

Results of Directional Survey

API number:	30-025-40864		
OGRID:		Operator:	YATES PETROLEUM CORPORATION
		Property:	ACTION BTI STATE COM # 1H

surface	ULSTR:	D	16	T 24S	R 33E
				200 FNL	825 FWL

BH Loc	ULSTR:	M	16	T 24S	R 33E
15763.7	MD	11188.5	TVD	325 FSL	689 FWL
				4955 FNL	

Top Perf/OH	ULSTR:	D	16	T 24S	R 33E
11629	MD	11225.6	TVD	823 FNL	790 FWL

Bot Perf/OH	ULSTR:	M	16	T 24S	R 33E
15654	MD	11191.0	TVD	435 FSL	694 FWL
				4845 FNL	

	MD	N/S	E/W	VD
	11622	-615.70	-34.40	11225.7
TOP PERFS/OH	11629	-622.70	-34.55	11225.61
	11646	-639.70	-34.90	11225.40
	15561	-4552.20	-127.60	11193.50
BOT PERFS/OH	15654	-4645.10	-130.80	11191.00
	15654	-4645.10	-130.80	11191.00

NEXT TO LAST	15707	-4698.10	-133.00	11189.80
LAST READING	15763.7	-4754.70	-135.70	11188.50
TD	15763.7	-4754.70	-135.70	11188.50

Surface Location	200	FN	825	FW
Projected BHL	4955	FN	689	FW
Location of				
Top Perfs/OH	823	FN	790	FW
Bottom Perfs/OH	4845	FN	694	FW

SUMMARY of Subsurface Locations

Surface Location	D-16-24S-33E	200	FN	825	FW	Vert. Depth
Top Perfs/OH	D-16-24S-33E	823	FN	790	FW	11225.61
Bottom Perfs/OH	M-16-24S-33E	4845	FN	694	FW	11191.00
Projected TD	M-16-24S-33E	4955	FN	689	FW	11188.50

OCT 07 2013



Job Number: SVMO-130380
 Company: Yates Petroleum Corporation
 Lease/Well: Action BTI State Com 1H
 Location: Lea County, NM
 Rig Name: Nomac #122
 RKB: 18'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 6.97°
 Grid: East To Grid North
 File name: F:\SURVEY\2013SU~1\YATES\MO\ACTION~1\1H.SVY
 Date/Time: 21-Jun-13 / 14:09
 Curve Name: Surface - 10630' M.D. (SRG)

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

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	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.41	184.79	200.00	-.71	-.06	-.71	.72	184.79	.20
400.00	.77	219.48	399.99	-2.46	-.97	-2.46	2.65	201.57	.25
600.00	.40	262.67	599.98	-3.59	-2.52	-3.59	4.39	215.08	.28
800.00	.72	217.15	799.97	-4.68	-3.97	-4.68	6.14	220.32	.26
1000.00	.15	241.30	999.96	-5.81	-4.96	-5.81	7.64	220.50	.29
1200.00	.55	228.45	1199.96	-6.57	-5.91	-6.57	8.84	221.97	.20
1400.00	.47	201.47	1399.95	-7.97	-6.93	-7.97	10.56	221.00	.13
1600.00	.78	312.21	1599.94	-7.82	-8.24	-7.82	11.36	226.49	.52
1800.00	.68	281.18	1799.93	-6.67	-10.41	-6.67	12.36	237.33	.20

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
2000.00	.59	319.69	1999.92	-5.66	-12.24	-5.66	13.48	245.19	.21
2200.00	1.17	323.12	2199.89	-3.24	-14.13	-3.24	14.50	257.08	.29
2400.00	1.04	298.58	2399.86	-.74	-16.95	-.74	16.97	267.50	.24
2600.00	1.67	318.31	2599.80	2.31	-20.48	2.31	20.61	276.42	.39
2800.00	1.68	317.93	2799.71	6.66	-24.38	6.66	25.28	285.27	.01
3000.00	2.19	329.48	2999.60	12.13	-28.29	12.13	30.78	293.20	.32
3200.00	2.17	336.06	3199.46	18.88	-31.77	18.88	36.95	300.72	.13
3400.00	1.83	343.48	3399.33	25.40	-34.21	25.40	42.61	306.59	.21
3600.00	1.47	347.17	3599.25	30.96	-35.69	30.96	47.25	310.95	.19
3800.00	.86	343.87	3799.21	34.91	-36.68	34.91	50.63	313.59	.31
4000.00	.59	297.13	3999.19	36.82	-38.01	36.82	52.92	314.09	.31
4200.00	.39	357.30	4199.19	37.97	-38.96	37.97	54.40	314.26	.26
4400.00	.54	63.05	4399.18	39.08	-38.15	39.08	54.61	315.69	.26
4600.00	1.32	61.24	4599.16	40.61	-35.29	40.61	53.80	319.01	.39
4800.00	2.05	88.27	4799.07	41.83	-29.69	41.83	51.30	324.63	.53
5000.00	1.66	90.57	4998.97	41.91	-23.22	41.91	47.91	331.01	.20
5200.00	1.54	100.23	5198.89	41.40	-17.68	41.40	45.02	336.87	.15
5400.00	1.02	104.16	5398.84	40.49	-13.31	40.49	42.62	341.80	.26
5600.00	.24	132.19	5598.82	39.77	-11.27	39.77	41.34	344.17	.41
5800.00	.30	121.78	5798.82	39.21	-10.52	39.21	40.60	344.99	.04
6000.00	.31	99.38	5998.82	38.85	-9.54	38.85	40.00	346.20	.06
6200.00	.38	221.53	6198.82	38.27	-9.45	38.27	39.41	346.13	.30
6400.00	.41	202.03	6398.81	37.11	-10.15	37.11	38.47	344.70	.07
6600.00	.62	238.56	6598.80	35.88	-11.35	35.88	37.63	342.45	.19
6800.00	.86	277.39	6798.79	35.51	-13.76	35.51	38.08	338.82	.27
7000.00	.57	266.63	6998.77	35.64	-16.24	35.64	39.17	335.51	.16
7200.00	.41	185.97	7198.77	34.87	-17.31	34.87	38.93	333.61	.32
7400.00	.44	243.73	7398.76	33.82	-18.07	33.82	38.34	331.89	.21
7600.00	.60	192.79	7598.76	32.46	-18.99	32.46	37.60	329.67	.23

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	
7800.00	.23	33.04	7798.75	31.77	-19.00	31.77	37.02	329.12	.41
8000.00	.13	48.75	7998.75	32.26	-18.61	32.26	37.24	330.02	.06
8200.00	.51	47.37	8198.75	33.01	-17.79	33.01	37.50	331.68	.19
8400.00	.76	111.53	8398.74	33.13	-15.90	33.13	36.75	334.36	.35
8600.00	.47	159.64	8598.73	31.87	-14.38	31.87	34.97	335.72	.28
8800.00	1.13	169.66	8798.71	29.16	-13.74	29.16	32.24	334.77	.34
9000.00	.69	155.48	8998.68	26.13	-12.89	26.13	29.13	333.75	.25
9200.00	.73	169.53	9198.67	23.78	-12.15	23.78	26.71	332.93	.09
9400.00	.41	129.16	9398.66	22.07	-11.37	22.07	24.83	332.75	.25
9600.00	1.13	194.65	9598.64	19.71	-11.31	19.71	22.73	330.15	.51
9800.00	1.88	191.54	9798.57	14.59	-12.47	14.59	19.19	319.49	.38
10000.00	1.49	275.76	9998.51	11.64	-15.71	11.64	19.55	306.53	1.14
10200.00	1.37	279.42	10198.45	12.29	-20.66	12.29	24.04	300.75	.08
10400.00	1.23	283.31	10398.39	13.18	-25.10	13.18	28.35	297.69	.08
10600.00	.68	337.11	10598.37	14.76	-27.66	14.76	31.35	298.09	.50

Last Survey Depth Recorded									
10630.00	.25	262.68	10628.37	14.92	-27.79	14.92	31.54	298.23	2.20



Yates Petroleum

Lea County, NM (NAD-83)

Action BTI State Com

#1H

OH

Design: OH

Survey Report - Geographic

24 June, 2013





Survey Report - Geographic



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Site:	Action,BTI State Com	MD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Well:	#1H	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	Action,BTI State Com			
Site Position:		Northing:	446,166.50 usft	Latitude: 32° 13' 27.702 N
From:	Lat/Long	Easting:	773,328.88 usft	Longitude: 103° 34' 59.239 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.40 °

Well	#1H			
Well Position	+N/-S	0.0 usft	Northing:	446,166.50 usft
	+E/-W	0.0 usft	Easting:	773,328.88 usft
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft
			Ground Level:	3,602.8 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	5/28/2013	7.35	60.14	48,419

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	181.58

Survey Program	Date 6/24/2013			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
200.0	10,630.0	Survey #1 - MS1 (OH)	CB-GYRO-MS	Camera based gyro multishot
10,702.0	15,707.0	Survey #2 - Crescent1 (OH)	MWD	MWD - Standard
15,763.7	15,763.7	Survey #3 - PTB (OH)	BLIND	Blind drilling, where no tool is applied

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map			
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting	Latitude	Longitude	
(usft)			(usft)			(usft)	(usft)			
0.0	0.00	0.00	0.0	0.0	0.0	446,166.50	773,328.88	32° 13' 27.702 N	103° 34' 59.239 W	
200.0	0.41	184.79	200.0	-0.7	-0.1	446,165.79	773,328.82	32° 13' 27.695 N	103° 34' 59.240 W	
400.0	0.77	219.48	400.0	-2.5	-1.0	446,164.04	773,327.90	32° 13' 27.678 N	103° 34' 59.251 W	
600.0	0.40	262.67	600.0	-3.6	-2.5	446,162.91	773,326.36	32° 13' 27.667 N	103° 34' 59.269 W	
800.0	0.72	217.15	800.0	-4.7	-4.0	446,161.82	773,324.91	32° 13' 27.656 N	103° 34' 59.286 W	
1,000.0	0.15	241.30	1,000.0	-5.8	-5.0	446,160.69	773,323.92	32° 13' 27.645 N	103° 34' 59.297 W	
1,200.0	0.55	228.45	1,200.0	-6.6	-5.9	446,159.93	773,322.97	32° 13' 27.637 N	103° 34' 59.308 W	
1,400.0	0.47	201.47	1,400.0	-8.0	-6.9	446,158.53	773,321.95	32° 13' 27.624 N	103° 34' 59.320 W	
1,600.0	0.78	312.21	1,599.9	-7.8	-8.2	446,158.68	773,320.64	32° 13' 27.625 N	103° 34' 59.336 W	
1,800.0	0.68	281.18	1,799.9	-6.7	-10.4	446,159.83	773,318.47	32° 13' 27.637 N	103° 34' 59.361 W	

Company:	Yates Petroleum	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Site:	Action BTL State Com	MD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Well:	#1H	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
2,000.0	0.59	319.69	1,999.9	-5.7	-12.2	446,160.84	773,316.64	32° 13' 27.647 N	103° 34' 59.382 W
2,200.0	1.17	323.12	2,199.9	-3.2	-14.1	446,163.26	773,314.75	32° 13' 27.671 N	103° 34' 59.404 W
2,400.0	1.04	298.58	2,399.9	-0.7	-16.9	446,165.76	773,311.93	32° 13' 27.696 N	103° 34' 59.436 W
2,600.0	1.67	318.31	2,599.8	2.3	-20.5	446,168.81	773,308.40	32° 13' 27.726 N	103° 34' 59.477 W
2,800.0	1.68	317.93	2,799.7	6.7	-24.4	446,173.16	773,304.49	32° 13' 27.770 N	103° 34' 59.522 W
3,000.0	2.19	329.48	2,999.6	12.1	-28.3	446,178.63	773,300.59	32° 13' 27.824 N	103° 34' 59.567 W
3,200.0	2.17	336.06	3,199.5	18.9	-31.8	446,185.38	773,297.11	32° 13' 27.891 N	103° 34' 59.607 W
3,400.0	1.83	343.48	3,399.3	25.4	-34.2	446,191.90	773,294.67	32° 13' 27.956 N	103° 34' 59.635 W
3,600.0	1.47	347.17	3,599.3	31.0	-35.7	446,197.46	773,293.19	32° 13' 28.011 N	103° 34' 59.652 W
3,800.0	0.86	343.87	3,799.2	34.9	-36.7	446,201.41	773,292.20	32° 13' 28.050 N	103° 34' 59.663 W
4,000.0	0.59	297.13	3,999.2	36.8	-38.0	446,203.32	773,290.87	32° 13' 28.069 N	103° 34' 59.678 W
4,200.0	0.39	357.30	4,199.2	38.0	-39.0	446,204.47	773,289.92	32° 13' 28.080 N	103° 34' 59.689 W
4,400.0	0.54	63.05	4,399.2	39.1	-38.1	446,205.58	773,290.73	32° 13' 28.091 N	103° 34' 59.680 W
4,600.0	1.32	61.24	4,599.2	40.6	-35.3	446,207.11	773,293.59	32° 13' 28.106 N	103° 34' 59.646 W
4,800.0	2.05	88.27	4,799.1	41.8	-29.7	446,208.33	773,299.18	32° 13' 28.118 N	103° 34' 59.581 W
5,000.0	1.66	90.57	4,999.0	41.9	-23.2	446,208.41	773,305.65	32° 13' 28.118 N	103° 34' 59.506 W
5,200.0	1.54	100.23	5,198.9	41.4	-17.7	446,207.90	773,311.20	32° 13' 28.113 N	103° 34' 59.441 W
5,400.0	1.02	104.16	5,398.8	40.5	-13.3	446,206.99	773,315.57	32° 13' 28.104 N	103° 34' 59.391 W
5,600.0	0.24	132.19	5,598.8	39.8	-11.3	446,206.27	773,317.60	32° 13' 28.096 N	103° 34' 59.367 W
5,800.0	0.30	121.78	5,798.8	39.2	-10.5	446,205.71	773,318.36	32° 13' 28.091 N	103° 34' 59.358 W
6,000.0	0.31	99.38	5,998.8	38.9	-9.5	446,205.35	773,319.34	32° 13' 28.087 N	103° 34' 59.347 W
6,200.0	0.38	221.53	6,198.8	38.3	-9.4	446,204.77	773,319.43	32° 13' 28.081 N	103° 34' 59.346 W
6,400.0	0.41	202.03	6,398.8	37.1	-10.2	446,203.61	773,318.72	32° 13' 28.070 N	103° 34' 59.354 W
6,600.0	0.62	238.56	6,598.8	35.9	-11.3	446,202.38	773,317.53	32° 13' 28.058 N	103° 34' 59.368 W
6,800.0	0.86	277.39	6,798.8	35.5	-13.8	446,202.01	773,315.12	32° 13' 28.054 N	103° 34' 59.396 W
7,000.0	0.57	266.63	6,998.8	35.6	-16.2	446,202.14	773,312.64	32° 13' 28.056 N	103° 34' 59.425 W
7,200.0	0.41	185.97	7,198.8	34.9	-17.3	446,201.37	773,311.57	32° 13' 28.048 N	103° 34' 59.438 W
7,400.0	0.44	243.73	7,398.8	33.8	-18.1	446,200.32	773,310.81	32° 13' 28.038 N	103° 34' 59.447 W
7,600.0	0.60	192.79	7,598.8	32.5	-19.0	446,198.96	773,309.89	32° 13' 28.024 N	103° 34' 59.457 W
7,800.0	0.23	33.04	7,798.8	31.8	-19.0	446,198.27	773,309.87	32° 13' 28.018 N	103° 34' 59.458 W
8,000.0	0.13	48.75	7,998.8	32.3	-18.6	446,198.76	773,310.26	32° 13' 28.022 N	103° 34' 59.453 W
8,200.0	0.51	47.37	8,198.7	33.0	-17.8	446,199.51	773,311.09	32° 13' 28.030 N	103° 34' 59.443 W
8,400.0	0.76	111.53	8,398.7	33.1	-15.9	446,199.63	773,312.98	32° 13' 28.031 N	103° 34' 59.421 W
8,600.0	0.47	159.64	8,598.7	31.9	-14.4	446,198.37	773,314.50	32° 13' 28.018 N	103° 34' 59.404 W
8,800.0	1.13	169.66	8,798.7	29.2	-13.7	446,195.66	773,315.14	32° 13' 27.992 N	103° 34' 59.397 W
9,000.0	0.69	155.48	8,998.7	26.1	-12.9	446,192.63	773,315.99	32° 13' 27.961 N	103° 34' 59.387 W
9,200.0	0.73	169.53	9,198.7	23.8	-12.2	446,190.28	773,316.72	32° 13' 27.938 N	103° 34' 59.379 W
9,400.0	0.41	129.16	9,398.7	22.1	-11.4	446,188.57	773,317.51	32° 13' 27.921 N	103° 34' 59.370 W
9,600.0	1.13	194.65	9,598.6	19.7	-11.3	446,186.21	773,317.56	32° 13' 27.898 N	103° 34' 59.369 W
9,800.0	1.88	191.54	9,798.6	14.6	-12.5	446,181.09	773,316.41	32° 13' 27.847 N	103° 34' 59.383 W
10,000.0	1.49	275.76	9,998.5	11.6	-15.7	446,178.14	773,313.17	32° 13' 27.818 N	103° 34' 59.421 W
10,200.0	1.37	279.42	10,198.4	12.3	-20.7	446,178.79	773,308.22	32° 13' 27.825 N	103° 34' 59.478 W
10,400.0	1.23	283.31	10,398.4	13.2	-25.1	446,179.68	773,303.77	32° 13' 27.834 N	103° 34' 59.530 W
10,600.0	0.68	337.11	10,598.4	14.8	-27.7	446,181.26	773,301.22	32° 13' 27.850 N	103° 34' 59.560 W
10,630.0	0.25	262.68	10,628.4	14.9	-27.8	446,181.42	773,301.09	32° 13' 27.852 N	103° 34' 59.561 W
Gyro Tie-in / KOP @ 10630' MD									
10,702.0	0.50	200.80	10,700.4	14.6	-28.1	446,181.11	773,300.82	32° 13' 27.848 N	103° 34' 59.564 W
10,733.0	3.90	181.70	10,731.3	13.4	-28.1	446,179.92	773,300.74	32° 13' 27.837 N	103° 34' 59.565 W
10,765.0	8.10	179.00	10,763.2	10.1	-28.1	446,176.58	773,300.75	32° 13' 27.804 N	103° 34' 59.566 W
10,795.0	12.00	176.10	10,792.7	4.9	-27.9	446,171.35	773,301.00	32° 13' 27.752 N	103° 34' 59.563 W
10,827.0	15.30	175.00	10,823.8	-2.7	-27.3	446,163.83	773,301.59	32° 13' 27.677 N	103° 34' 59.557 W
10,858.0	18.10	175.50	10,853.5	-11.5	-26.6	446,154.95	773,302.33	32° 13' 27.590 N	103° 34' 59.549 W
10,889.0	21.30	176.20	10,882.7	-22.0	-25.8	446,144.53	773,303.08	32° 13' 27.486 N	103° 34' 59.541 W
10,920.0	25.20	178.20	10,911.1	-34.2	-25.2	446,132.31	773,303.66	32° 13' 27.365 N	103° 34' 59.535 W
10,951.0	28.70	179.40	10,938.8	-48.2	-24.9	446,118.27	773,303.94	32° 13' 27.226 N	103° 34' 59.533 W



Survey Report - Geographic



Company:	Yates Petroleum	Local Co-ordinate Reference:	Well: #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Site:	Action BTI State Com	MD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Well:	#1H	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
10,982.0	32.00	179.90	10,965.5	-63.9	-24.8	446,102.61	773,304.04	32° 13' 27.071 N	103° 34' 59.533 W
11,013.0	35.50	180.30	10,991.3	-81.1	-24.9	446,085.39	773,304.00	32° 13' 26.901 N	103° 34' 59.535 W
11,045.0	38.70	180.10	11,016.8	-100.4	-24.9	446,066.09	773,303.94	32° 13' 26.710 N	103° 34' 59.537 W
11,076.0	41.30	180.10	11,040.5	-120.3	-25.0	446,046.16	773,303.90	32° 13' 26.513 N	103° 34' 59.540 W
11,090.5	42.98	180.00	11,051.3	-130.1	-25.0	446,036.43	773,303.89	32° 13' 26.417 N	103° 34' 59.540 W
Cross into 330' Lease - 11090.5' MD, 11051.3' TVD, 42.98° INC, 130.7° VS									
11,107.0	44.90	179.90	11,063.2	-141.5	-25.0	446,024.98	773,303.90	32° 13' 26.303 N	103° 34' 59.541 W
11,138.0	48.70	179.90	11,084.4	-164.1	-24.9	446,002.39	773,303.94	32° 13' 26.080 N	103° 34' 59.543 W
11,170.0	52.30	180.30	11,104.7	-188.8	-25.0	445,977.70	773,303.90	32° 13' 25.836 N	103° 34' 59.545 W
11,201.0	56.10	181.10	11,122.9	-213.9	-25.3	445,952.56	773,303.59	32° 13' 25.587 N	103° 34' 59.551 W
11,232.0	59.50	181.90	11,139.4	-240.2	-26.0	445,926.35	773,302.90	32° 13' 25.327 N	103° 34' 59.561 W
11,263.0	61.90	182.20	11,154.6	-267.2	-26.9	445,899.33	773,301.93	32° 13' 25.060 N	103° 34' 59.574 W
11,294.0	65.50	181.70	11,168.3	-294.9	-27.9	445,871.56	773,300.98	32° 13' 24.785 N	103° 34' 59.588 W
11,326.0	69.90	181.00	11,180.4	-324.5	-28.6	445,841.97	773,300.29	32° 13' 24.493 N	103° 34' 59.598 W
11,357.0	72.70	180.30	11,190.4	-353.9	-28.9	445,812.61	773,299.96	32° 13' 24.202 N	103° 34' 59.604 W
11,388.0	76.40	180.40	11,198.6	-383.8	-29.1	445,782.74	773,299.78	32° 13' 23.907 N	103° 34' 59.609 W
11,419.0	79.50	180.80	11,205.1	-414.1	-29.4	445,752.43	773,299.46	32° 13' 23.607 N	103° 34' 59.615 W
11,450.0	81.30	180.80	11,210.3	-444.6	-29.8	445,721.86	773,299.03	32° 13' 23.304 N	103° 34' 59.623 W
11,490.0	82.70	181.70	11,215.8	-484.2	-30.7	445,682.26	773,298.17	32° 13' 22.913 N	103° 34' 59.636 W
11,521.0	83.60	181.90	11,219.5	-515.0	-31.7	445,651.50	773,297.20	32° 13' 22.608 N	103° 34' 59.650 W
11,553.0	85.00	181.70	11,222.7	-546.8	-32.7	445,619.68	773,296.20	32° 13' 22.293 N	103° 34' 59.664 W
11,584.0	87.30	181.50	11,224.8	-577.7	-33.5	445,588.76	773,295.34	32° 13' 21.987 N	103° 34' 59.676 W
11,622.0	89.87	181.19	11,225.7	-615.7	-34.4	445,550.79	773,294.44	32° 13' 21.612 N	103° 34' 59.690 W
EOC - 11622.0' MD, 11225.7' TVD, 89.87° INC, 616.4° VS									
11,646.0	91.50	181.00	11,225.4	-639.7	-34.9	445,526.79	773,293.98	32° 13' 21.374 N	103° 34' 59.697 W
11,739.0	92.00	181.00	11,222.6	-732.6	-36.5	445,433.85	773,292.36	32° 13' 20.455 N	103° 34' 59.724 W
11,833.0	91.00	182.40	11,220.1	-826.6	-39.3	445,339.93	773,289.57	32° 13' 19.526 N	103° 34' 59.764 W
11,926.0	90.80	182.20	11,218.7	-919.5	-43.0	445,247.01	773,285.84	32° 13' 18.606 N	103° 34' 59.815 W
12,020.0	89.90	181.10	11,218.1	-1,013.4	-45.7	445,153.06	773,283.14	32° 13' 17.677 N	103° 34' 59.854 W
12,113.0	90.10	181.50	11,218.1	-1,106.4	-47.9	445,060.08	773,281.03	32° 13' 16.757 N	103° 34' 59.886 W
12,207.0	90.30	181.90	11,217.8	-1,200.4	-50.6	444,966.12	773,278.24	32° 13' 15.828 N	103° 34' 59.926 W
12,300.0	92.20	182.00	11,215.8	-1,293.3	-53.8	444,873.20	773,275.07	32° 13' 14.908 N	103° 34' 59.970 W
12,393.0	92.40	181.90	11,212.0	-1,386.2	-57.0	444,780.33	773,271.91	32° 13' 13.990 N	103° 35' 0.015 W
12,486.0	91.80	182.00	11,208.6	-1,479.1	-60.1	444,687.45	773,268.75	32° 13' 13.071 N	103° 35' 0.059 W
12,580.0	91.70	182.00	11,205.7	-1,572.9	-63.4	444,593.55	773,265.47	32° 13' 12.142 N	103° 35' 0.105 W
12,675.0	90.40	181.70	11,204.0	-1,667.9	-66.5	444,498.62	773,262.40	32° 13' 11.203 N	103° 35' 0.148 W
12,768.0	89.90	181.70	11,203.8	-1,760.8	-69.2	444,405.66	773,259.64	32° 13' 10.283 N	103° 35' 0.188 W
12,862.0	88.90	181.30	11,204.7	-1,854.8	-71.7	444,311.70	773,257.18	32° 13' 9.353 N	103° 35' 0.224 W
12,956.0	91.10	182.00	11,204.7	-1,948.8	-74.4	444,217.74	773,254.48	32° 13' 8.424 N	103° 35' 0.263 W
13,049.0	92.20	182.70	11,202.1	-2,041.6	-78.2	444,124.86	773,250.67	32° 13' 7.505 N	103° 35' 0.315 W
13,142.0	91.30	182.90	11,199.2	-2,134.5	-82.8	444,032.02	773,246.13	32° 13' 6.587 N	103° 35' 0.376 W
13,235.0	90.30	182.00	11,197.9	-2,227.4	-86.7	443,939.11	773,242.15	32° 13' 5.668 N	103° 35' 0.430 W
13,328.0	89.60	181.90	11,198.0	-2,320.3	-89.9	443,846.17	773,238.99	32° 13' 4.748 N	103° 35' 0.474 W
13,422.0	89.40	181.30	11,198.8	-2,414.3	-92.5	443,752.21	773,236.36	32° 13' 3.818 N	103° 35' 0.512 W
13,515.0	88.70	181.00	11,200.4	-2,507.3	-94.4	443,659.24	773,234.50	32° 13' 2.899 N	103° 35' 0.541 W
13,608.0	88.30	181.00	11,202.8	-2,600.2	-96.0	443,566.29	773,232.87	32° 13' 1.979 N	103° 35' 0.568 W
13,703.0	88.70	181.00	11,205.3	-2,695.2	-97.7	443,471.33	773,231.22	32° 13' 1.039 N	103° 35' 0.595 W
13,796.0	89.90	181.90	11,206.4	-2,788.1	-100.0	443,378.37	773,228.86	32° 13' 0.120 N	103° 35' 0.630 W
13,889.0	90.60	181.90	11,206.0	-2,881.1	-103.1	443,285.43	773,225.78	32° 12' 59.200 N	103° 35' 0.673 W
13,983.0	90.10	181.70	11,205.4	-2,975.0	-106.1	443,191.47	773,222.83	32° 12' 58.271 N	103° 35' 0.715 W
14,076.0	90.60	180.40	11,204.9	-3,068.0	-107.8	443,098.49	773,221.12	32° 12' 57.351 N	103° 35' 0.743 W
14,159.0	90.80	180.30	11,203.9	-3,151.0	-108.3	443,015.50	773,220.61	32° 12' 56.530 N	103° 35' 0.755 W
14,252.0	90.40	180.40	11,202.9	-3,244.0	-108.8	442,922.51	773,220.05	32° 12' 55.610 N	103° 35' 0.769 W
14,346.0	89.90	180.60	11,202.6	-3,338.0	-109.7	442,828.51	773,219.23	32° 12' 54.679 N	103° 35' 0.787 W
14,440.0	89.90	180.40	11,202.8	-3,432.0	-110.5	442,734.52	773,218.41	32° 12' 53.749 N	103° 35' 0.804 W

Company:	Yates/Petroleum	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD-83)	TVD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Site:	Action BTI State Com	MD Reference:	Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Well:	#1H	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
14,534.0	90.60	180.40	11,202.4	-3,526.0	-111.1	442,640.52	773,217.75	32° 12' 52.819 N	103° 35' 0.819 W
14,627.0	88.20	179.70	11,203.4	-3,619.0	-111.2	442,547.53	773,217.67	32° 12' 51.899 N	103° 35' 0.827 W
14,720.0	87.10	179.20	11,207.2	-3,711.9	-110.3	442,454.62	773,218.56	32° 12' 50.980 N	103° 35' 0.825 W
14,813.0	88.30	179.70	11,210.9	-3,804.8	-109.4	442,361.70	773,219.45	32° 12' 50.060 N	103° 35' 0.822 W
14,907.0	89.90	180.10	11,212.4	-3,898.8	-109.3	442,267.71	773,219.62	32° 12' 49.130 N	103° 35' 0.828 W
15,000.0	91.70	181.00	11,211.1	-3,991.8	-110.2	442,174.73	773,218.72	32° 12' 48.210 N	103° 35' 0.845 W
15,094.0	92.00	181.50	11,208.1	-4,085.7	-112.2	442,080.80	773,216.67	32° 12' 47.281 N	103° 35' 0.877 W
15,188.0	92.40	181.90	11,204.5	-4,179.6	-115.0	441,986.91	773,213.89	32° 12' 46.352 N	103° 35' 0.917 W
15,281.0	91.50	181.90	11,201.3	-4,272.5	-118.1	441,894.02	773,210.81	32° 12' 45.433 N	103° 35' 0.960 W
15,374.0	91.10	181.90	11,199.2	-4,365.4	-121.2	441,801.10	773,207.72	32° 12' 44.514 N	103° 35' 1.004 W
15,467.0	92.00	182.00	11,196.7	-4,458.3	-124.3	441,708.18	773,204.56	32° 12' 43.595 N	103° 35' 1.048 W
15,561.0	91.80	182.00	11,193.5	-4,552.2	-127.6	441,614.29	773,201.28	32° 12' 42.666 N	103° 35' 1.094 W
15,654.0	91.30	182.00	11,191.0	-4,645.1	-130.8	441,521.38	773,198.04	32° 12' 41.747 N	103° 35' 1.139 W
15,707.0	91.30	182.70	11,189.8	-4,698.1	-133.0	441,468.44	773,195.86	32° 12' 41.223 N	103° 35' 1.169 W
15,763.7	91.30	182.70	11,188.5	-4,754.7	-135.7	441,411.82	773,193.19	32° 12' 40.663 N	103° 35' 1.205 W
BHL -15763.7' MD, 11188.5' TVD, 91.30° INC, 182.70° AZI, -4754.7' N, -135.7' E, 4756.6' VS									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
10,630.0	10,628.4	14.9	-27.8	Gyro Tie-in / KOP @ 10630' MD	
11,090.5	11,051.3	-130.1	-25.0	Cross into 330' Lease - 11090.5' MD, 11051.3' TVD, 42.98° INC, 130.7' VS	
11,622.0	11,225.7	-615.7	-34.4	EOC - 11622.0' MD, 11225.7' TVD, 89.87° INC, 616.4' VS	
15,763.7	11,188.5	-4,754.7	-135.7	BHL - 15763.7' MD, 11188.5' TVD, 91.30° INC, 182.70° AZI, -4754.7' N, -135.7'	

Checked By: _____	Approved By: _____	Date: _____
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WELL DETAILS: #1H

Ground Elevation:: 3602.8
RKB Elevation: Well @ 3624.3usft (Nomac #22 - 21.5' KB)
Rig Name: Nomac #22 - 21.5' KB

Yates Petroleum
Project: Lea County, NM (NAD-83)
Site: Action BTI State Com
Well: #1H
Wellbore: OH
Plan: Plan #2 (#1H/OH)

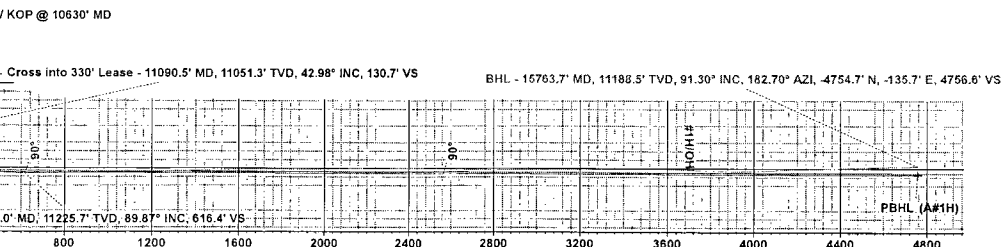
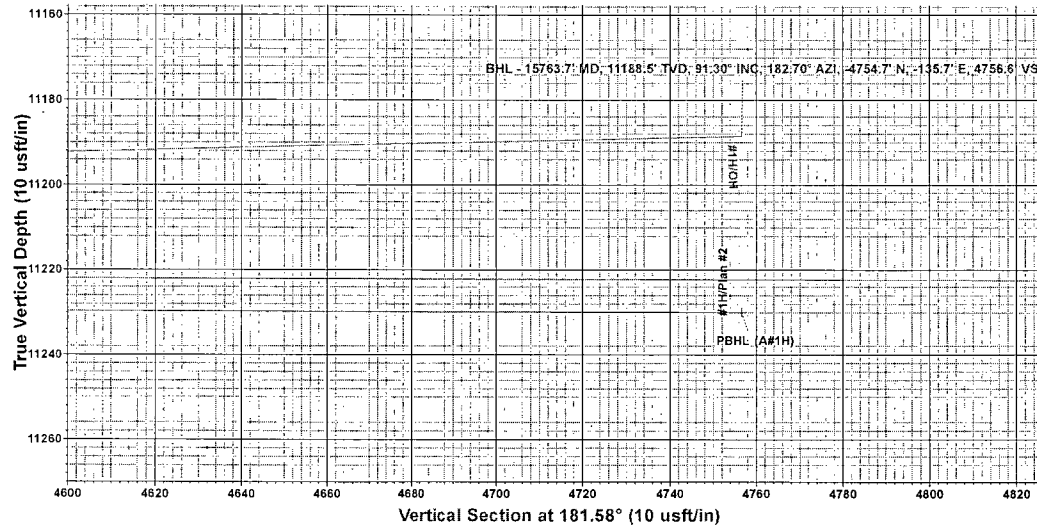
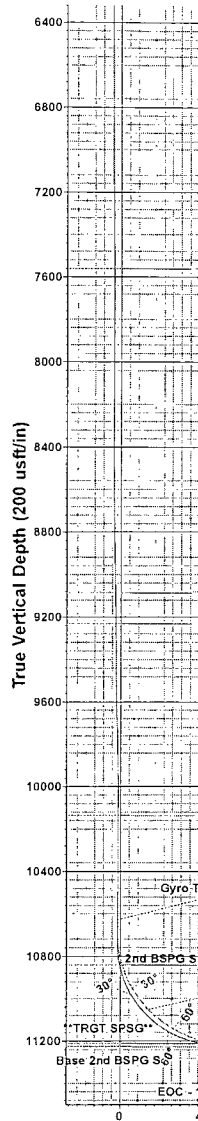
Northing	Easting	Latitude	Longitude
446166.50	773328.88	32° 13' 27.702 N	103° 34' 59.239 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL (A#1H)	11230.0	-4754.8	-131.5	441411.67	773197.37

Section Details

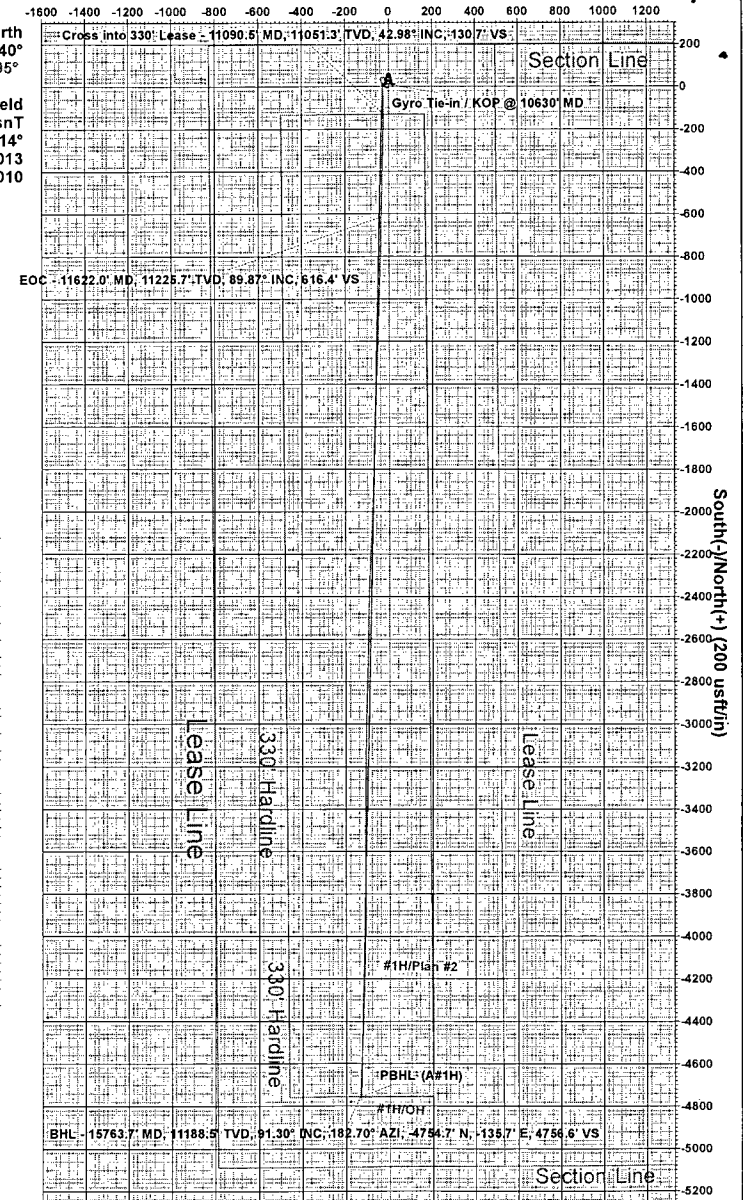
	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	10630.0	0.25	262.68	10628.4	14.9	-27.8	0.00	0.00	-14.1	
2	10744.5	0.25	262.68	10742.9	14.9	-28.3	0.00	0.00	-14.1	
3	11493.1	89.87	181.22	11220.0	-461.4	-40.5	12.00	-81.46	462.3	
4	11493.4	89.87	181.21	11220.0	-461.7	-40.5	2.00	-122.20	462.6	
5	15787.5	89.87	181.21	11230.0	-4754.8	-131.5	0.00	0.00	4756.6	PBHL (A#1H)



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.95°

Magnetic Field
Strength: 48418.8snT
Dip Angle: 60.14°
Date: 5/28/2013
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
System Datum: Mean Sea Level
Local North: Grid



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

Plan: Plan #2 (#1H/OH)
Created By: Matt Higgins Date: 10:32, June 24 2013