



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

Survey COOPER 3305 1-27H

Step #1 - Create a Deviation Survey

Step

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

Wellbores - Step #2

Actual Deviation Survey Cooper 3305 1-27H, Proposed? No	Wellbore Name Original Hole
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Deviation Surveys - Step #1

Description Cooper 3305 1-27H	Date 9/11/2012	VS Dir (°) 179.34	Comment
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Tie-in Data

Azimuth North Type Grid	Convergence (°) 0.00	Declination (°) 4.12	MD Tie In (ftKB) 0.00	Azimuth Tie In (°) 0.00	Inclination Tie In (°) 0.00	TVD Tie In (ftKB) 0.00	NSTie In (ft) 0.00	EWTie In (ft) 0.00
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Survey Data

MD (ftKB)	Incl (°)	Azim (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (*/100ft)
823	0.2	181.91	Baker Hughes INTEQ	MWD	823	1	-1.36	-0.05	0.02
915	0.1	328.14	Baker Hughes INTEQ	MWD	915	1	-1.44	-0.10	0.31
1,374	0.3	163.15	Baker Hughes INTEQ	MWD	1,374	2	-2.33	0.05	0.10
1,834	0.2	275.99	Baker Hughes INTEQ	MWD	1,834	4	-3.51	-0.44	0.10
2,310	0.4	275.95	Baker Hughes INTEQ	MWD	2,310	3	-3.26	-2.80	0.03
2,404	0.5	167.49	Baker Hughes INTEQ	MWD	2,404	4	-3.65	-2.99	0.76
2,499	0.4	359.94	Baker Hughes INTEQ	MWD	2,499	4	-3.70	-2.90	1.00
2,594	0.1	12.74	Baker Hughes INTEQ	MWD	2,594	3	-3.27	-2.88	0.37
2,689	0.7	310.72	Baker Hughes INTEQ	MWD	2,689	3	-2.82	-3.30	0.69
2,784	0.2	87.30	Baker Hughes INTEQ	MWD	2,784	2	-2.44	-3.61	0.85
2,878	0.4	252.75	Baker Hughes INTEQ	MWD	2,878	2	-2.53	-3.79	0.57
2,973	0.7	250.59	Baker Hughes INTEQ	MWD	2,973	3	-2.83	-4.66	0.35
3,068	0.4	100.91	Baker Hughes INTEQ	MWD	3,068	3	-3.09	-4.87	1.18
3,163	0.2	216.50	Baker Hughes INTEQ	MWD	3,163	3	-3.29	-4.60	0.58
3,258	0.3	121.26	Baker Hughes INTEQ	MWD	3,258	3	-3.53	-4.51	0.35
3,448	0.3	284.92	Baker Hughes INTEQ	MWD	3,448	4	-3.62	-4.62	0.29
3,511	0.3	214.44	Baker Hughes INTEQ	MWD	3,511	4	-3.70	-4.86	0.52
3,574	3.5	184.13	Baker Hughes INTEQ	MWD	3,574	6	-5.73	-5.08	5.19
3,605	6.7	181.59	Baker Hughes INTEQ	MWD	3,605	8	-8.47	-5.20	10.28
3,637	9.1	181.11	Baker Hughes INTEQ	MWD	3,636	13	-12.86	-5.30	7.60
3,668	11.8	181.95	Baker Hughes INTEQ	MWD	3,667	18	-18.48	-5.46	8.79
3,700	13.5	181.36	Baker Hughes INTEQ	MWD	3,698	25	-25.50	-5.66	5.30
3,731	14.7	178.44	Baker Hughes INTEQ	MWD	3,728	33	-33.06	-5.63	4.58
3,762	17.8	175.72	Baker Hughes INTEQ	MWD	3,758	42	-41.73	-5.17	10.14
3,794	20.9	174.81	Baker Hughes INTEQ	MWD	3,788	52	-52.30	-4.29	9.86
3,825	24.3	174.75	Baker Hughes INTEQ	MWD	3,817	64	-64.17	-3.21	10.90
3,857	24.7	175.37	Baker Hughes INTEQ	MWD	3,846	77	-77.40	-2.06	1.57
3,889	24.7	175.39	Baker Hughes INTEQ	MWD	3,875	91	-90.74	-0.99	0.13
3,920	25.2	175.75	Baker Hughes INTEQ	MWD	3,903	104	-103.78	0.02	1.75
3,952	26.7	175.93	Baker Hughes INTEQ	MWD	3,932	118	-117.74	1.04	4.48
3,984	27.7	176.02	Baker Hughes INTEQ	MWD	3,960	132	-132.33	2.07	3.41
4,015	28.2	175.89	Baker Hughes INTEQ	MWD	3,988	147	-146.82	3.09	1.37
4,047	29.2	175.63	Baker Hughes INTEQ	MWD	4,016	162	-162.15	4.23	3.40
4,079	30.8	175.98	Baker Hughes INTEQ	MWD	4,044	178	-178.11	5.40	4.84
4,111	32.8	176.49	Baker Hughes INTEQ	MWD	4,071	195	-194.93	6.50	6.43
4,142	34.3	176.18	Baker Hughes INTEQ	MWD	4,097	212	-212.03	7.60	4.74
4,174	36.5	175.54	Baker Hughes INTEQ	MWD	4,123	231	-230.51	8.94	6.94
4,206	39.1	174.87	Baker Hughes INTEQ	MWD	4,148	250	-250.03	10.58	8.19
4,237	42.1	174.63	Baker Hughes INTEQ	MWD	4,171	270	-270.12	12.43	9.92
4,269	43.7	174.40	Baker Hughes INTEQ	MWD	4,195	292	-291.80	14.51	4.78
4,300	45.5	174.99	Baker Hughes INTEQ	MWD	4,217	314	-313.46	16.52	6.18
4,332	48.5	176.34	Baker Hughes INTEQ	MWD	4,239	337	-336.80	18.28	9.81
4,364	50.5	177.50	Baker Hughes INTEQ	MWD	4,260	361	-361.09	19.58	6.74
4,395	51.0	178.14	Baker Hughes INTEQ	MWD	4,279	385	-385.07	20.50	2.27
4,427	51.3	177.73	Baker Hughes INTEQ	MWD	4,299	410	-409.97	21.39	1.39



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Step #1 - Create a Deviation Survey

Step

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

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
4,459	51.7	178.06	Baker Hughes INTEQ	MWD	4,319	435	-434.98	22.31	1.49
4,522	53.7	178.32	Baker Hughes INTEQ	MWD	4,357	485	-485.08	23.90	3.29
4,554	56.9	178.87	Baker Hughes INTEQ	MWD	4,376	512	-511.38	24.54	9.94
4,586	60.0	180.16	Baker Hughes INTEQ	MWD	4,392	539	-538.65	24.76	10.43
4,617	63.4	181.06	Baker Hughes INTEQ	MWD	4,407	566	-565.94	24.47	11.14
4,649	66.8	181.51	Baker Hughes INTEQ	MWD	4,420	595	-594.96	23.82	10.79
4,681	70.0	181.55	Baker Hughes INTEQ	MWD	4,432	625	-624.71	23.02	10.00
4,712	73.7	181.39	Baker Hughes INTEQ	MWD	4,442	654	-654.15	22.27	11.72
4,744	77.0	181.02	Baker Hughes INTEQ	MWD	4,450	685	-685.09	21.62	10.34
4,776	80.0	180.34	Baker Hughes INTEQ	MWD	4,456	717	-716.44	21.25	9.76
4,807	82.5	180.64	Baker Hughes INTEQ	MWD	4,461	747	-747.07	20.98	8.06
4,839	85.0	181.21	Baker Hughes INTEQ	MWD	4,465	779	-778.88	20.47	8.10
4,871	87.5	181.76	Baker Hughes INTEQ	MWD	4,467	811	-810.79	19.64	7.91
4,938	88.9	182.23	Baker Hughes INTEQ	MWD	4,469	878	-877.72	17.31	2.29
4,970	87.9	182.35	Baker Hughes INTEQ	MWD	4,470	910	-909.68	16.03	3.24
5,033	87.6	182.88	Baker Hughes INTEQ	MWD	4,472	973	-972.57	13.16	0.95
5,128	90.8	182.37	Baker Hughes INTEQ	MWD	4,473	1,067	-1,067.45	8.81	3.41
5,192	87.9	182.12	Baker Hughes INTEQ	MWD	4,474	1,131	-1,131.39	6.30	4.59
5,255	88.6	182.17	Baker Hughes INTEQ	MWD	4,476	1,194	-1,194.31	3.95	1.08
5,318	88.8	182.04	Baker Hughes INTEQ	MWD	4,477	1,257	-1,257.25	1.63	0.41
5,381	89.4	181.90	Baker Hughes INTEQ	MWD	4,479	1,320	-1,320.21	-0.53	0.90
5,444	89.9	181.93	Baker Hughes INTEQ	MWD	4,479	1,383	-1,383.17	-2.64	0.80
5,507	89.8	181.63	Baker Hughes INTEQ	MWD	4,479	1,446	-1,446.14	-4.59	0.50
5,570	89.4	181.02	Baker Hughes INTEQ	MWD	4,480	1,509	-1,509.12	-6.05	1.16
5,634	86.4	180.64	Baker Hughes INTEQ	MWD	4,482	1,573	-1,573.06	-6.98	4.71
5,697	88.8	180.16	Baker Hughes INTEQ	MWD	4,485	1,636	-1,636.00	-7.42	3.98
5,760	89.4	180.44	Baker Hughes INTEQ	MWD	4,486	1,699	-1,698.99	-7.75	1.08
5,792	90.2	178.92	Baker Hughes INTEQ	MWD	4,486	1,731	-1,730.99	-7.57	5.26
5,855	90.7	178.63	Baker Hughes INTEQ	MWD	4,485	1,794	-1,793.97	-6.22	1.03
5,918	91.3	178.54	Baker Hughes INTEQ	MWD	4,484	1,857	-1,856.94	-4.66	0.90
5,981	91.3	178.04	Baker Hughes INTEQ	MWD	4,483	1,920	-1,919.90	-2.79	0.79
6,045	89.3	177.55	Baker Hughes INTEQ	MWD	4,482	1,984	-1,983.85	-0.32	3.20
6,108	89.1	178.40	Baker Hughes INTEQ	MWD	4,483	2,047	-2,046.80	1.90	1.39
6,171	90.3	176.89	Baker Hughes INTEQ	MWD	4,483	2,110	-2,109.74	4.49	3.04
6,235	90.6	177.45	Baker Hughes INTEQ	MWD	4,483	2,174	-2,173.66	7.65	0.98
6,266	90.9	177.31	Baker Hughes INTEQ	MWD	4,483	2,205	-2,204.63	9.07	1.04
6,361	90.8	178.78	Baker Hughes INTEQ	MWD	4,481	2,300	-2,299.56	12.31	1.55
6,455	91.7	178.36	Baker Hughes INTEQ	MWD	4,479	2,394	-2,393.51	14.65	1.10
6,550	91.2	178.06	Baker Hughes INTEQ	MWD	4,477	2,488	-2,488.43	17.62	0.66
6,645	88.7	177.15	Baker Hughes INTEQ	MWD	4,477	2,583	-2,583.34	21.59	2.74
6,740	89.2	177.71	Baker Hughes INTEQ	MWD	4,479	2,678	-2,678.23	25.85	0.79
6,835	89.1	177.91	Baker Hughes INTEQ	MWD	4,480	2,773	-2,773.15	29.48	0.25
6,930	88.3	177.10	Baker Hughes INTEQ	MWD	4,482	2,868	-2,868.03	33.61	1.23
7,024	88.7	177.12	Baker Hughes INTEQ	MWD	4,485	2,962	-2,961.88	38.35	0.43
7,119	89.0	176.12	Baker Hughes INTEQ	MWD	4,487	3,057	-3,056.69	43.95	1.10
7,214	89.8	177.25	Baker Hughes INTEQ	MWD	4,488	3,152	-3,151.53	49.44	1.49
7,309	89.4	177.45	Baker Hughes INTEQ	MWD	4,488	3,247	-3,246.42	53.84	0.54
7,404	90.3	178.62	Baker Hughes INTEQ	MWD	4,489	3,342	-3,341.36	57.09	1.61
7,499	89.7	179.50	Baker Hughes INTEQ	MWD	4,488	3,437	-3,436.35	58.65	1.13
7,594	89.0	177.80	Baker Hughes INTEQ	MWD	4,490	3,532	-3,531.31	60.89	1.95
7,689	92.1	179.76	Baker Hughes INTEQ	MWD	4,489	3,627	-3,626.27	62.91	3.88
7,784	91.0	180.23	Baker Hughes INTEQ	MWD	4,486	3,722	-3,721.23	62.92	1.24



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Survey Data

MD (ftKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ftKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
7,878	88.9	180.08	Baker Hughes INTEQ	MWD	4,486	3,816	-3,815.23	62.67	2.27
7,972	89.0	179.70	Baker Hughes INTEQ	MWD	4,488	3,910	-3,909.21	62.85	0.42
8,068	88.8	179.42	Baker Hughes INTEQ	MWD	4,490	4,006	-4,005.19	63.58	0.39
8,162	89.0	180.20	Baker Hughes INTEQ	MWD	4,492	4,100	-4,099.17	63.90	0.88
8,258	90.8	180.19	Baker Hughes INTEQ	MWD	4,492	4,196	-4,195.17	63.57	1.83
8,352	90.4	180.70	Baker Hughes INTEQ	MWD	4,491	4,290	-4,289.16	62.84	0.71
8,448	89.9	181.09	Baker Hughes INTEQ	MWD	4,491	4,386	-4,385.14	61.34	0.68
8,518	89.9	181.09	Baker Hughes INTEQ	MWD	4,491	4,456	-4,455.13	60.01	0.00