



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

**Sec 4-T33N-R7W**

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

**Kelsall 33-7 #4-3**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**12 April, 2013**

<b>Company:</b>	Gosney & Sons, Inc.	<b>Local Co-ordinate Reference:</b>	Well Kelsall 33-7 #4-3
<b>Project:</b>	Sec 4-T33N-R7W	<b>TVD Reference:</b>	WELL @ 6712.00ft (Original Well Elev)
<b>Site:</b>	Kelsall 33-7 Pad 4-33N-7W	<b>MD Reference:</b>	WELL @ 6712.00ft (Original Well Elev)
<b>Well:</b>	Kelsall 33-7 #4-3	<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:	1,178,283.23 ft	Latitude:	37.1371232
From:	Map	Easting:	2,383,708.58 ft	Longitude:	-107.6143262
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.30 °

Well	Kelsall 33-7 #4-3					
Well Position	+N/-S	0.00 ft	Northing:	1,178,201.03 ft	Latitude:	37.1368973
	+E/-W	0.00 ft	Easting:	2,383,705.55 ft	Longitude:	-107.6143302
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,701.00 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	04/10/13	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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	244.16	

<b>Survey Program</b>	<b>Date</b>	04/12/13			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
554.00	3,900.00	Survey #1 (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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
554.00	0.00	0.00	554.00	0.00	0.00	0.00	0.00	0.00	0.00	
566.00	1.20	347.20	566.00	0.12	-0.03	-0.03	10.00	10.00	0.00	
598.00	1.10	346.00	597.99	0.75	-0.18	-0.17	0.32	-0.31	-3.75	
628.00	2.00	290.50	627.98	1.21	-0.74	0.14	5.49	3.00	-185.00	
658.00	4.30	247.40	657.94	0.96	-2.27	1.62	10.50	7.67	-143.67	
688.00	7.10	268.40	687.79	0.48	-5.16	4.43	11.49	9.33	70.00	
718.00	9.80	270.30	717.46	0.44	-9.57	8.42	9.05	9.00	6.33	
750.00	11.30	268.60	748.92	0.38	-15.42	13.72	4.79	4.69	-5.31	
782.00	12.70	261.30	780.22	-0.23	-22.04	19.93	6.44	4.38	-22.81	

<b>Company:</b>	Gosney & Sons, Inc.	<b>Local Co-ordinate Reference:</b>	Well Kelsall 33-7 #4-3
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<b>Site:</b>	Kelsall 33-7 Pad 4-33N-7W	<b>MD Reference:</b>	WELL @ 6712.00ft (Original Well Elev)
<b>Well:</b>	Kelsall 33-7 #4-3	<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 (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
814.00	13.80	252.60	811.37	-1.91	-29.15	27.07	7.11	3.44	-27.19
845.00	15.60	249.10	841.36	-4.50	-36.58	34.88	6.47	5.81	-11.29
877.00	17.10	245.10	872.06	-8.01	-44.87	43.87	5.86	4.69	-12.50
909.00	18.90	244.30	902.50	-12.24	-53.80	53.76	5.68	5.63	-2.50
940.00	20.50	245.50	931.68	-16.67	-63.27	64.21	5.32	5.16	3.87
972.00	22.60	245.80	961.44	-21.52	-73.98	75.96	6.57	6.56	0.94
1,004.00	24.30	244.30	990.80	-26.89	-85.52	88.69	5.63	5.31	-4.69
1,035.00	25.90	242.60	1,018.87	-32.78	-97.28	101.84	5.66	5.16	-5.48
1,067.00	27.80	240.60	1,047.42	-39.66	-109.98	116.27	6.57	5.94	-6.25
1,099.00	30.10	238.30	1,075.42	-47.54	-123.32	131.71	7.98	7.19	-7.19
1,130.00	32.20	239.50	1,101.95	-55.81	-137.05	147.67	7.06	6.77	3.87
1,162.00	34.00	239.70	1,128.76	-64.66	-152.12	165.09	5.64	5.63	0.63
1,194.00	35.80	240.70	1,155.00	-73.75	-168.01	183.36	5.90	5.63	3.13
1,226.00	37.80	241.70	1,180.62	-82.98	-184.81	202.50	6.52	6.25	3.13
1,257.00	39.80	242.40	1,204.78	-92.08	-201.97	221.91	6.60	6.45	2.26
1,289.00	41.30	241.90	1,229.09	-101.80	-220.36	242.70	4.80	4.69	-1.56
1,321.00	41.50	242.20	1,253.10	-111.72	-239.05	263.85	0.88	0.63	0.94
1,352.00	41.30	241.80	1,276.35	-121.35	-257.15	284.33	1.07	-0.65	-1.29
1,383.00	41.10	241.00	1,299.68	-131.12	-275.08	304.73	1.82	-0.65	-2.58
1,414.00	40.90	242.50	1,323.07	-140.75	-292.99	325.05	3.24	-0.65	4.84
1,446.00	40.90	244.10	1,347.26	-150.16	-311.71	345.99	3.27	0.00	5.00
1,477.00	40.80	243.60	1,370.71	-159.10	-329.91	366.27	1.10	-0.32	-1.61
1,509.00	40.70	244.10	1,394.95	-168.30	-348.66	387.16	1.07	-0.31	1.56
1,540.00	41.10	244.90	1,418.38	-177.04	-366.98	407.45	2.13	1.29	2.58
1,572.00	40.90	244.90	1,442.54	-185.94	-385.99	428.45	0.63	-0.63	0.00
1,604.00	40.80	245.80	1,466.74	-194.67	-405.02	449.37	1.87	-0.31	2.81
1,636.00	41.70	245.40	1,490.80	-203.39	-424.23	470.46	2.93	2.81	-1.25
1,667.00	41.30	245.50	1,514.02	-211.93	-442.91	491.00	1.31	-1.29	0.32
1,699.00	41.00	245.10	1,538.11	-220.72	-462.04	512.05	1.25	-0.94	-1.25
1,731.00	40.50	245.40	1,562.35	-229.47	-481.01	532.94	1.68	-1.56	0.94
1,762.00	40.90	245.90	1,585.86	-237.80	-499.43	553.14	1.66	1.29	1.61
1,794.00	40.50	246.30	1,610.12	-246.26	-518.51	574.00	1.49	-1.25	1.25
1,826.00	41.20	244.10	1,634.32	-255.04	-537.50	594.92	5.00	2.19	-6.88
1,857.00	41.50	246.20	1,657.60	-263.64	-556.09	615.40	4.58	0.97	6.77
1,889.00	42.10	246.90	1,681.45	-272.13	-575.65	636.71	2.38	1.88	2.19
1,921.00	42.20	243.50	1,705.18	-281.14	-595.14	658.17	7.14	0.31	-10.63
1,953.00	42.20	247.50	1,728.89	-290.05	-614.69	679.65	8.40	0.00	12.50
1,984.00	42.30	246.90	1,751.84	-298.12	-633.91	700.47	1.34	0.32	-1.94
2,016.00	42.00	244.00	1,775.56	-307.04	-653.44	721.93	6.15	-0.94	-9.06
2,079.00	41.80	244.70	1,822.45	-325.26	-691.36	764.00	0.81	-0.32	1.11
2,111.00	41.80	243.30	1,846.31	-334.60	-710.53	785.33	2.92	0.00	-4.38
2,143.00	41.20	243.60	1,870.28	-344.08	-729.50	806.53	1.98	-1.88	0.94
2,175.00	40.80	240.20	1,894.43	-353.97	-748.02	827.50	7.08	-1.25	-10.63
2,238.00	40.50	241.00	1,942.23	-374.11	-783.77	868.46	0.95	-0.48	1.27

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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 (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
2,270.00	39.90	240.60	1,966.67	-384.19	-801.80	889.08	2.04	-1.88	-1.25	
2,301.00	40.90	240.30	1,990.28	-394.10	-819.28	909.13	3.29	3.23	-0.97	
2,364.00	42.20	242.90	2,037.43	-413.96	-856.03	950.87	3.43	2.06	4.13	
2,396.00	41.80	243.50	2,061.21	-423.61	-875.14	972.28	1.77	-1.25	1.88	
2,427.00	41.20	244.20	2,084.43	-432.67	-893.58	992.82	2.45	-1.94	2.26	
2,459.00	41.20	244.00	2,108.50	-441.87	-912.54	1,013.90	0.41	0.00	-0.63	
2,491.00	41.20	245.00	2,132.58	-450.95	-931.57	1,034.97	2.06	0.00	3.13	
2,522.00	40.90	243.90	2,155.96	-459.73	-949.93	1,055.33	2.52	-0.97	-3.55	
2,554.00	40.70	244.20	2,180.18	-468.88	-968.74	1,076.24	0.88	-0.63	0.94	
2,586.00	40.30	244.90	2,204.52	-477.81	-987.50	1,097.02	1.89	-1.25	2.19	
2,618.00	40.10	246.30	2,228.96	-486.34	-1,006.31	1,117.67	2.89	-0.63	4.38	
2,649.00	41.00	246.50	2,252.51	-494.41	-1,024.78	1,137.81	2.93	2.90	0.65	
2,681.00	40.80	246.60	2,276.70	-502.75	-1,044.00	1,158.74	0.66	-0.63	0.31	
2,713.00	40.60	247.50	2,300.96	-510.88	-1,063.21	1,179.58	1.94	-0.63	2.81	
2,744.00	41.20	246.90	2,324.39	-518.75	-1,081.92	1,199.85	2.31	1.94	-1.94	
2,776.00	40.70	247.50	2,348.56	-526.88	-1,101.26	1,220.79	1.99	-1.56	1.88	
2,808.00	40.30	246.80	2,372.90	-534.95	-1,120.41	1,241.55	1.89	-1.25	-2.19	
2,839.00	40.80	246.50	2,396.45	-542.93	-1,138.91	1,261.68	1.73	1.61	-0.97	
2,871.00	40.50	246.70	2,420.73	-551.21	-1,158.04	1,282.51	1.02	-0.94	0.63	
2,903.00	41.20	246.10	2,444.93	-559.59	-1,177.22	1,303.42	2.51	2.19	-1.88	
2,934.00	41.50	246.10	2,468.21	-567.89	-1,195.95	1,323.89	0.97	0.97	0.00	
2,966.00	41.50	245.00	2,492.17	-576.67	-1,215.25	1,345.09	2.28	0.00	-3.44	
2,998.00	41.90	244.20	2,516.06	-585.80	-1,234.48	1,366.37	2.08	1.25	-2.50	
3,029.00	41.60	243.90	2,539.19	-594.83	-1,253.04	1,387.02	1.16	-0.97	-0.97	
3,061.00	41.80	243.60	2,563.09	-604.25	-1,272.13	1,408.30	0.88	0.63	-0.94	
3,093.00	41.90	243.80	2,586.92	-613.70	-1,291.27	1,429.65	0.52	0.31	0.63	
3,124.00	41.40	243.50	2,610.09	-622.85	-1,309.73	1,450.25	1.74	-1.61	-0.97	
3,156.00	41.40	243.60	2,634.09	-632.27	-1,328.68	1,471.41	0.21	0.00	0.31	
3,188.00	41.20	243.30	2,658.13	-641.71	-1,347.57	1,492.53	0.88	-0.63	-0.94	
3,220.00	41.50	243.10	2,682.15	-651.25	-1,366.44	1,513.67	1.02	0.94	-0.63	
3,251.00	41.50	243.30	2,705.37	-660.51	-1,384.78	1,534.21	0.43	0.00	0.65	
3,283.00	40.80	243.30	2,729.46	-669.97	-1,403.59	1,555.26	2.19	-2.19	0.00	
3,315.00	41.10	243.90	2,753.63	-679.29	-1,422.37	1,576.23	1.55	0.94	1.88	
3,347.00	41.20	244.30	2,777.73	-688.49	-1,441.32	1,597.29	0.88	0.31	1.25	
3,376.45	40.53	244.96	2,800.00	-696.75	-1,458.73	1,616.56	2.70	-2.26	2.26	
Top of Coal										
3,378.00	40.50	245.00	2,801.18	-697.17	-1,459.64	1,617.57	2.70	-2.25	2.29	
3,410.00	41.00	245.60	2,825.42	-705.90	-1,478.62	1,638.45	1.98	1.56	1.88	
3,441.00	40.30	245.40	2,848.94	-714.28	-1,496.99	1,658.64	2.30	-2.26	-0.65	
3,473.00	40.70	244.60	2,873.27	-723.06	-1,515.83	1,679.42	2.05	1.25	-2.50	
3,505.00	40.50	244.90	2,897.57	-731.94	-1,534.66	1,700.24	0.87	-0.63	0.94	
3,536.00	40.80	244.70	2,921.09	-740.54	-1,552.93	1,720.44	1.06	0.97	-0.65	
3,568.00	40.80	244.00	2,945.31	-749.59	-1,571.78	1,741.35	1.43	0.00	-2.19	

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<b>Well:</b>	Kelsall 33-7 #4-3	<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 (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,600.00	40.00	244.20	2,969.68	-758.65	-1,590.44	1,762.08	2.53	-2.50	0.63	
3,631.00	40.80	244.70	2,993.29	-767.32	-1,608.57	1,782.18	2.78	2.58	1.61	
3,662.00	41.90	245.60	3,016.56	-775.92	-1,627.15	1,802.65	4.03	3.55	2.90	
3,694.00	42.00	245.50	3,040.36	-784.78	-1,646.62	1,824.04	0.38	0.31	-0.31	
3,726.00	41.60	244.00	3,064.22	-793.87	-1,665.91	1,845.36	3.37	-1.25	-4.69	
3,757.00	41.40	243.60	3,087.43	-802.94	-1,684.34	1,865.90	1.07	-0.65	-1.29	
3,789.00	40.50	243.90	3,111.60	-812.22	-1,703.15	1,886.88	2.88	-2.81	0.94	
3,821.00	40.30	243.40	3,135.97	-821.42	-1,721.74	1,907.62	1.19	-0.63	-1.56	
3,852.00	39.90	243.30	3,159.68	-830.38	-1,739.59	1,927.58	1.31	-1.29	-0.32	
3,900.00	39.90	243.30	3,196.51	-844.21	-1,767.09	1,958.37	0.00	0.00	0.00	
Ext. to Bit - 1955.91' FNL & 784.91' FWL										

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,376.45	2,800.00	Top of Coal		0.00	

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
3,376.45	2,800.00	-696.75	-1,458.73	Top of Coal	
3,900.00	3,196.51	-844.21	-1,767.09	Ext. to Bit - 1955.91' FNL & 784.91' FWL	

Checked By: _____	Approved By: _____	Date: _____
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