

# **Bill Barrett Corp.**

**Garfield Co., CO (NAD83)**

**Kaufman Pad #4 (Sec.30-T6S-R91W)**

**Kaufman 41A-25-692**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**09 March, 2012**



Project: Garfield Co., CO (NAD83)  
Site: Kaufman Pad #4 (Sec.30-T6S-R91W)  
Well: Kaufman 41A-25-692  
Wellbore: Wellbore #1  
Design: Wellbore #1  
Latitude: 39° 30' 11.20 N  
Longitude: 107° 36' 16.44 W  
Ground Level: 5786.01  
WELL @ 5808.01ft



PROJECT DETAILS: Garfield Co., CO (NAD83)

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Central Zone  
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Kaufman 41A-25-692, True North  
Vertical (TVD) Reference: WELL @ 5808.01ft  
Section (VS) Reference: Slot - (0.00N, 0.00E)  
Measured Depth Reference: WELL @ 5808.01ft  
Calculation Method: Minimum Curvature

WELL DETAILS: Kaufman 41A-25-692

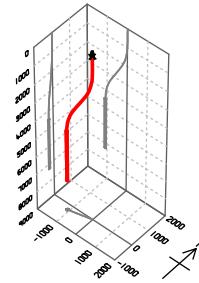
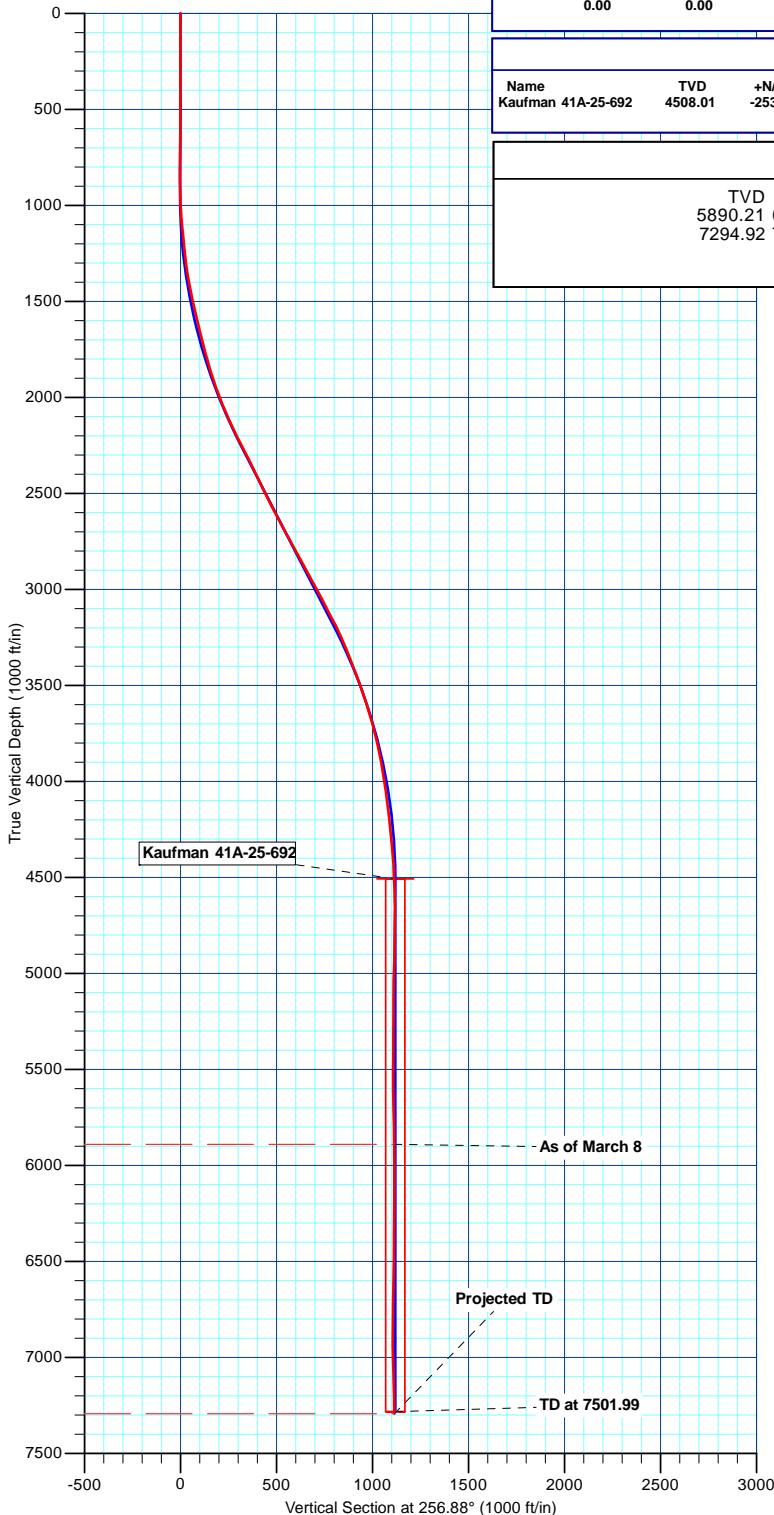
+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	1615015.63	5786.01	2406203.61	39° 30' 11.20 N	107° 36' 16.44 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Kaufman 41A-25-692	4508.01	-253.84	-1088.91	1614787.07	2405109.11	39° 30' 8.69 N	107° 36' 30.33 W	Circle (Radius: 50.00)

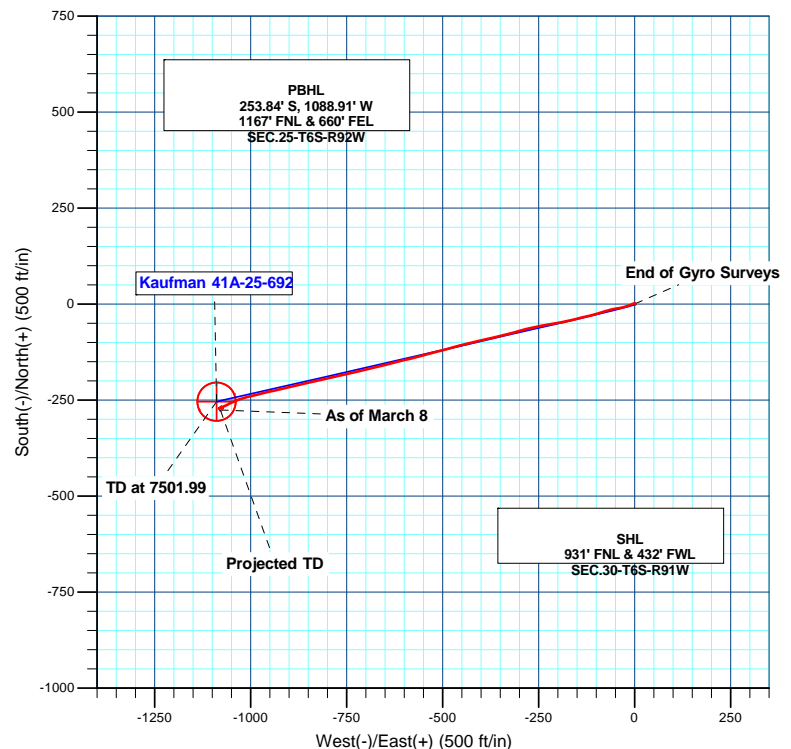
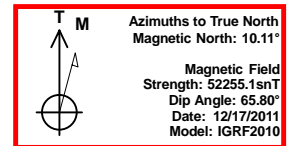
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSe	Departure	Annotation
5890.21	6105.00	1.100	310.10	-275.17	-1078.34	1112.65	1151.82	As of March 8
7294.92	7510.00	1.100	209.70	-275.98	-1078.99	1113.48	1179.32	Projected TD



FORMATION TOP DETAILS

No formation data is available



Design: Wellbore #1 (Kaufman 41A-25-692/Wellbore #1)

Created By: Bret Wolford Date: 7:23, March 09 2012

# Sharewell

## Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Kaufman 41A-25-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5808.01ft
<b>Site:</b>	Kaufman Pad #4 (Sec.30-T6S-R91W)	<b>MD Reference:</b>	WELL @ 5808.01ft
<b>Well:</b>	Kaufman 41A-25-692	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	CompassVM

<b>Project</b>	Garfield Co., CO (NAD83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

Site		Kaufman Pad #4 (Sec.30-T6S-R91W)			
Site Position:		Northing:	1,615,037.35 usft	Latitude:	39° 30' 11.42 N
From:	Lat/Long	Easting:	2,406,193.68 usft	Longitude:	107° 36' 16.57 W
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	-1.33 °

Well		Kaufman 41A-25-692				
Well Position	+N/-S	0.00 ft	Northing:	1,615,015.62 usft	Latitude:	39° 30' 11.20 N
	+E/-W	0.00 ft	Easting:	2,406,203.61 usft	Longitude:	107° 36' 16.44 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,786.01 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/17/2011	10.11	65.80	52,255

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	256.88	

<b>Survey Program</b>	<b>Date</b>	3/9/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	716.00	Survey #1 (Wellbore #1)	MWD	MWD - Standard	
716.00	7,510.00	MWD (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.500	43.64	100.00	0.32	0.30	-0.36	0.50	0.50	0.00	
200.00	0.390	143.42	200.00	0.36	0.81	-0.87	0.68	-0.11	99.78	
300.00	0.470	290.16	300.00	0.23	0.62	-0.66	0.82	0.08	146.74	
400.00	0.390	69.52	400.00	0.49	0.56	-0.65	0.81	-0.08	139.36	
500.00	0.350	213.47	499.99	0.35	0.71	-0.77	0.70	-0.04	143.95	
600.00	0.670	8.81	599.99	0.67	0.63	-0.76	1.00	0.32	155.34	
700.00	0.520	99.85	699.99	1.17	1.16	-1.40	0.86	-0.15	91.04	
716.00	0.560	115.93	715.99	1.13	1.31	-1.53	0.98	0.25	100.50	
875.00	0.400	17.00	874.98	1.32	2.17	-2.41	0.46	-0.10	-62.22	

# Sharewell

## Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Kaufman 41A-25-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5808.01ft
<b>Site:</b>	Kaufman Pad #4 (Sec.30-T6S-R91W)	<b>MD Reference:</b>	WELL @ 5808.01ft
<b>Well:</b>	Kaufman 41A-25-692	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	CompassVM

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)
970.00	2.400	275.70	969.96	1.83	0.29	-0.69	2.64	2.11	-106.63
1,065.00	4.500	248.20	1,064.78	0.65	-5.16	4.87	2.75	2.21	-28.95
1,160.00	5.500	245.50	1,159.42	-2.63	-12.76	13.02	1.08	1.05	-2.84
1,255.00	6.200	253.50	1,253.93	-5.97	-21.82	22.61	1.13	0.74	8.42
1,350.00	8.400	258.70	1,348.15	-8.79	-33.55	34.66	2.42	2.32	5.47
1,445.00	11.600	260.20	1,441.70	-11.77	-49.77	51.14	3.38	3.37	1.58
1,541.00	13.200	255.50	1,535.46	-16.16	-69.89	71.73	1.97	1.67	-4.90
1,636.00	13.500	250.40	1,627.89	-22.60	-90.84	93.60	1.28	0.32	-5.37
1,731.00	14.600	258.00	1,720.06	-28.81	-113.00	116.59	2.26	1.16	8.00
1,826.00	15.800	254.90	1,811.74	-34.67	-137.20	141.49	1.53	1.26	-3.26
1,921.00	18.200	257.80	1,902.58	-41.17	-164.19	169.25	2.68	2.53	3.05
2,016.00	20.700	258.80	1,992.15	-47.57	-195.17	200.87	2.65	2.63	1.05
2,111.00	23.500	260.10	2,080.16	-54.09	-230.30	236.57	2.99	2.95	1.37
2,206.00	25.500	257.40	2,166.61	-61.81	-268.92	275.93	2.41	2.11	-2.84
2,301.00	27.200	254.50	2,251.74	-72.07	-309.81	318.08	2.24	1.79	-3.05
2,396.00	26.600	256.60	2,336.46	-82.80	-351.42	361.04	1.18	-0.63	2.21
2,492.00	26.500	256.40	2,422.34	-92.82	-393.14	403.95	0.14	-0.10	-0.21
2,587.00	25.700	257.70	2,507.65	-102.19	-433.87	445.74	1.04	-0.84	1.37
2,682.00	27.100	253.60	2,592.75	-112.69	-474.76	487.95	2.42	1.47	-4.32
2,777.00	28.300	255.80	2,676.86	-124.32	-517.35	532.07	1.66	1.26	2.32
2,872.00	28.700	254.90	2,760.35	-135.79	-561.21	577.38	0.62	0.42	-0.95
2,967.00	29.000	257.40	2,843.56	-146.76	-605.71	623.21	1.31	0.32	2.63
3,062.00	29.100	254.90	2,926.61	-157.80	-650.49	669.32	1.28	0.11	-2.63
3,157.00	27.900	257.00	3,010.10	-168.82	-694.45	714.64	1.65	-1.26	2.21
3,252.00	27.800	255.60	3,094.10	-179.33	-737.56	759.02	0.70	-0.11	-1.47
3,347.00	26.700	259.00	3,178.56	-188.91	-779.97	802.50	2.01	-1.16	3.58
3,442.00	23.400	256.60	3,264.61	-197.36	-819.29	842.70	3.63	-3.47	-2.53
3,537.00	21.600	258.00	3,352.38	-205.36	-854.75	879.05	1.98	-1.89	1.47
3,632.00	20.900	255.10	3,440.92	-213.36	-888.23	913.47	1.33	-0.74	-3.05
3,727.00	19.400	258.50	3,530.11	-220.86	-920.07	946.18	2.00	-1.58	3.58
3,823.00	17.100	257.30	3,621.27	-227.14	-949.46	976.24	2.43	-2.40	-1.25
3,918.00	14.900	254.90	3,712.59	-233.40	-974.88	1,002.41	2.42	-2.32	-2.53
4,013.00	12.700	257.50	3,804.84	-238.84	-996.87	1,025.07	2.41	-2.32	2.74
4,108.00	10.400	253.80	3,897.91	-243.49	-1,015.30	1,044.07	2.54	-2.42	-3.89
4,203.00	9.000	251.10	3,991.55	-248.29	-1,030.57	1,060.03	1.55	-1.47	-2.84
4,298.00	7.700	245.50	4,085.54	-253.34	-1,043.39	1,073.66	1.61	-1.37	-5.89
4,394.00	6.600	245.60	4,180.80	-258.28	-1,054.27	1,085.38	1.15	-1.15	0.10
4,489.00	6.200	239.10	4,275.20	-263.17	-1,063.64	1,095.62	0.87	-0.42	-6.84
4,584.00	4.800	255.80	4,369.77	-266.78	-1,071.90	1,104.48	2.22	-1.47	17.58
4,679.00	3.100	237.30	4,464.55	-269.15	-1,077.91	1,110.87	2.21	-1.79	-19.47
4,774.00	2.200	226.30	4,559.44	-271.79	-1,081.39	1,114.86	1.08	-0.95	-11.58
4,869.00	1.100	8.10	4,654.42	-272.15	-1,082.58	1,116.10	3.30	-1.16	149.26
4,964.00	0.800	60.50	4,749.41	-270.92	-1,081.88	1,115.14	0.93	-0.32	55.16

**Sharewell**  
Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Kaufman 41A-25-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5808.01ft
<b>Site:</b>	Kaufman Pad #4 (Sec.30-T6S-R91W)	<b>MD Reference:</b>	WELL @ 5808.01ft
<b>Well:</b>	Kaufman 41A-25-692	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	CompassVM

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)	
5,059.00	0.600	45.10	4,844.41	-270.24	-1,080.95	1,114.08	0.29	-0.21	-16.21	
5,154.00	0.700	66.40	4,939.40	-269.66	-1,080.07	1,113.08	0.27	0.11	22.42	
5,249.00	2.000	79.10	5,034.37	-269.12	-1,077.91	1,110.86	1.40	1.37	13.37	
5,345.00	0.800	340.70	5,130.35	-268.17	-1,076.48	1,109.25	2.35	-1.25	-102.50	
5,440.00	0.200	57.40	5,225.35	-267.45	-1,076.56	1,109.17	0.82	-0.63	80.74	
5,535.00	0.300	159.80	5,320.35	-267.59	-1,076.34	1,108.98	0.42	0.11	107.79	
5,630.00	0.900	115.30	5,415.34	-268.15	-1,075.58	1,108.37	0.76	0.63	-46.84	
5,725.00	1.400	151.30	5,510.32	-269.48	-1,074.34	1,107.47	0.90	0.53	37.89	
5,820.00	1.600	182.50	5,605.29	-271.83	-1,073.84	1,107.52	0.87	0.21	32.84	
5,915.00	1.600	225.60	5,700.26	-274.08	-1,074.85	1,109.01	1.24	0.00	45.37	
6,010.00	1.200	248.00	5,795.23	-275.38	-1,076.72	1,111.12	0.71	-0.42	23.58	
6,105.00	1.100	310.10	5,890.21	-275.17	-1,078.34	1,112.65	1.25	-0.11	65.37	
6,200.00	0.900	188.90	5,985.21	-275.32	-1,079.15	1,113.48	1.84	-0.21	-127.58	
6,295.00	0.500	137.20	6,080.20	-276.36	-1,078.99	1,113.55	0.75	-0.42	-54.42	
6,391.00	0.700	135.60	6,176.19	-277.08	-1,078.29	1,113.04	0.21	0.21	-1.67	
6,486.00	0.200	67.40	6,271.19	-277.43	-1,077.73	1,112.58	0.69	-0.53	-71.79	
6,581.00	2.400	3.10	6,366.16	-275.38	-1,077.47	1,111.86	2.44	2.32	-67.68	
6,676.00	1.400	1.10	6,461.11	-272.24	-1,077.34	1,111.02	1.05	-1.05	-2.11	
6,771.00	1.300	24.80	6,556.08	-270.10	-1,076.87	1,110.07	0.59	-0.11	24.95	
6,866.00	0.800	78.30	6,651.07	-268.99	-1,075.77	1,108.74	1.10	-0.53	56.32	
6,962.00	1.200	75.50	6,747.05	-268.60	-1,074.14	1,107.07	0.42	0.42	-2.92	
7,057.00	0.600	135.90	6,842.04	-268.71	-1,072.83	1,105.82	1.10	-0.63	63.58	
7,150.00	1.100	193.80	6,935.04	-269.92	-1,072.70	1,105.97	1.00	0.54	62.26	
7,245.00	1.800	234.60	7,030.01	-271.67	-1,074.13	1,107.76	1.27	0.74	42.95	
7,340.00	1.400	243.30	7,124.97	-273.06	-1,076.39	1,110.27	0.49	-0.42	9.16	
7,435.00	1.600	215.60	7,219.94	-274.66	-1,078.20	1,112.40	0.78	0.21	-29.16	
7,460.00	1.100	209.70	7,244.93	-275.15	-1,078.52	1,112.82	2.07	-2.00	-23.60	
7,510.00	1.100	209.70	7,294.92	-275.98	-1,078.99	1,113.48	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (ft)	Hole Diameter (ft)
818.00	817.99	9 5/8" Csg.		0.80	1.02

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
6,105.00	5,890.21	-275.17	-1,078.34	As of March 8	
7,510.00	7,294.92	-275.98	-1,078.99	Projected TD	

**Sharewell**  
Survey Report

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Kaufman 41A-25-692
<b>Project:</b>	Garfield Co., CO (NAD83)	<b>TVD Reference:</b>	WELL @ 5808.01ft
<b>Site:</b>	Kaufman Pad #4 (Sec.30-T6S-R91W)	<b>MD Reference:</b>	WELL @ 5808.01ft
<b>Well:</b>	Kaufman 41A-25-692	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	CompassVM

Checked By: _____	Approved By: _____	Date: _____
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