



Job Number: SVM0-130478
 Company: Yates Petroleum Corporation
 Lease/Well: Antweil Anu Federal 4H
 Location: Eddy County, NM
 Rig Name: Nomac #22
 RKB: 22'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.21°
 Grid: East To Grid North
 File name: F:\SURVEY\2013SU-1\YATES\MO\ANTWEI-14H.SVY
 Date/Time: 18-Jul-13 / 14:08
 Curve Name: Surface - 3700' M.D. (Rate Gyro)

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NM OCD - Artesia

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 184.79
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth				Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
				N-S FT	E-W FT	Distance FT		Direction Deg		
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.55	166.52	100.00	-.47	.11	.46	.48	166.52	.55	
200.00	.71	171.70	199.99	-1.55	.31	1.51	1.58	168.55	.17	
300.00	.82	169.89	299.98	-2.86	.53	2.81	2.91	169.55	.11	
400.00	.90	175.89	399.97	-4.35	.71	4.28	4.41	170.73	.12	
500.00	.73	167.51	499.96	-5.76	.90	5.66	5.83	171.07	.21	
600.00	.81	155.15	599.95	-7.02	1.34	6.88	7.15	169.20	.18	
700.00	.76	142.49	699.94	-8.19	2.04	7.99	8.44	166.01	.18	
800.00	.98	117.96	799.93	-9.12	3.20	8.82	9.66	160.66	.43	
900.00	1.17	101.82	899.92	-9.73	4.95	9.28	10.91	153.01	.36	

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S		E-W		Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
				FT	FT	FT	FT		Distance FT	Direction Deg	
1000.00	1.42	102.70	999.89	-10.21	7.16	9.57	12.47	144.94	.25		
1100.00	1.60	92.99	1099.85	-10.55	9.76	9.70	14.38	137.22	.31		
1200.00	2.03	88.65	1199.80	-10.58	12.93	9.47	16.71	129.30	.45		
1300.00	2.00	88.77	1299.74	-10.50	16.44	9.09	19.51	122.57	.03		
1400.00	1.95	84.17	1399.68	-10.29	19.88	8.60	22.39	117.37	.17		
1500.00	1.51	81.30	1499.64	-9.92	22.88	7.98	24.94	113.45	.45		
1600.00	.85	71.84	1599.62	-9.49	24.88	7.38	26.63	110.88	.69		
1700.00	.80	63.34	1699.61	-8.95	26.21	6.73	27.70	108.84	.13		
1800.00	.62	75.02	1799.60	-8.49	27.36	6.18	28.65	107.25	.23		
1900.00	.62	64.07	1899.59	-8.12	28.37	5.72	29.51	105.97	.12		
2000.00	1.06	56.39	1999.58	-7.37	29.63	4.87	30.53	103.97	.45		
2100.00	1.33	53.99	2099.56	-6.17	31.33	3.54	31.94	101.15	.27		
2200.00	1.52	52.02	2199.53	-4.68	33.32	1.88	33.65	97.99	.20		
2300.00	1.65	55.26	2299.49	-3.04	35.55	.06	35.68	94.89	.16		
2400.00	1.66	51.39	2399.45	-1.31	37.86	-1.85	37.89	91.99	.11		
2500.00	1.72	52.25	2499.40	.51	40.18	-3.86	40.18	89.28	.07		
2600.00	1.56	46.80	2599.36	2.36	42.36	-5.89	42.43	86.81	.22		
2700.00	1.57	42.86	2699.33	4.29	44.28	-7.98	44.49	84.46	.11		
2800.00	1.64	44.32	2799.29	6.32	46.22	-10.16	46.65	82.21	.08		
2900.00	1.45	46.12	2899.25	8.22	48.13	-12.21	48.82	80.30	.20		
3000.00	1.52	45.72	2999.22	10.03	49.99	-14.17	50.98	78.66	.07		
3100.00	1.36	51.11	3099.19	11.70	51.86	-15.99	53.16	77.29	.21		
3200.00	1.35	51.82	3199.16	13.17	53.71	-17.61	55.30	76.22	.02		
3300.00	1.36	62.67	3299.13	14.44	55.69	-19.04	57.53	75.46	.26		
3400.00	1.25	63.27	3399.10	15.48	57.72	-20.24	59.76	74.99	.11		
3500.00	1.51	69.14	3499.08	16.44	59.93	-21.39	62.14	74.66	.30		
3600.00	1.40	76.78	3599.04	17.19	62.35	-22.33	64.67	74.59	.22		
Last Survey Depth Recorded											
3700.00	1.47	70.28	3699.01	17.90	64.74	-23.24	67.17	74.55	.18		