,164.74	32° 32' 10.709 N	103° 36' 36.993 W
2,652.0	1.40	81.70	2,651.8	2.2	18.3	559,595.99	764,168.79	32° 32' 10.711 N	103° 36' 36.946 W
2,839.0	0.40	97.20	2,838.7	2.4	21.2	559,596.23	764,171.69	32° 32' 10.713 N	103° 36' 36.912 W
3,026.0	0.60	63.80	3,025.7	2.8	22.7	559,596.58	764,173.22	32° 32' 10.716 N	103° 36' 36.894 W
3,213.0	0.90	75.70	3,212.7	3.6	25.0	559,597.38	764,175.52	32° 32' 10.724 N	103° 36' 36.867 W
3,401.0	2.10	294.20	3,400.7	5.4	23.3	559,599.16	764,173.81	32° 32' 10.742 N	103° 36' 36.887 W
3,587.0	1.00	229.20	3,586.6	5.7	19.0	559,599.49	764,169.47	32° 32' 10.745 N	103° 36' 36.937 W
3,774.0	1.10	246.10	3,773.6	3.9	16.1	559,597.70	764,166.60	32° 32' 10.728 N	103° 36' 36.971 W
3,961.0	1.20	246.70	3,960.6	2.4	12.7	559,596.20	764,163.16	32° 32' 10.713 N	103° 36' 37.011 W
4,147.0	1.70	253.70	4,146.5	0.9	8.2	559,594.65	764,158.72	32° 32' 10.698 N	103° 36' 37.063 W
4,334.0	2.20	264.70	4,333.4	-0.3	2.0	559,593.54	764,152.48	32° 32' 10.688 N	103° 36' 37.136 W
4,521.0	2.00	270.70	4,520.3	-0.6	-4.8	559,593.25	764,145.65	32° 32' 10.685 N	103° 36' 37.216 W
4,708.0	1.30	245.10	4,707.2	-1.4	-10.0	559,592.40	764,140.46	32° 32' 10.677 N	103° 36' 37.277 W
4,879.0	1.10	228.70	4,878.2	-3.3	-13.0	559,590.50	764,137.47	32° 32' 10.659 N	103° 36' 37.312 W
5,065.0	1.50	250.90	5,064.1	-5.3	-16.7	559,588.52	764,133.83	32° 32' 10.639 N	103° 36' 37.355 W
5,251.0	0.30	208.90	5,250.1	-6.5	-19.2	559,587.30	764,131.29	32° 32' 10.627 N	103° 36' 37.384 W
5,438.0	0.40	194.40	5,437.1	-7.6	-19.6	559,586.24	764,130.89	32° 32' 10.617 N	103° 36' 37.389 W
5,459.0	0.38	195.80	5,458.1	-7.7	-19.6	559,586.10	764,130.85	32° 32' 10.615 N	103° 36' 37.390 W
Cross 330' Hardline at 5459.0' MD, 0.38° INC, 195.80° AZ									
5,624.0	0.20	218.30	5,623.1	-8.4	-20.0	559,585.36	764,130.53	32° 32' 10.608 N	103° 36' 37.393 W
5,642.0	0.20	231.40	5,641.1	-8.5	-20.0	559,585.31	764,130.48	32° 32' 10.608 N	103° 36' 37.394 W
5,746.0	0.40	202.20	5,745.1	-8.9	-20.3	559,584.86	764,130.21	32° 32' 10.603 N	103° 36' 37.397 W
5,932.0	0.40	241.70	5,931.1	-9.8	-21.1	559,583.95	764,129.39	32° 32' 10.594 N	103° 36' 37.407 W
6,118.0	0.20	80.20	6,117.1	-10.1	-21.4	559,583.70	764,129.14	32° 32' 10.592 N	103° 36' 37.410 W
6,306.0	0.50	72.30	6,305.1	-9.8	-20.3	559,584.01	764,130.24	32° 32' 10.595 N	103° 36' 37.397 W
6,492.0	0.50	77.70	6,491.1	-9.4	-18.7	559,584.43	764,131.81	32° 32' 10.599 N	103° 36' 37.379 W
6,679.0	0.70	100.90	6,678.0	-9.4	-16.8	559,584.38	764,133.73	32° 32' 10.598 N	103° 36' 37.356 W
6,867.0	0.90	94.90	6,866.0	-9.8	-14.2	559,584.04	764,136.33	32° 32' 10.595 N	103° 36' 37.326 W
7,054.0	0.90	109.70	7,053.0	-10.4	-11.3	559,583.42	764,139.17	32° 32' 10.588 N	103° 36' 37.293 W
7,242.0	1.10	112.00	7,241.0	-11.6	-8.3	559,582.25	764,142.23	32° 32' 10.577 N	103° 36' 37.257 W
7,428.0	1.40	112.30	7,426.9	-13.1	-4.5	559,580.72	764,145.99	32° 32' 10.561 N	103° 36' 37.213 W
7,615.0	0.40	99.00	7,613.9	-14.1	-1.7	559,579.75	764,148.75	32° 32' 10.551 N	103° 36' 37.181 W
7,802.0	0.40	101.80	7,800.9	-14.3	-0.5	559,579.51	764,150.03	32° 32' 10.549 N	103° 36' 37.166 W
7,989.0	0.20	357.20	7,987.9	-14.1	0.2	559,579.70	764,150.66	32° 32' 10.551 N	103° 36' 37.159 W
8,175.0	0.20	305.00	8,173.9	-13.6	-0.1	559,580.21	764,150.38	32° 32' 10.556 N	103° 36' 37.162 W
8,361.0	0.20	208.70	8,359.9	-13.7	-0.5	559,580.11	764,149.95	32° 32' 10.555 N	103° 36' 37.167 W
8,548.0	0.50	165.10	8,546.9	-14.8	-0.5	559,579.04	764,150.01	32° 32' 10.544 N	103° 36' 37.166 W
8,735.0	0.40	36.20	8,733.9	-15.0	0.1	559,578.78	764,150.60	32° 32' 10.542 N	103° 36' 37.159 W
8,922.0	0.70	157.20	8,920.9	-15.6	0.9	559,578.25	764,151.43	32° 32' 10.536 N	103° 36' 37.150 W
9,108.0	0.50	248.60	9,106.9	-16.9	0.6	559,576.91	764,151.11	32° 32' 10.523 N	103° 36' 37.154 W
9,295.0	0.40	359.70	9,293.9	-16.5	-0.1	559,577.26	764,150.35	32° 32' 10.527 N	103° 36' 37.162 W
9,481.0	0.50	35.20	9,479.9	-15.2	0.3	559,578.58	764,150.82	32° 32' 10.540 N	103° 36' 37.157 W
9,667.0	0.70	87.60	9,665.9	-14.5	1.9	559,579.29	764,152.42	32° 32' 10.547 N	103° 36' 37.138 W

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Site:	Tango BTP State Com	MD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,855.0	0.50	144.50	9,853.9	-15.1	3.5	559,578.67	764,154.04	32° 32' 10.540 N	103° 36' 37.119 W
10,042.0	0.70	307.30	10,040.8	-15.1	3.1	559,578.69	764,153.61	32° 32' 10.541 N	103° 36' 37.124 W
10,228.0	0.70	310.30	10,226.8	-13.7	1.3	559,580.12	764,151.84	32° 32' 10.555 N	103° 36' 37.145 W
10,415.0	0.50	216.60	10,413.8	-13.6	0.0	559,580.20	764,150.48	32° 32' 10.556 N	103° 36' 37.161 W
10,590.0	0.90	31.80	10,588.8	-13.0	0.3	559,580.76	764,150.75	32° 32' 10.561 N	103° 36' 37.168 W
10,684.0	1.10	37.10	10,682.8	-11.7	1.2	559,582.10	764,151.68	32° 32' 10.575 N	103° 36' 37.147 W
10,716.0	0.90	38.20	10,714.8	-11.3	1.5	559,582.55	764,152.02	32° 32' 10.579 N	103° 36' 37.143 W
10,736.0	0.55	163.27	10,734.8	-11.2	1.7	559,582.58	764,152.15	32° 32' 10.579 N	103° 36' 37.141 W
KOP: 10736.0' MD, 10734.8' TVD									
10,747.0	1.20	183.00	10,745.8	-11.4	1.7	559,582.41	764,152.16	32° 32' 10.578 N	103° 36' 37.141 W
10,778.0	4.80	189.70	10,776.8	-13.0	1.4	559,580.81	764,151.92	32° 32' 10.562 N	103° 36' 37.144 W
10,809.0	8.60	187.10	10,807.5	-16.6	0.9	559,577.23	764,151.42	32° 32' 10.526 N	103° 36' 37.150 W
10,840.0	12.50	186.20	10,838.0	-22.2	0.3	559,571.59	764,150.77	32° 32' 10.471 N	103° 36' 37.158 W
10,871.0	15.80	186.20	10,868.1	-29.7	-0.5	559,564.06	764,149.95	32° 32' 10.396 N	103° 36' 37.168 W
10,902.0	19.50	186.70	10,897.6	-39.1	-1.6	559,554.72	764,148.89	32° 32' 10.304 N	103° 36' 37.181 W
10,933.0	23.00	186.40	10,926.5	-50.2	-2.9	559,543.56	764,147.61	32° 32' 10.193 N	103° 36' 37.197 W
10,964.0	26.00	185.50	10,954.7	-63.0	-4.2	559,530.78	764,146.28	32° 32' 10.067 N	103° 36' 37.214 W
10,996.0	28.70	183.90	10,983.1	-77.7	-5.4	559,516.13	764,145.09	32° 32' 9.922 N	103° 36' 37.229 W
11,027.0	31.10	183.20	11,010.0	-93.1	-6.4	559,500.70	764,144.13	32° 32' 9.770 N	103° 36' 37.241 W
11,058.0	33.60	182.30	11,036.2	-109.7	-7.2	559,484.14	764,143.34	32° 32' 9.606 N	103° 36' 37.252 W
11,090.0	37.00	180.90	11,062.3	-128.1	-7.7	559,465.66	764,142.84	32° 32' 9.423 N	103° 36' 37.259 W
11,121.0	40.50	179.10	11,086.5	-147.5	-7.6	559,446.26	764,142.85	32° 32' 9.231 N	103° 36' 37.260 W
11,152.0	43.60	178.30	11,109.5	-168.3	-7.2	559,425.50	764,143.32	32° 32' 9.026 N	103° 36' 37.257 W
11,183.0	47.50	178.60	11,131.2	-190.4	-6.6	559,403.39	764,143.92	32° 32' 8.807 N	103° 36' 37.251 W
11,215.0	50.50	179.50	11,152.2	-214.6	-6.2	559,379.24	764,144.32	32° 32' 8.568 N	103° 36' 37.249 W
11,247.0	53.00	180.60	11,172.0	-239.7	-6.2	559,354.11	764,144.29	32° 32' 8.319 N	103° 36' 37.251 W
11,278.0	56.80	180.00	11,189.8	-265.0	-6.3	559,328.76	764,144.16	32° 32' 8.068 N	103° 36' 37.254 W
11,309.0	60.90	179.30	11,205.8	-291.6	-6.2	559,302.23	764,144.33	32° 32' 7.806 N	103° 36' 37.255 W
11,340.0	64.60	179.30	11,220.0	-319.1	-5.8	559,274.68	764,144.66	32° 32' 7.533 N	103° 36' 37.253 W
11,371.0	68.10	179.30	11,232.5	-347.5	-5.5	559,246.29	764,145.01	32° 32' 7.252 N	103° 36' 37.251 W
11,402.0	72.10	179.00	11,243.0	-376.7	-5.1	559,217.15	764,145.44	32° 32' 6.964 N	103° 36' 37.248 W
11,433.0	76.40	179.00	11,251.4	-406.5	-4.5	559,187.33	764,145.96	32° 32' 6.669 N	103° 36' 37.245 W
11,464.0	79.70	179.50	11,257.8	-436.8	-4.1	559,157.00	764,146.36	32° 32' 6.369 N	103° 36' 37.242 W
11,496.0	82.00	180.20	11,262.9	-468.4	-4.1	559,125.41	764,146.44	32° 32' 6.056 N	103° 36' 37.244 W
11,524.0	84.30	180.20	11,266.3	-496.2	-4.2	559,097.62	764,146.34	32° 32' 5.781 N	103° 36' 37.247 W
11,555.0	85.70	180.40	11,269.0	-527.1	-4.3	559,066.74	764,146.18	32° 32' 5.475 N	103° 36' 37.252 W
EOC: 11555.0' MD, 11269.0' TVD, 85.70° INC, 180.40° AZ, 527.0' VS									
11,648.0	85.70	180.60	11,275.9	-619.8	-5.1	558,974.00	764,145.37	32° 32' 4.558 N	103° 36' 37.268 W
11,742.0	85.90	180.60	11,282.8	-713.5	-6.1	558,880.26	764,144.39	32° 32' 3.630 N	103° 36' 37.287 W
11,834.0	86.60	180.40	11,288.8	-805.3	-6.9	558,788.46	764,143.59	32° 32' 2.722 N	103° 36' 37.304 W
11,928.0	87.40	180.00	11,293.8	-899.2	-7.2	558,694.59	764,143.26	32° 32' 1.793 N	103° 36' 37.315 W
12,022.0	88.50	179.30	11,297.1	-993.1	-6.7	558,600.65	764,143.84	32° 32' 0.864 N	103° 36' 37.316 W
12,115.0	89.20	179.80	11,299.0	-1,086.1	-5.9	558,507.68	764,144.57	32° 31' 59.944 N	103° 36' 37.315 W
12,209.0	89.40	179.30	11,300.1	-1,180.1	-5.2	558,413.69	764,145.31	32° 31' 59.014 N	103° 36' 37.314 W
12,302.0	89.40	179.70	11,301.1	-1,273.1	-4.4	558,320.70	764,146.12	32° 31' 58.094 N	103° 36' 37.312 W
12,395.0	88.90	179.70	11,302.5	-1,366.1	-3.9	558,227.71	764,146.60	32° 31' 57.173 N	103° 36' 37.313 W
12,488.0	89.00	179.50	11,304.2	-1,459.1	-3.2	558,134.72	764,147.25	32° 31' 56.253 N	103° 36' 37.313 W
12,581.0	89.60	179.50	11,305.3	-1,552.1	-2.4	558,041.74	764,148.06	32° 31' 55.333 N	103° 36' 37.311 W
12,674.0	90.10	179.70	11,305.6	-1,645.1	-1.8	557,948.74	764,148.71	32° 31' 54.413 N	103° 36' 37.311 W
12,767.0	89.60	179.50	11,305.8	-1,738.1	-1.1	557,855.74	764,149.36	32° 31' 53.493 N	103° 36' 37.310 W
12,860.0	88.90	179.10	11,307.0	-1,831.0	0.0	557,762.76	764,150.50	32° 31' 52.573 N	103° 36' 37.305 W
12,954.0	89.60	178.80	11,308.3	-1,925.0	1.7	557,668.78	764,152.22	32° 31' 51.643 N	103° 36' 37.292 W
13,047.0	90.30	179.00	11,308.4	-2,018.0	3.5	557,575.80	764,154.01	32° 31' 50.722 N	103° 36' 37.278 W
13,141.0	89.40	178.80	11,308.6	-2,112.0	5.3	557,481.82	764,155.81	32° 31' 49.792 N	103° 36' 37.265 W
13,234.0	89.20	179.10	11,309.7	-2,205.0	7.0	557,388.84	764,157.52	32° 31' 48.872 N	103° 36' 37.252 W

Survey Report - Geographic

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #4H
Project:	Lea County, NM (NAD-83)	TVD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Site:	Tango BTP, State Com	MD Reference:	RKB @ 3712.0usft (Nomac #22 - KB=22')
Well:	#4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000.Database

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,327.0	89.00	179.10	11,311.2	-2,297.9	8.5	557,295.86	764,158.98	32° 31' 47.952 N	103° 36' 37.243 W
13,421.0	88.50	179.30	11,313.2	-2,391.9	9.8	557,201.90	764,160.29	32° 31' 47.022 N	103° 36' 37.235 W
13,514.0	88.90	179.00	11,315.4	-2,484.9	11.2	557,108.93	764,161.67	32° 31' 46.102 N	103° 36' 37.226 W
13,608.0	89.20	179.10	11,316.9	-2,578.8	12.7	557,014.96	764,163.23	32° 31' 45.172 N	103° 36' 37.215 W
13,700.0	89.90	180.00	11,317.6	-2,670.8	13.5	556,922.96	764,163.95	32° 31' 44.262 N	103° 36' 37.214 W
13,794.0	90.30	180.00	11,317.5	-2,764.8	13.5	556,828.96	764,163.95	32° 31' 43.332 N	103° 36' 37.221 W
13,887.0	90.10	179.70	11,317.1	-2,857.8	13.7	556,735.96	764,164.19	32° 31' 42.412 N	103° 36' 37.226 W
13,980.0	89.00	179.00	11,317.9	-2,950.8	14.7	556,642.98	764,165.25	32° 31' 41.492 N	103° 36' 37.221 W
14,074.0	90.40	179.50	11,318.4	-3,044.8	16.0	556,548.99	764,166.48	32° 31' 40.561 N	103° 36' 37.214 W
14,167.0	89.00	179.70	11,318.9	-3,137.8	16.6	556,455.99	764,167.13	32° 31' 39.641 N	103° 36' 37.214 W
14,260.0	89.40	180.20	11,320.2	-3,230.8	16.7	556,363.00	764,167.21	32° 31' 38.721 N	103° 36' 37.220 W
14,353.0	89.90	180.90	11,320.7	-3,323.8	15.8	556,270.01	764,166.31	32° 31' 37.801 N	103° 36' 37.238 W
14,447.0	88.90	180.40	11,321.7	-3,417.8	14.8	556,176.02	764,165.25	32° 31' 36.871 N	103° 36' 37.258 W
14,541.0	89.20	180.70	11,323.3	-3,511.8	13.8	556,082.04	764,164.35	32° 31' 35.941 N	103° 36' 37.276 W
14,634.0	88.90	180.60	11,324.8	-3,604.7	12.8	555,989.06	764,163.29	32° 31' 35.021 N	103° 36' 37.296 W
14,727.0	89.00	180.90	11,326.5	-3,697.7	11.6	555,896.08	764,162.07	32° 31' 34.101 N	103° 36' 37.317 W
14,820.0	88.70	179.70	11,328.4	-3,790.7	11.1	555,803.10	764,161.59	32° 31' 33.181 N	103° 36' 37.330 W
14,914.0	88.90	179.70	11,330.3	-3,884.7	11.6	555,709.13	764,162.08	32° 31' 32.251 N	103° 36' 37.332 W
15,008.0	89.00	180.40	11,332.1	-3,978.7	11.5	555,615.14	764,162.00	32° 31' 31.322 N	103° 36' 37.340 W
15,101.0	88.50	179.50	11,334.1	-4,071.6	11.6	555,522.17	764,162.08	32° 31' 30.402 N	103° 36' 37.347 W
15,196.0	88.90	178.80	11,336.3	-4,166.6	13.0	555,427.20	764,163.49	32° 31' 29.462 N	103° 36' 37.338 W
15,289.0	89.00	179.30	11,338.0	-4,259.6	14.5	555,334.23	764,165.03	32° 31' 28.542 N	103° 36' 37.327 W
15,383.0	89.20	179.70	11,339.4	-4,353.6	15.4	555,240.25	764,165.85	32° 31' 27.612 N	103° 36' 37.325 W
15,476.0	89.40	179.10	11,340.6	-4,446.5	16.3	555,147.26	764,166.82	32° 31' 26.692 N	103° 36' 37.321 W
15,570.0	90.10	179.80	11,341.0	-4,540.5	17.2	555,053.27	764,167.72	32° 31' 25.762 N	103° 36' 37.318 W
15,663.0	90.40	179.50	11,340.6	-4,633.5	17.8	554,960.27	764,168.29	32° 31' 24.841 N	103° 36' 37.319 W
15,757.0	89.40	178.60	11,340.7	-4,727.5	19.4	554,866.28	764,169.85	32° 31' 23.911 N	103° 36' 37.308 W
15,782.0	89.47	178.93	11,341.0	-4,752.5	19.9	554,841.29	764,170.39	32° 31' 23.664 N	103° 36' 37.304 W
Cross 330° Hardline at 15782.0' MD, 89.47° INC, 178.93° AZ									
15,826.0	89.60	179.50	11,341.3	-4,796.5	20.5	554,797.30	764,171.00	32° 31' 23.229 N	103° 36' 37.300 W
Final MWD Survey: 15826.0' MD, 11341.3' TVD, -4796.5' +N/-S, 20.5' +E/-W									
15,882.1	89.60	179.50	11,341.7	-4,852.6	21.0	554,741.24	764,171.48	32° 31' 22.674 N	103° 36' 37.299 W
BHL: 15882.1' MD, 11341.7' TVD, 89.60° INC, 179.50° AZ, -4852.6' +N/-S, 21.0' +E/-W, 4852.6' VS - TD: 15882.1' MD, 11341.7' TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
5,459.0	5,458.1	-7.7	-19.6	Cross 330° Hardline at 5459.0' MD, 0.38° INC, 195.80° AZ
10,736.0	10,734.8	-11.2	1.7	KOP: 10736.0' MD, 10734.8' TVD
11,555.0	11,269.0	-527.1	-4.3	EOC: 11555.0' MD, 11269.0' TVD, 85.70° INC, 180.40° AZ, 527.0' VS
15,782.0	11,341.0	-4,752.5	19.9	Cross 330° Hardline at 15782.0' MD, 89.47° INC, 178.93° AZ
15,826.0	11,341.3	-4,796.5	20.5	Final MWD Survey: 15826.0' MD, 11341.3' TVD, -4796.5' +N/-S, 20.5' +E/-W
15,882.1	11,341.7	-4,852.6	21.0	BHL: 15882.1' MD, 11341.7' TVD, 89.60° INC, 179.50° AZ, -4852.6' +N/-S, 21.0
15,882.1	11,341.7	-4,852.6	21.0	TD: 15882.1' MD, 11341.7' TVD

Checked By: _____	Approved By: _____	Date: _____
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WELL DETAILS: #4H

Ground Elevation:: 3690.0
RKB Elevation: RKB @ 3712.0usft (Nomac #22 - KB=22')
Rig Name: Nomac #22 - KB=22'

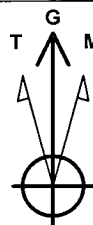
Yates Petroleum
Project: Lea County, NM (NAD-83)
Site: Tango BTP State Com
Well: #4H
Wellbore: OH
Plan: Plan #4 (#4H/OH)

Northing	Easting	Latitude	Longitude
559593.80	764150.50	32° 32' 10.690 N	103° 36' 37.159 W

Surface Hole Location

Section Details

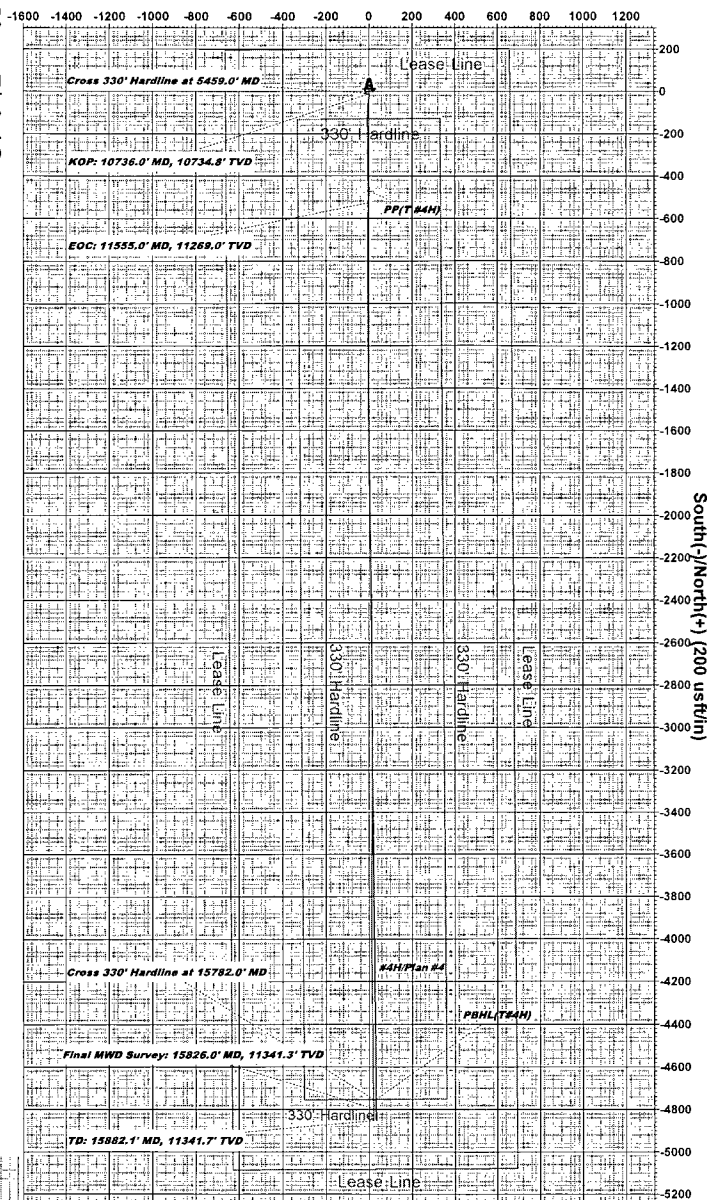
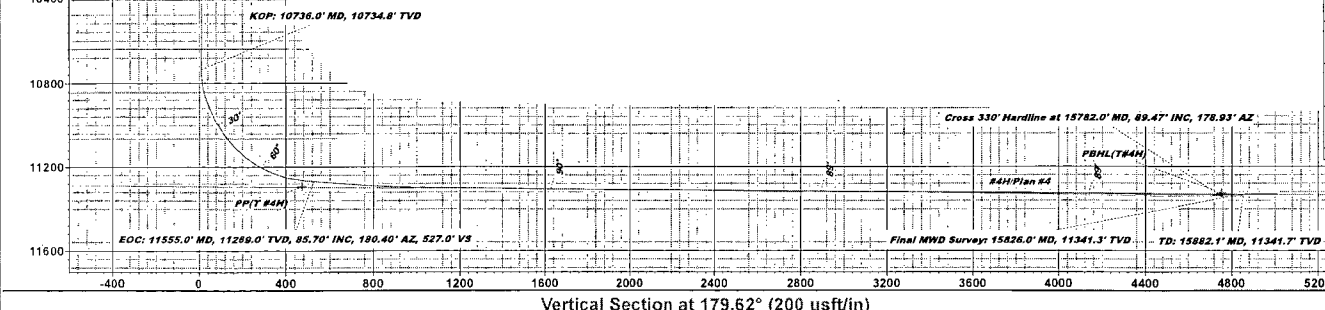
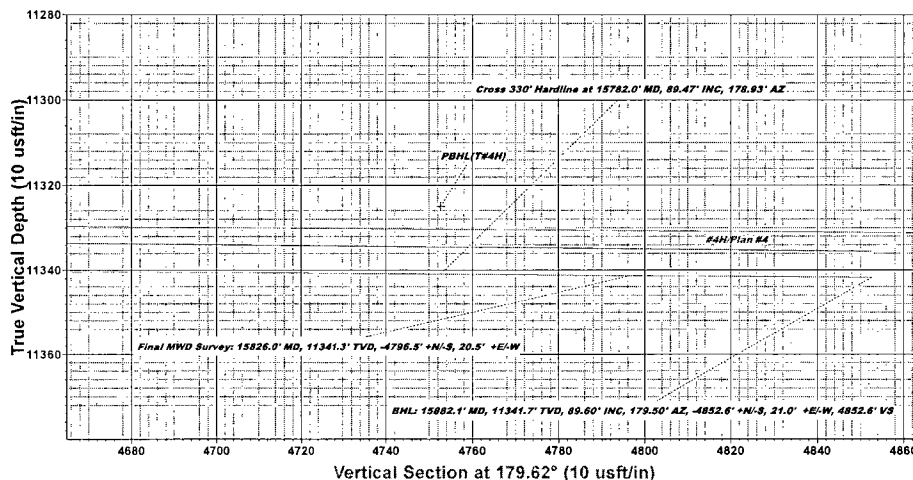
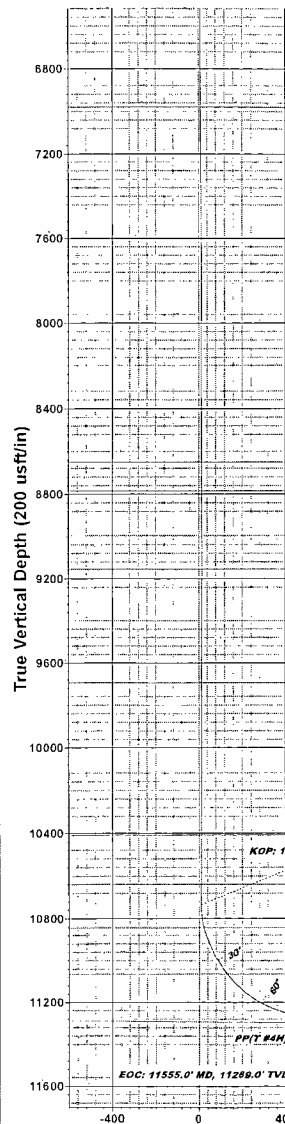
	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	13234.0	89.20	179.10	11309.7	-2205.0	7.0	0.00	0.00	2205.0
2	13290.0	89.20	179.10	11310.5	-2260.9	7.9	0.00	0.00	2261.0
3	13313.4	89.50	179.46	11310.8	-2284.4	8.2	2.00	50.19	2284.4
4	14529.1	89.50	179.46	11321.4	-3499.9	19.6	0.00	0.00	3500.0
5	14534.1	89.40	179.46	11321.4	-3504.9	19.7	2.00	180.00	3505.0
6	15781.8	89.40	179.46	11334.5	-4752.5	31.5	0.00	0.00	4752.6
7	15881.8	89.40	179.46	11335.5	-4852.5	32.4	0.00	0.00	4852.6



Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.88°

Magnetic Field
Strength: 48510.8snT
Dip Angle: 60.40°
Date: 4/28/2014
Model: IGRF2010

West(-)/East(+) (200 usft/in)



PROJECT DETAILS: Lea County, NM (NAD-83)
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



Crescent Directional Drilling
7715 West Industrial Ave. Midland, Tx 79706
Phone: 432-618-1135

Plan: Plan #4 (#4H/OH)
Created By: Adrian Castro Date: 8:04, June 06 2014