



## **Gosney & Sons, Inc.**

**Sec 4-T33N-R7W**

**Kelsall 33-7 Pad 4-33N-7W**

**Kelsall 33-7 #4-4**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**26 April, 2013**

<b>Company:</b>	Gosney & Sons, Inc.	<b>Local Co-ordinate Reference:</b>	Well Kelsall 33-7 #4-4
<b>Project:</b>	Sec 4-T33N-R7W	<b>TVD Reference:</b>	WELL @ 6711.97usft (Original Well Elev)
<b>Site:</b>	Kelsall 33-7 Pad 4-33N-7W	<b>MD Reference:</b>	WELL @ 6711.97usft (Original Well Elev)
<b>Well:</b>	Kelsall 33-7 #4-4	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Sec 4-T33N-R7W		
<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 Southern Zone		

Site		Kelsall 33-7 Pad 4-33N-7W					
Site Position:		Northing:	1,178,278.83	usft	Latitude:	37° 8' 13.644 N	
From:	Map	Easting:	2,383,699.69	usft	Longitude:	107° 36' 51.574 W	
Position Uncertainty:	0.00	usft	Slot Radius:	13-3/16	"	Grid Convergence:	-1.30 °

Well		Kelsall 33-7 #4-4				
Well Position	+N/-S	0.00 usft	Northing:	1,178,178.04 usft	Latitude:	37° 8' 12.650 N
	+E/-W	0.00 usft	Easting:	2,383,713.73 usft	Longitude:	107° 36' 51.373 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,700.98 usft

<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	2013/04/10	9.66	63.79	50,798

<b>Design</b>	Surveys				
<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	139.92	

<b>Survey Program</b>	<b>Date</b>	2013/04/26			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
86.00	3,319.99	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
86.00	1.20	98.80	85.99	-0.14	0.89	0.68	1.40	1.40	0.00	
116.00	1.90	114.80	115.98	-0.39	1.65	1.37	2.72	2.33	53.33	
146.00	2.70	127.40	145.96	-1.03	2.66	2.51	3.14	2.67	42.00	
175.00	3.30	130.50	174.92	-1.99	3.84	4.00	2.14	2.07	10.69	
205.00	3.50	130.70	204.87	-3.15	5.19	5.75	0.67	0.67	0.67	
236.00	3.60	130.20	235.81	-4.39	6.65	7.64	0.34	0.32	-1.61	
266.00	3.60	131.30	265.75	-5.62	8.08	9.50	0.23	0.00	3.67	
297.00	3.50	133.00	296.69	-6.91	9.50	11.41	0.47	-0.32	5.48	
337.00	3.50	132.90	336.61	-8.57	11.29	13.83	0.02	0.00	-0.25	

# Childress Directional Drilling

## Survey Report

<b>Company:</b>	Gosney & Sons, Inc.	<b>Local Co-ordinate Reference:</b>	Well Kelsall 33-7 #4-4
<b>Project:</b>	Sec 4-T33N-R7W	<b>TVD Reference:</b>	WELL @ 6711.97usft (Original Well Elev)
<b>Site:</b>	Kelsall 33-7 Pad 4-33N-7W	<b>MD Reference:</b>	WELL @ 6711.97usft (Original Well Elev)
<b>Well:</b>	Kelsall 33-7 #4-4	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
358.00	3.50	134.50	357.57	-9.46	12.22	15.10	0.47	0.00	7.62
388.00	3.60	130.80	387.51	-10.72	13.58	16.95	0.83	0.33	-12.33
447.00	4.00	131.20	446.38	-13.28	16.53	20.81	0.68	0.68	0.68
502.00	4.80	152.90	501.23	-16.59	19.03	24.95	3.33	1.45	39.45
566.00	5.30	155.70	564.98	-21.67	21.46	30.40	0.87	0.78	4.38
596.00	5.20	156.10	594.85	-24.18	22.58	33.04	0.35	-0.33	1.33
626.00	6.00	152.80	624.71	-26.82	23.85	35.87	2.87	2.67	-11.00
656.00	7.20	148.70	654.51	-29.82	25.54	39.26	4.29	4.00	-13.67
686.00	8.50	143.90	684.23	-33.21	27.83	43.33	4.85	4.33	-16.00
716.00	10.00	140.60	713.84	-37.02	30.79	48.15	5.30	5.00	-11.00
748.00	11.40	139.70	745.28	-41.58	34.60	54.09	4.41	4.38	-2.81
780.00	12.80	142.10	776.57	-46.79	38.82	60.79	4.65	4.38	7.50
812.00	13.90	142.20	807.70	-52.62	43.35	68.18	3.44	3.44	0.31
843.00	14.90	142.20	837.73	-58.71	48.08	75.88	3.23	3.23	0.00
875.00	15.80	142.40	868.59	-65.42	53.26	84.34	2.82	2.81	0.63
907.00	15.70	142.40	899.38	-72.30	58.56	93.02	0.31	-0.31	0.00
939.00	16.60	142.90	930.12	-79.37	63.96	101.91	2.85	2.81	1.56
970.00	16.50	142.90	959.84	-86.42	69.28	110.73	0.32	-0.32	0.00
1,002.00	17.00	141.70	990.48	-93.71	74.92	119.94	1.90	1.56	-3.75
1,033.00	17.10	141.60	1,020.12	-100.84	80.56	129.03	0.34	0.32	-0.32
1,065.00	17.20	141.60	1,050.69	-108.24	86.42	138.46	0.31	0.31	0.00
1,097.00	18.70	138.80	1,081.13	-115.80	92.74	148.32	5.41	4.69	-8.75
1,129.00	18.10	140.60	1,111.50	-123.50	99.28	158.42	2.58	-1.88	5.63
1,160.00	18.90	137.10	1,140.90	-130.90	105.75	168.25	4.41	2.58	-11.29
1,192.00	18.90	136.80	1,171.17	-138.48	112.83	178.60	0.30	0.00	-0.94
1,224.00	19.10	136.20	1,201.43	-146.04	120.00	189.00	0.87	0.63	-1.88
1,255.00	19.30	135.50	1,230.70	-153.35	127.10	199.17	0.98	0.65	-2.26
1,287.00	19.30	134.90	1,260.91	-160.85	134.55	209.71	0.62	0.00	-1.88
1,319.00	18.60	135.10	1,291.17	-168.20	141.90	220.06	2.20	-2.19	0.63
1,381.99	18.40	140.60	1,350.92	-183.00	155.30	240.02	2.79	-0.32	8.73
1,444.99	19.10	140.10	1,410.58	-198.59	168.23	260.27	1.14	1.11	-0.79
1,507.99	19.90	139.60	1,469.96	-214.67	181.79	281.30	1.30	1.27	-0.79
1,571.99	19.90	139.70	1,530.14	-231.27	195.89	303.08	0.05	0.00	0.16
1,634.99	19.50	139.20	1,589.45	-247.41	209.70	324.32	0.69	-0.63	-0.79
1,697.99	19.90	138.80	1,648.76	-263.43	223.63	345.55	0.67	0.63	-0.63
1,761.99	20.00	138.20	1,708.92	-279.79	238.10	367.38	0.36	0.16	-0.94
1,824.99	19.90	137.30	1,768.14	-295.70	252.55	388.86	0.51	-0.16	-1.43
1,887.99	19.50	137.90	1,827.46	-311.38	266.87	410.08	0.71	-0.63	0.95
1,951.99	19.10	138.40	1,887.86	-327.14	280.99	431.22	0.68	-0.63	0.78
2,014.99	19.60	137.90	1,947.30	-342.68	294.91	452.09	0.84	0.79	-0.79
2,077.99	20.00	138.80	2,006.57	-358.63	309.10	473.42	0.80	0.63	1.43
2,141.99	20.60	140.10	2,066.60	-375.50	323.53	495.62	1.17	0.94	2.03
2,204.99	20.50	140.30	2,125.59	-392.49	337.68	517.73	0.19	-0.16	0.32
2,268.99	20.00	140.00	2,185.63	-409.50	351.88	539.89	0.80	-0.78	-0.47

# Childress Directional Drilling

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
2,331.99	19.80	140.10	2,244.87	-425.94	365.65	561.33	0.32	-0.32	0.16	
2,393.99	20.10	141.20	2,303.15	-442.30	379.06	582.48	0.77	0.48	1.77	
2,457.99	21.40	140.40	2,363.00	-459.86	393.39	605.15	2.08	2.03	-1.25	
2,520.99	21.40	140.40	2,421.65	-477.58	408.04	628.14	0.00	0.00	0.00	
2,583.99	21.00	139.70	2,480.39	-495.04	422.67	650.92	0.75	-0.63	-1.11	
2,647.99	20.40	139.10	2,540.26	-512.22	437.39	673.54	0.99	-0.94	-0.94	
2,710.99	20.20	139.50	2,599.35	-528.79	451.64	695.40	0.39	-0.32	0.63	
2,774.99	19.50	139.10	2,659.54	-545.27	465.81	717.13	1.11	-1.09	-0.63	
2,837.99	19.80	138.90	2,718.87	-561.25	479.71	738.31	0.49	0.48	-0.32	
2,869.99	20.70	140.50	2,748.90	-569.70	486.87	749.38	3.30	2.81	5.00	
2,900.99	20.30	140.30	2,777.93	-578.07	493.79	760.24	1.31	-1.29	-0.65	
2,924.48	19.93	139.79	2,799.99	-584.26	498.98	768.32	1.74	-1.58	-2.17	
2,932.99	19.80	139.60	2,807.99	-586.47	500.85	771.21	1.71	-1.53	-2.23	
2,996.99	20.30	145.20	2,868.12	-603.84	514.21	793.11	3.10	0.78	8.75	
3,027.99	20.70	145.30	2,897.16	-612.76	520.40	803.91	1.30	1.29	0.32	
3,059.99	21.60	145.20	2,927.00	-622.24	526.98	815.41	2.81	2.81	-0.31	
3,090.99	22.70	145.00	2,955.71	-631.83	533.67	827.05	3.56	3.55	-0.65	
3,122.99	22.20	143.90	2,985.29	-641.77	540.78	839.23	2.04	-1.56	-3.44	
3,153.99	23.10	143.10	3,013.90	-651.37	547.88	851.15	3.07	2.90	-2.58	
3,185.99	23.30	142.70	3,043.31	-661.42	555.48	863.74	0.80	0.63	-1.25	
3,217.99	23.50	138.40	3,072.68	-671.23	563.55	876.44	5.37	0.63	-13.44	
3,249.99	23.30	138.70	3,102.05	-680.75	571.97	889.14	0.73	-0.63	0.94	
3,271.99	23.10	138.50	3,122.27	-687.26	577.70	897.80	0.98	-0.91	-0.91	
3,319.99	22.80	138.20	3,166.47	-701.24	590.14	916.51	0.67	-0.63	-0.63	
Proj. to Bit - 1918.56' FNL & 2095.44' FEL										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3,319.99	3,166.47	-701.24	590.14	Proj. to Bit - 1918.56' FNL & 2095.44' FEL	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_