



123 Robert S. Kerr Ave.
Oklahoma City, OK 73102

Survey LILLIAN 3206 1-32H

Step #1 - Create a Deviation Survey

Step

#2 - Attach the survey "Description" to the Wellbore - Deviation Survey

Wellbores - Step #2

Actual Deviation Survey	Wellbore Name
Wireline, Proposed? No	Original Hole

Deviation Surveys - Step #1

Description	Date	VS Dir (°)	Comment
Wireline	7/8/2012		

Tie-in Data

Azimuth North Type	Convergence (°)	Declination (°)	MD Tie In (ftKB)	Azimuth Tie In (°)	Inclination Tie In (°)	TVDTie In (ftKB)	NSTie In (ft)	EWTie In (ft)
		0.75						

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
250	0.8	357.60	Rig	Incl	250	2	1.63	-0.07	0.30
520	1.0	357.60	Rig	Incl	520	6	5.75	-0.24	0.09
720	1.0	357.60	Rig	Incl	720	9	9.15	-0.38	0.03
934	0.9	357.60	Rig	Incl	934	13	12.61	-0.53	0.02
1,410	1.2	5.90	DrillRight	Incl	1,410	21	21.30	-0.17	0.07
1,887	0.8	327.70	DrillRight	Incl	1,887	29	29.08	-1.44	0.16
2,363	0.1	346.30	DrillRight	Incl	2,363	32	32.29	-3.31	0.15
2,363	0.1	346.30	DrillRight	Incl	2,363	32	32.29	-3.31	0.15
2,839	1.5	260.70	DrillRight	Incl	2,839	32	31.69	-9.56	0.31
3,315	1.3	228.10	DrillRight	Incl	3,315	27	27.08	-19.73	0.17
3,557	1.1	228.00	DrillRight	Incl	3,556	24	23.69	-23.50	0.08
3,569	1.2	227.70	DrillRight	Incl	3,568	24	23.53	-23.67	0.83
3,601	0.7	247.50	DrillRight	Incl	3,600	24	23.23	-24.10	1.85
3,633	1.7	342.40	DrillRight	Incl	3,632	24	23.61	-24.43	5.92
3,664	4.3	354.70	DrillRight	Incl	3,663	25	25.20	-24.67	8.59
3,696	7.0	354.30	DrillRight	Incl	3,695	29	28.34	-24.98	8.44
3,728	9.2	356.50	DrillRight	Incl	3,727	33	32.83	-25.33	6.94
3,760	11.5	358.30	DrillRight	Incl	3,758	39	38.57	-25.58	7.26
3,791	13.4	359.70	DrillRight	Incl	3,789	46	45.26	-25.69	6.21
3,823	15.1	0.20	DrillRight	Incl	3,820	53	53.13	-25.69	5.33
3,855	16.8	359.20	DrillRight	Incl	3,850	62	61.93	-25.74	5.38
3,887	18.8	358.90	DrillRight	Incl	3,881	72	71.71	-25.91	6.26
3,918	21.2	358.80	DrillRight	Incl	3,910	83	82.31	-26.12	7.74
3,950	24.1	359.60	DrillRight	Incl	3,940	95	94.63	-26.29	9.11
3,982	26.6	359.80	DrillRight	Incl	3,969	109	108.33	-26.36	7.82
4,014	29.0	0.90	DrillRight	Incl	3,997	124	123.25	-26.26	7.67
4,045	31.7	1.90	DrillRight	Incl	4,024	139	138.90	-25.87	8.86
4,077	34.1	1.80	DrillRight	Incl	4,050	157	156.28	-25.31	7.50
4,109	36.3	1.80	DrillRight	Incl	4,077	175	174.71	-24.73	6.87
4,141	38.6	2.10	DrillRight	Incl	4,102	194	194.16	-24.07	7.21
4,172	40.9	2.30	DrillRight	Incl	4,126	214	213.96	-23.31	7.43
4,204	43.1	2.20	DrillRight	Incl	4,150	236	235.36	-22.47	6.88
4,236	45.9	2.60	DrillRight	Incl	4,172	258	257.77	-21.53	8.79
4,268	48.1	2.40	DrillRight	Incl	4,194	281	281.14	-20.51	6.89
4,299	49.7	2.60	DrillRight	Incl	4,215	305	304.48	-19.49	5.18
4,331	49.7	2.60	DrillRight	Incl	4,235	329	328.86	-18.38	0.00
4,395	49.0	2.20	DrillRight	Incl	4,277	378	377.38	-16.35	1.19
4,458	48.3	2.00	DrillRight	Incl	4,319	425	424.64	-14.61	1.14
4,490	47.8	2.10	DrillRight	Incl	4,340	449	448.42	-13.76	1.58
4,522	48.3	2.20	DrillRight	Incl	4,361	472	472.20	-12.87	1.58
4,553	50.9	2.10	DrillRight	Incl	4,382	496	495.79	-11.98	8.39
4,585	53.5	2.10	DrillRight	Incl	4,401	521	521.06	-11.06	8.12
4,617	56.7	2.10	DrillRight	Incl	4,419	547	547.28	-10.10	10.00
4,649	59.8	2.60	DrillRight	Incl	4,436	575	574.47	-8.98	9.78
4,680	63.4	2.30	DrillRight	Incl	4,451	602	601.71	-7.81	11.64



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Survey Data									
MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
4,712	66.6	2.20	DrillRight	Incl	4,465	631	630.68	-6.68	10.00
4,744	70.1	1.70	DrillRight	Incl	4,476	660	660.40	-5.67	11.03
4,776	73.6	1.00	DrillRight	Incl	4,486	691	690.80	-4.95	11.13
4,807	77.5	0.60	DrillRight	Incl	4,494	721	720.81	-4.53	12.64
4,839	81.1	0.10	DrillRight	Incl	4,500	752	752.25	-4.34	11.35
4,871	84.9	359.60	DrillRight	Incl	4,504	784	784.00	-4.43	11.98
4,903	88.8	359.10	DrillRight	Incl	4,506	816	815.95	-4.79	12.29
4,926	90.4	358.70	DrillRight	Incl	4,506	839	838.94	-5.23	7.17
4,970	90.2	357.80	DrillRight	Incl	4,506	883	882.92	-6.57	2.10
5,031	90.9	357.40	DrillRight	Incl	4,505	944	943.86	-9.13	1.32
5,093	92.7	358.30	DrillRight	Incl	4,503	1,006	1,005.78	-11.45	3.25
5,153	93.4	358.20	DrillRight	Incl	4,500	1,066	1,065.67	-13.28	1.18
5,215	94.1	357.90	DrillRight	Incl	4,496	1,128	1,127.50	-15.39	1.23
5,276	93.6	357.50	DrillRight	Incl	4,492	1,188	1,188.31	-17.83	1.05
5,370	93.2	358.20	DrillRight	Incl	4,486	1,282	1,282.08	-21.35	0.86
5,465	92.6	359.00	DrillRight	Incl	4,481	1,377	1,376.93	-23.67	1.05
5,560	92.1	359.10	DrillRight	Incl	4,477	1,472	1,471.84	-25.24	0.54
5,655	90.6	359.70	DrillRight	Incl	4,475	1,567	1,566.80	-26.24	1.70
5,750	90.5	359.70	DrillRight	Incl	4,474	1,662	1,661.80	-26.73	0.11
5,845	90.8	359.00	DrillRight	Incl	4,473	1,757	1,756.78	-27.81	0.80
5,940	91.5	359.00	DrillRight	Incl	4,471	1,852	1,851.75	-29.47	0.74
6,036	91.2	359.80	DrillRight	Incl	4,469	1,948	1,947.72	-30.47	0.89
6,131	89.0	358.20	DrillRight	Incl	4,469	2,043	2,042.69	-32.13	2.86
6,226	89.1	359.80	DrillRight	Incl	4,470	2,138	2,137.66	-33.79	1.69
6,321	88.5	360.00	DrillRight	Incl	4,472	2,233	2,232.64	-33.95	0.67
6,416	89.9	1.00	DrillRight	Incl	4,474	2,328	2,327.63	-33.13	1.81
6,511	91.2	1.50	DrillRight	Incl	4,473	2,423	2,422.60	-31.05	1.47
6,607	92.2	360.00	DrillRight	Incl	4,470	2,519	2,518.54	-29.80	1.88
6,638	90.9	359.90	DrillRight	Incl	4,469	2,550	2,549.53	-29.82	4.21
6,702	91.6	359.50	DrillRight	Incl	4,468	2,614	2,613.51	-30.16	1.26
6,797	91.3	359.50	DrillRight	Incl	4,465	2,709	2,708.48	-30.99	0.32
6,893	90.5	358.90	DrillRight	Incl	4,464	2,805	2,804.46	-32.33	1.04
6,987	90.0	358.30	DrillRight	Incl	4,463	2,899	2,898.43	-34.62	0.83
7,082	90.2	357.60	DrillRight	Incl	4,463	2,994	2,993.37	-38.02	0.77
7,177	90.2	357.50	DrillRight	Incl	4,463	3,089	3,088.28	-42.08	0.11
7,237	91.0	358.40	DrillRight	Incl	4,462	3,149	3,148.23	-44.23	2.01
7,300	90.8	359.80	DrillRight	Incl	4,461	3,212	3,211.22	-45.22	2.24
7,395	89.9	360.00	DrillRight	Incl	4,461	3,307	3,306.21	-45.39	0.97
7,490	89.3	359.50	DrillRight	Incl	4,461	3,402	3,401.21	-45.80	0.82
7,585	90.7	359.90	DrillRight	Incl	4,461	3,497	3,496.21	-46.30	1.53
7,712	90.8	0.40	DrillRight	Incl	4,460	3,623	3,623.20	-45.97	0.40
7,806	90.2	0.50	DrillRight	Incl	4,459	3,717	3,717.19	-45.23	0.65
7,901	90.4	0.20	DrillRight	Incl	4,458	3,812	3,812.19	-44.65	0.38
7,996	89.9	359.60	DrillRight	Incl	4,458	3,907	3,907.18	-44.81	0.82
8,092	90.5	359.20	DrillRight	Incl	4,458	4,003	4,003.18	-45.82	0.75
8,187	89.4	359.60	DrillRight	Incl	4,458	4,098	4,098.17	-46.81	1.23
8,282	89.3	359.70	DrillRight	Incl	4,459	4,193	4,193.16	-47.39	0.15
8,377	90.4	359.50	DrillRight	Incl	4,459	4,288	4,288.16	-48.06	1.18
8,472	89.4	359.00	DrillRight	Incl	4,459	4,383	4,383.15	-49.30	1.18
8,567	89.8	358.90	DrillRight	Incl	4,460	4,478	4,478.13	-51.04	0.43
8,662	91.4	0.10	DrillRight	Incl	4,459	4,573	4,573.12	-51.87	2.11