

Whiting Oil & Gas

Well Name: **WILDHORSE #16-42H ALT #1**

Surface Location: WILDHORSE #16-42H ALT #1 PAD 16-9N-59W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

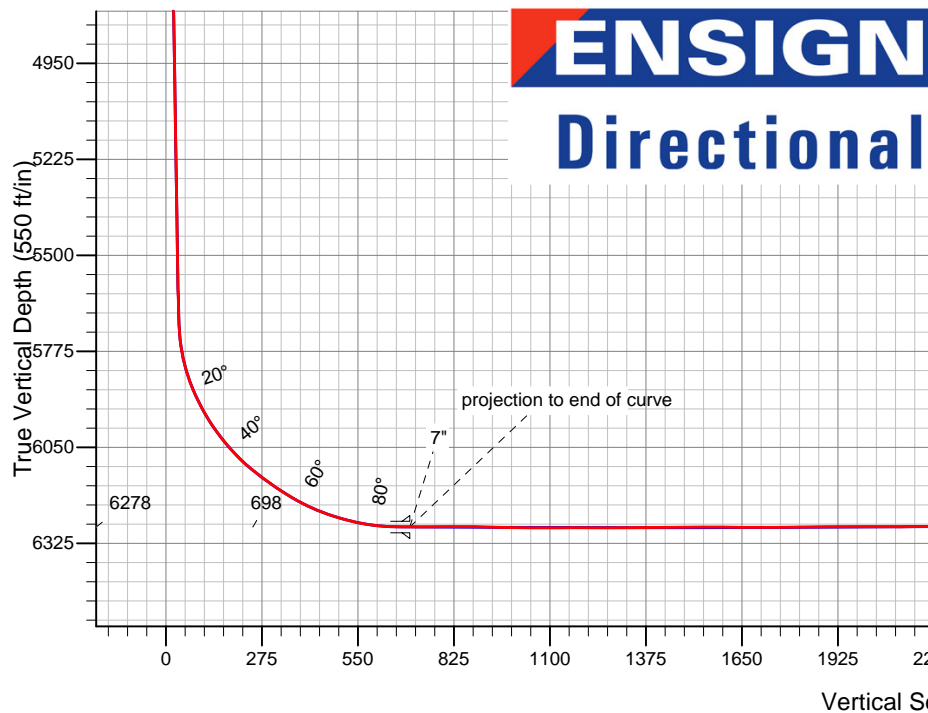
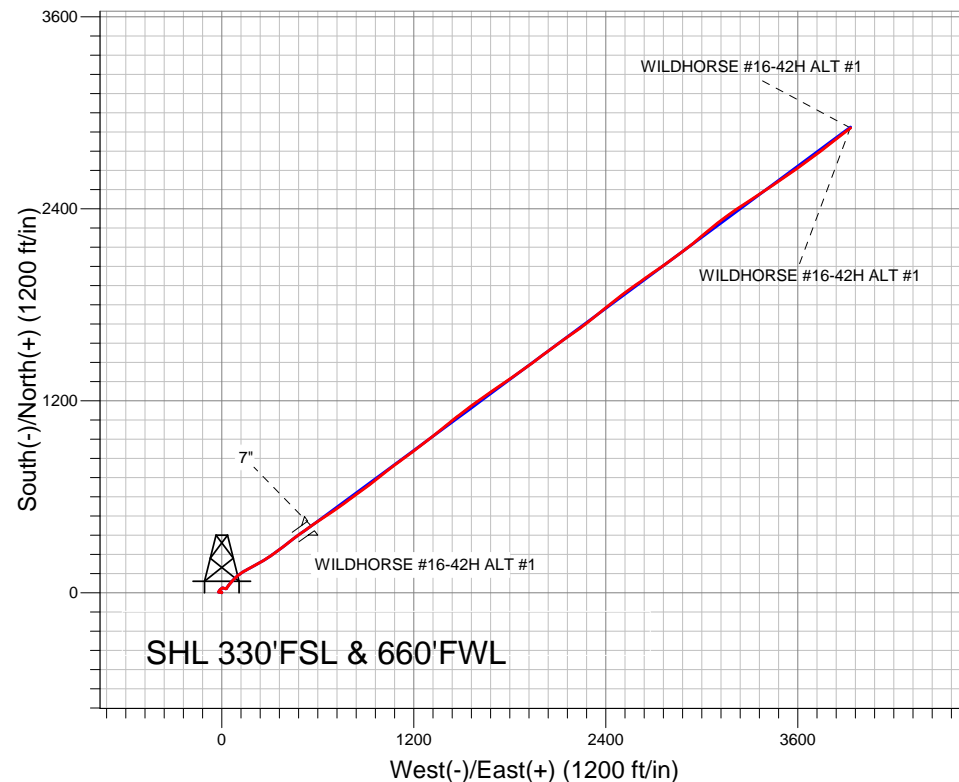
Ground Elevation: 5069.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1517482.96	3418338.63	40.744103	-103.990206	

ENSIGN RIG 14 15' KB RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)

FINAL SURVEY

Projected Bottom Hole Location
10,864' MD 6215' TVD 2904' N & 3930' E
of SHL
93.6 degree Incl @ 52.3 degree AZM



WILDHORSE #16-42H ALT #1 PAD 16-9N-59W
WILDHORSE #16-42H ALT #1
Wellbore #1
10:09, January 16 2012

ANNOTATIONS

TVD	MD	Annotation
6277.9	6672.0	projection to end of curve

LEGEND

- WILDHORSE #16-42H ALT #1, Wellbore #1, PLAN 4 (JAN 10,2011) V0
- Wellbore #1
- Survey #1



Directional

Whiting Oil & Gas

SEC.16-T9N-R59W

WILDHORSE #16-42H ALT #1 PAD 16-9N-59W

WILDHORSE #16-42H ALT #1

Wellbore #1

Survey: Survey #1

Standard Survey Report

16 January, 2012

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well WILDHORSE #16-42H ALT #1
Project:	SEC.16-T9N-R59W	TVD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Site:	WILDHORSE #16-42H ALT #1 PAD 16-9N-59W	MD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Well:	WILDHORSE #16-42H ALT #1	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,525.0	0.40	20.00	2,524.9	4.6	-20.5	-13.8	0.31	0.00	49.21
2,715.0	0.40	32.70	2,714.8	5.8	-19.9	-12.6	0.05	0.00	6.68
2,905.0	0.70	45.50	2,904.8	7.2	-18.8	-10.8	0.17	0.16	6.74
3,094.0	1.00	32.70	3,093.8	9.4	-17.0	-8.1	0.19	0.16	-6.77
3,285.0	0.70	74.30	3,284.8	11.1	-15.0	-5.5	0.35	-0.16	21.78
3,475.0	0.30	38.50	3,474.8	11.8	-13.6	-3.9	0.26	-0.21	-18.84
3,665.0	0.30	18.40	3,664.8	12.6	-13.1	-3.0	0.06	0.00	-10.58
3,855.0	0.60	355.90	3,854.8	14.1	-13.0	-2.1	0.18	0.16	-11.84
4,045.0	1.10	33.00	4,044.8	16.6	-12.1	0.2	0.38	0.26	19.53
4,235.0	1.60	50.60	4,234.7	19.8	-9.1	4.5	0.34	0.26	9.26
4,425.0	1.70	46.20	4,424.6	23.5	-5.0	10.0	0.08	0.05	-2.32
4,615.0	2.10	47.50	4,614.5	27.8	-0.4	16.2	0.21	0.21	0.68
4,804.0	1.40	81.60	4,803.4	30.4	4.4	21.7	0.65	-0.37	18.04
4,994.0	1.70	112.70	4,993.4	29.7	9.3	25.2	0.46	0.16	16.37
5,185.0	1.70	109.30	5,184.3	27.7	14.6	28.2	0.05	0.00	-1.78
5,376.0	1.50	111.80	5,375.2	25.8	19.6	31.1	0.11	-0.10	1.31
5,597.0	1.40	89.80	5,596.1	24.7	25.0	34.8	0.25	-0.05	-9.95
5,629.0	1.50	85.10	5,628.1	24.8	25.8	35.5	0.49	0.31	-14.69
5,660.0	1.20	82.60	5,659.1	24.9	26.5	36.1	0.99	-0.97	-8.06
5,692.0	2.30	51.00	5,691.1	25.3	27.4	37.1	4.45	3.44	-98.75
5,723.0	5.00	37.10	5,722.0	26.8	28.7	39.0	9.10	8.71	-44.84
5,755.0	8.10	37.10	5,753.8	29.7	30.9	42.5	9.69	9.69	0.00
5,786.0	11.40	36.40	5,784.4	33.9	34.0	47.5	10.65	10.65	-2.26
5,818.0	15.00	35.30	5,815.5	39.8	38.3	54.5	11.28	11.25	-3.44
5,850.0	18.70	38.30	5,846.2	47.2	43.9	63.4	11.87	11.56	9.38
5,882.0	22.30	40.60	5,876.1	55.9	51.0	74.2	11.53	11.25	7.19
5,913.0	26.00	39.50	5,904.4	65.6	59.1	86.6	12.02	11.94	-3.55
5,945.0	28.20	42.70	5,932.9	76.5	68.7	100.8	8.25	6.88	10.00
5,977.0	30.80	45.30	5,960.7	87.9	79.7	116.3	9.05	8.13	8.13
6,008.0	33.90	48.20	5,986.9	99.2	91.8	132.8	11.18	10.00	9.35
6,040.0	37.20	52.20	6,013.0	111.1	106.1	151.4	12.61	10.31	12.50
6,071.0	39.70	55.50	6,037.2	122.5	121.6	170.6	10.43	8.06	10.65
6,103.0	42.50	59.40	6,061.4	133.8	139.4	191.6	11.86	8.75	12.19
6,134.0	46.10	61.20	6,083.5	144.5	158.2	213.1	12.30	11.61	5.81
6,166.0	49.60	61.00	6,105.0	155.9	179.0	236.6	10.95	10.94	-0.63
6,198.0	52.20	61.70	6,125.2	167.8	200.7	261.2	8.30	8.13	2.19
6,230.0	54.30	61.50	6,144.3	180.0	223.3	286.6	6.58	6.56	-0.63
6,261.0	56.20	60.30	6,162.0	192.4	245.6	311.8	6.90	6.13	-3.87
6,293.0	57.30	58.50	6,179.6	206.0	268.6	338.5	5.83	3.44	-5.63
6,324.0	59.80	56.90	6,195.7	220.2	290.9	364.8	9.19	8.06	-5.16
6,356.0	62.60	54.50	6,211.1	236.0	314.1	392.8	10.94	8.75	-7.50
6,388.0	66.70	53.10	6,224.8	253.1	337.4	421.8	13.41	12.81	-4.38
6,420.0	69.10	52.70	6,236.9	270.9	361.1	451.4	7.59	7.50	-1.25
6,452.0	72.20	52.70	6,247.5	289.2	385.1	481.6	9.69	9.69	0.00
6,483.0	75.10	53.40	6,256.2	307.1	408.8	511.3	9.60	9.35	2.26
6,515.0	77.60	52.40	6,263.8	325.9	433.6	542.4	8.38	7.81	-3.13
6,547.0	80.70	53.10	6,269.8	344.9	458.7	573.8	9.92	9.69	2.19
6,579.0	83.80	54.10	6,274.1	363.7	484.2	605.5	10.17	9.69	3.13
6,610.0	87.00	54.50	6,276.6	381.7	509.3	636.4	10.40	10.32	1.29
6,624.0	88.30	54.50	6,277.2	389.9	520.7	650.4	9.29	9.29	0.00
6,672.0	90.00	54.50	6,277.9	417.7	559.7	698.4	3.54	3.54	0.00
projection to end of curve - 7"									
6,679.0	90.70	55.40	6,277.8	421.7	565.5	705.4	16.29	10.00	12.86
6,710.0	90.50	56.20	6,277.5	439.2	591.1	736.4	2.66	-0.65	2.58

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Site:	WILDHORSE #16-42H ALT #1 PAD 16-9N-59W	MD Reference:	RKB @ 5084.0ft (ENSIGN RIG 14 15' KB)
Well:	WILDHORSE #16-42H ALT #1	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,740.0	90.40	56.30	6,277.3	455.8	616.0	766.3	0.47	-0.33	0.33
6,771.0	90.50	56.30	6,277.0	473.0	641.8	797.3	0.32	0.32	0.00
6,802.0	90.40	55.50	6,276.8	490.4	667.5	828.3	2.60	-0.32	-2.58
6,833.0	89.60	55.50	6,276.8	508.0	693.0	859.3	2.58	-2.58	0.00
6,864.0	88.70	55.00	6,277.2	525.6	718.5	890.2	3.32	-2.90	-1.61
6,894.0	88.70	55.00	6,277.9	542.8	743.1	920.2	0.00	0.00	0.00
6,925.0	88.50	54.20	6,278.7	560.8	768.3	951.2	2.66	-0.65	-2.58
6,956.0	88.70	53.80	6,279.4	579.0	793.4	982.2	1.44	0.65	-1.29
6,987.0	89.30	53.60	6,280.0	597.4	818.4	1,013.2	2.04	1.94	-0.65
7,017.0	89.90	54.00	6,280.2	615.1	842.6	1,043.2	2.40	2.00	1.33
7,048.0	89.80	53.50	6,280.3	633.4	867.6	1,074.2	1.64	-0.32	-1.61
7,078.0	90.10	53.10	6,280.3	651.3	891.7	1,104.2	1.67	1.00	-1.33
7,109.0	90.40	53.20	6,280.2	669.9	916.5	1,135.2	1.02	0.97	0.32
7,140.0	90.20	52.50	6,280.0	688.7	941.2	1,166.2	2.35	-0.65	-2.26
7,170.0	89.80	51.00	6,280.0	707.2	964.7	1,196.2	5.17	-1.33	-5.00
7,201.0	89.90	50.90	6,280.1	726.8	988.8	1,227.1	0.46	0.32	-0.32
7,231.0	89.90	52.60	6,280.1	745.3	1,012.4	1,257.1	5.67	0.00	5.67
7,262.0	90.50	53.00	6,280.0	764.1	1,037.1	1,288.1	2.33	1.94	1.29
7,292.0	90.10	52.50	6,279.9	782.2	1,060.9	1,318.1	2.13	-1.33	-1.67
7,323.0	90.10	52.60	6,279.8	801.1	1,085.5	1,349.1	0.32	0.00	0.32
7,354.0	90.70	53.30	6,279.6	819.8	1,110.3	1,380.1	2.97	1.94	2.26
7,384.0	91.20	53.70	6,279.1	837.6	1,134.4	1,410.1	2.13	1.67	1.33
7,415.0	90.70	53.60	6,278.6	856.0	1,159.4	1,441.1	1.64	-1.61	-0.32
7,446.0	90.80	53.50	6,278.2	874.4	1,184.3	1,472.1	0.46	0.32	-0.32
7,477.0	90.10	52.90	6,277.9	893.0	1,209.1	1,503.1	2.97	-2.26	-1.94
7,499.9	89.95	52.67	6,277.9	906.8	1,227.4	1,526.0	1.20	-0.67	-1.00
T1									
7,507.0	89.90	52.60	6,277.9	911.1	1,233.0	1,533.1	1.20	-0.67	-1.00
7,538.0	89.60	52.50	6,278.1	930.0	1,257.6	1,564.1	1.02	-0.97	-0.32
7,569.0	89.60	52.50	6,278.3	948.8	1,282.2	1,595.1	0.00	0.00	0.00
7,599.0	89.50	52.60	6,278.5	967.1	1,306.0	1,625.1	0.47	-0.33	0.33
7,630.0	89.50	51.30	6,278.8	986.2	1,330.4	1,656.1	4.19	0.00	-4.19
7,660.0	90.00	50.90	6,278.9	1,005.0	1,353.8	1,686.0	2.13	1.67	-1.33
7,691.0	90.20	51.10	6,278.9	1,024.5	1,377.9	1,717.0	0.91	0.65	0.65
7,721.0	90.10	50.40	6,278.8	1,043.5	1,401.1	1,747.0	2.36	-0.33	-2.33
7,751.0	90.50	51.00	6,278.6	1,062.5	1,424.3	1,776.9	2.40	1.33	2.00
7,782.0	90.80	52.00	6,278.3	1,081.8	1,448.6	1,807.9	3.37	0.97	3.23
7,813.0	90.70	51.40	6,277.9	1,101.0	1,472.9	1,838.9	1.96	-0.32	-1.94
7,846.0	90.50	52.50	6,277.5	1,121.4	1,498.9	1,871.9	3.39	-0.61	3.33
7,877.0	90.30	53.40	6,277.3	1,140.0	1,523.6	1,902.9	2.97	-0.65	2.90
7,908.0	90.40	53.40	6,277.1	1,158.5	1,548.5	1,933.9	0.32	0.32	0.00
7,938.0	90.30	53.30	6,276.9	1,176.4	1,572.6	1,963.9	0.47	-0.33	-0.33
7,969.0	90.20	54.70	6,276.8	1,194.6	1,597.7	1,994.9	4.53	-0.32	4.52
7,999.0	90.00	54.80	6,276.8	1,212.0	1,622.2	2,024.9	0.75	-0.67	0.33
8,030.0	89.40	53.90	6,276.9	1,230.0	1,647.3	2,055.9	3.49	-1.94	-2.90
8,060.0	89.40	53.30	6,277.2	1,247.8	1,671.5	2,085.9	2.00	0.00	-2.00
8,091.0	90.50	54.40	6,277.3	1,266.1	1,696.5	2,116.9	5.02	3.55	3.55
8,122.0	91.10	55.80	6,276.8	1,283.8	1,721.9	2,147.9	4.91	1.94	4.52
8,153.0	90.90	57.20	6,276.3	1,301.0	1,747.8	2,178.8	4.56	-0.65	4.52
8,185.0	89.80	56.60	6,276.1	1,318.4	1,774.6	2,210.7	3.92	-3.44	-1.88
8,216.0	89.10	56.00	6,276.4	1,335.6	1,800.4	2,241.7	2.97	-2.26	-1.94
8,248.0	89.00	55.90	6,276.9	1,353.5	1,826.9	2,273.7	0.44	-0.31	-0.31
8,279.0	87.80	55.00	6,277.8	1,371.1	1,852.4	2,304.6	4.84	-3.87	-2.90
8,311.0	88.10	53.90	6,278.9	1,389.7	1,878.4	2,336.6	3.56	0.94	-3.44

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Well:	WILDHORSE #16-42H ALT #1	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,343.0	88.30	53.80	6,279.9	1,408.6	1,904.3	2,368.6	0.70	0.63	-0.31
8,375.0	88.90	53.00	6,280.7	1,427.6	1,929.9	2,400.6	3.12	1.88	-2.50
8,410.0	89.80	53.00	6,281.1	1,448.7	1,957.9	2,435.6	2.57	2.57	0.00
8,441.0	90.40	53.20	6,281.1	1,467.3	1,982.7	2,466.6	2.04	1.94	0.65
8,473.0	91.20	53.30	6,280.6	1,486.5	2,008.3	2,498.6	2.52	2.50	0.31
8,500.5	91.03	53.21	6,280.1	1,502.9	2,030.4	2,526.1	0.70	-0.63	-0.31
T2									
8,505.0	91.00	53.20	6,280.0	1,505.6	2,034.0	2,530.6	0.70	-0.63	-0.31
8,536.0	90.70	53.10	6,279.5	1,524.2	2,058.8	2,561.6	1.02	-0.97	-0.32
8,568.0	92.00	54.00	6,278.8	1,543.2	2,084.5	2,593.6	4.94	4.06	2.81
8,601.0	93.10	54.70	6,277.3	1,562.4	2,111.3	2,626.5	3.95	3.33	2.12
8,632.0	93.70	55.40	6,275.5	1,580.1	2,136.6	2,657.5	2.97	1.94	2.26
8,664.0	92.20	54.40	6,273.8	1,598.5	2,162.8	2,689.4	5.63	-4.69	-3.13
8,695.0	91.50	54.40	6,272.8	1,616.6	2,188.0	2,720.4	2.26	-2.26	0.00
8,727.0	92.00	54.90	6,271.8	1,635.1	2,214.1	2,752.4	2.21	1.56	1.56
8,759.0	91.30	53.70	6,270.9	1,653.7	2,240.0	2,784.3	4.34	-2.19	-3.75
8,790.0	90.70	51.90	6,270.4	1,672.5	2,264.7	2,815.3	6.12	-1.94	-5.81
8,822.0	91.40	51.50	6,269.8	1,692.3	2,289.8	2,847.3	2.52	2.19	-1.25
8,853.0	91.60	51.40	6,269.0	1,711.6	2,314.1	2,878.3	0.72	0.65	-0.32
8,885.0	91.70	51.10	6,268.1	1,731.6	2,339.0	2,910.3	0.99	0.31	-0.94
8,916.0	91.70	51.10	6,267.1	1,751.1	2,363.1	2,941.2	0.00	0.00	0.00
8,948.0	90.80	50.70	6,266.4	1,771.3	2,388.0	2,973.2	3.08	-2.81	-1.25
8,980.0	91.70	50.70	6,265.7	1,791.5	2,412.7	3,005.1	2.81	2.81	0.00
9,011.0	92.20	51.40	6,264.7	1,811.0	2,436.8	3,036.1	2.77	1.61	2.26
9,044.0	93.20	52.60	6,263.1	1,831.3	2,462.8	3,069.0	4.73	3.03	3.64
9,075.0	93.40	52.70	6,261.4	1,850.1	2,487.4	3,100.0	0.72	0.65	0.32
9,107.0	93.80	53.30	6,259.3	1,869.3	2,512.9	3,131.9	2.25	1.25	1.88
9,138.0	94.20	54.30	6,257.2	1,887.6	2,537.8	3,162.8	3.47	1.29	3.23
9,170.0	94.30	54.30	6,254.8	1,906.2	2,563.8	3,194.7	0.31	0.31	0.00
9,201.0	94.40	54.10	6,252.5	1,924.3	2,588.8	3,225.7	0.72	0.32	-0.65
9,233.0	94.50	54.00	6,250.0	1,943.0	2,614.7	3,257.6	0.44	0.31	-0.31
9,265.0	93.80	54.70	6,247.7	1,961.6	2,640.6	3,289.5	3.09	-2.19	2.19
9,297.0	93.50	55.30	6,245.6	1,979.9	2,666.8	3,321.4	2.09	-0.94	1.88
9,328.0	93.60	54.90	6,243.7	1,997.6	2,692.1	3,352.3	1.33	0.32	-1.29
9,360.0	92.70	54.90	6,241.9	2,016.0	2,718.3	3,384.3	2.81	-2.81	0.00
9,392.0	91.80	55.10	6,240.7	2,034.3	2,744.5	3,416.2	2.88	-2.81	0.63
9,423.0	91.40	55.10	6,239.8	2,052.1	2,769.9	3,447.2	1.29	-1.29	0.00
9,455.0	90.60	54.40	6,239.3	2,070.5	2,796.0	3,479.2	3.32	-2.50	-2.19
9,487.0	90.30	53.70	6,239.0	2,089.3	2,821.9	3,511.2	2.38	-0.94	-2.19
9,501.9	90.53	53.61	6,238.9	2,098.1	2,833.9	3,526.0	1.68	1.56	-0.62
T3									
9,519.0	90.80	53.50	6,238.7	2,108.3	2,847.7	3,543.2	1.68	1.56	-0.63
9,551.0	90.90	53.50	6,238.2	2,127.3	2,873.4	3,575.2	0.31	0.31	0.00
9,583.0	90.70	53.10	6,237.8	2,146.5	2,899.0	3,607.2	1.40	-0.63	-1.25
9,615.0	90.90	51.60	6,237.3	2,166.0	2,924.4	3,639.2	4.73	0.63	-4.69
9,646.0	91.20	50.50	6,236.8	2,185.5	2,948.5	3,670.1	3.68	0.97	-3.55
9,678.0	90.70	49.30	6,236.2	2,206.1	2,973.0	3,702.1	4.06	-1.56	-3.75
9,710.0	90.90	50.10	6,235.8	2,226.8	2,997.4	3,734.0	2.58	0.63	2.50
9,741.0	91.10	50.80	6,235.3	2,246.5	3,021.3	3,764.9	2.35	0.65	2.26
9,773.0	90.60	49.60	6,234.8	2,267.0	3,045.8	3,796.9	4.06	-1.56	-3.75
9,804.0	90.90	50.40	6,234.4	2,286.9	3,069.6	3,827.8	2.76	0.97	2.58
9,836.0	91.00	51.80	6,233.8	2,307.0	3,094.5	3,859.8	4.39	0.31	4.38
9,868.0	90.80	52.90	6,233.3	2,326.6	3,119.8	3,891.8	3.49	-0.63	3.44
9,899.0	90.70	53.50	6,232.9	2,345.1	3,144.6	3,922.8	1.96	-0.32	1.94

Survey	Response
1. What is the main reason for the decline in the number of people using the internet?	1. Lack of access to the internet
2. How do you think the internet will change the way we live in the future?	2. It will make life easier and more convenient
3. What are the biggest challenges facing the world today?	3. Climate change and environmental degradation
4. How do you feel about the current state of the world?	4. I am optimistic about the future
5. What do you think is the most important issue facing humanity?	5. The need for global cooperation and peace

Casing Points

Survey Annotations

Checked By: _____ Approved By: _____ Date: _____