

Number: WTX-1200-D-308
 Company: Yates Petroleum
 Lease/Well: Patriot AIZ #10-H
 Location: Eddy, Co.
 Rig Name: UTI #165
 RKB:
 G.L. or M.S.L.:

State/Country: New Mex.
 Declination: 9.7
 Grid:
 File name: C:\WINSERVE\YATES\PAT10H.SVY
 Date/Time: 06-Jan-01 / 09:45
 Curve Name: WORK

DAILEY INTERNATIONAL Inc.
 MIDLAND, TEXAS

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 356.93

Vertical Section Referenced to offset from Wellhead: EW =.00 Ft, NS=.00 Ft

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100	BUILD RATE Deg/100
TIE-IN F/GYRO SURVEY										
7630.00	1.91	56.59	7624.70	55.14	200.63	44.32	208.07	74.63	.00	.00
GYRO SURVEY										
7690.00	3.51	24.01	7684.63	57.37	202.21	46.46	210.19	74.16	3.60	2.67
GYRO SURVEY										
7695.00	4.76	17.71	7689.62	57.71	202.34	46.79	210.41	74.08	26.56	25.00
7700.00	8.60	13.10	7694.59	58.27	202.49	47.34	210.70	73.95	77.48	76.80
7705.00	11.50	6.50	7699.51	59.13	202.63	48.19	211.08	73.73	62.31	58.00
7710.00	14.50	5.90	7704.38	60.25	202.75	49.30	211.51	73.45	60.06	60.00
7715.00	17.30	2.80	7709.19	61.61	202.85	50.66	212.00	73.10	58.50	56.00
7720.00	20.50	359.60	7713.92	63.23	202.88	52.27	212.50	72.69	67.25	64.00
7725.00	23.80	358.20	7718.55	65.11	202.84	54.16	213.04	72.20	66.83	66.00
7730.00	26.90	357.10	7723.07	67.25	202.75	56.30	213.61	71.65	62.71	62.00
7735.00	30.50	356.70	7727.45	69.65	202.62	58.70	214.26	71.03	72.10	72.00
7740.00	33.80	356.50	7731.68	72.31	202.46	61.36	214.99	70.35	66.03	66.00
7745.00	37.30	356.10	7735.75	75.21	202.28	64.26	215.80	69.60	70.15	70.00
7750.00	40.60	355.60	7739.64	78.34	202.05	67.41	216.70	68.81	66.30	66.00
7755.00	44.80	354.80	7743.31	81.72	201.76	70.80	217.68	67.95	84.70	84.00
7760.00	48.10	353.70	7746.76	85.32	201.40	74.41	218.73	67.04	67.90	66.00
7765.00	51.00	352.80	7750.00	89.10	200.95	78.21	219.82	66.09	59.59	58.00
7770.00	54.50	352.10	7753.03	93.05	200.43	82.18	220.97	65.10	70.88	70.00
7775.00	57.70	351.30	7755.82	97.15	199.83	86.31	222.19	64.07	65.36	64.00
7780.00	60.70	348.70	7758.38	101.38	199.08	90.57	223.41	63.01	74.79	60.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	ue Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C O S U R E Distance FT	Direction Deg	Dogleg Severity Deg/100	BUILD RATE Deg/100
7785.00	64.10	348.10	7760.69	105.72	198.19	94.95	224.62	61.92	68.83	68.00
7790.00	67.20	347.20	7762.75	110.17	197.22	99.45	225.90	60.81	64.13	62.00
7795.00	70.20	345.60	7764.57	114.70	196.12	104.03	227.20	59.68	67.00	60.00
7800.00	72.60	343.90	7766.17	119.27	194.87	108.66	228.47	58.53	57.81	48.00
end of 4°motor										
7829.00	83.10	335.30	7772.27	145.76	184.97	135.65	235.50	51.76	46.35	36.21
7833.00	83.30	335.10	7772.74	149.37	183.31	139.33	236.46	50.83	7.05	5.00
7865.00	87.80	333.60	7775.23	178.12	169.50	168.78	245.88	43.58	14.82	14.06
7897.00	92.70	332.30	7775.09	206.61	154.95	198.01	258.26	36.87	15.84	15.31
7928.00	97.40	332.50	7772.36	233.97	140.65	226.10	272.99	31.01	15.17	15.16
7959.00	97.40	331.80	7768.37	261.15	126.29	254.01	290.08	25.81	2.24	.00
7991.00	97.40	333.50	7764.25	289.33	111.71	282.93	310.15	21.11	5.27	.00
8023.00	97.30	331.40	7760.15	317.47	97.03	311.82	331.97	17.00	6.52	-.31
8055.00	97.80	331.90	7755.95	345.39	81.97	340.50	354.98	13.35	2.20	1.56
8087.00	99.00	333.10	7751.27	373.46	67.35	369.32	379.49	10.22	5.27	3.75
8118.00	99.40	334.40	7746.32	400.91	53.82	397.45	404.50	7.65	4.34	1.29
8150.00	97.20	336.00	7741.70	429.65	40.54	426.86	431.56	5.39	8.47	-6.88
8181.00	94.80	337.30	7738.46	457.95	28.32	455.78	458.83	3.54	8.79	-7.74
8213.00	93.20	336.00	7736.22	487.26	15.67	485.72	487.51	1.84	6.44	-5.00
8245.00	94.10	339.10	7734.19	516.77	3.47	515.84	516.78	.39	10.07	2.81
8277.00	93.20	339.60	7732.15	546.65	-7.79	546.29	546.71	359.18	3.22	-2.81
8308.00	90.30	338.40	7731.20	575.58	-18.89	575.76	575.89	358.12	10.12	-9.35
8340.00	89.80	338.70	7731.17	605.36	-30.59	606.13	606.13	357.11	1.82	-1.56
8372.00	91.80	337.80	7730.73	635.08	-42.45	636.44	636.49	356.18	6.85	6.25
8404.00	93.00	338.60	7729.39	664.76	-54.32	666.72	666.98	355.33	4.51	3.75
8435.00	93.50	337.50	7727.63	693.47	-65.89	696.00	696.59	354.57	3.89	1.61
8467.00	93.60	336.90	7725.65	722.91	-78.27	726.07	727.14	353.82	1.90	.31
8499.00	91.40	334.80	7724.25	752.08	-91.35	755.89	757.61	353.07	9.50	-6.87
8530.00	90.40	336.20	7723.77	780.28	-104.20	784.74	787.21	352.39	5.55	-3.23
8562.00	90.70	336.50	7723.46	809.59	-117.03	814.70	818.01	351.77	1.33	.94
8594.00	91.60	336.50	7722.82	838.93	-129.79	844.68	848.92	351.21	2.81	2.81
8625.00	91.00	337.10	7722.11	867.42	-142.00	873.78	878.97	350.70	2.74	-1.94
8656.00	91.00	336.70	7721.57	895.93	-154.16	902.90	909.10	350.24	1.29	.00
8689.00	90.70	335.20	7721.08	926.06	-167.61	933.71	941.11	349.74	4.63	-.91
8721.00	90.60	337.40	7720.72	955.36	-180.47	963.65	972.25	349.30	6.88	-.31
8818.00	91.00	337.30	7719.36	1044.87	-217.82	1055.03	1067.33	348.22	.43	.41
PROJECTION TO TD										
8848.00	91.00	337.30	7718.84	1072.54	-229.40	1083.29	1096.80	347.93	.00	.00