

Wellbores - Step #2

Actual Deviation Survey: JoAnn 1-1H, Proposed? No
 Deviation Surveys - Step #1

Wellbore Name: Original Hole

Date: 2012/05/19

VS Dir (*): Com:

Tie-in Data
 Azm North Typ:
 Survey Data
 MD (ftKB)

Incl (*)	Convergence (*)	Decl (*)	Azm (*)	MD Tie In (ftKB)	Method	Inclination Tie In (*)	TVD (ftKB)	VS (ft)	TVDTie In (ftKB)	NS (ft)	EW (ft)	DLS ("/100ft)
1,150	0.3	238.93	Baker Hughes INTEQ	MWD	1,150	1.55	-2.23	0.02				
1,333	0.3	272.79	Baker Hughes INTEQ	MWD	1,333	-1.54	-3.04	0.09				
1,364	0.6	294.99	Baker Hughes INTEQ	MWD	1,364	-1.46	-3.26	1.21				
1,394	0.9	287.92	Baker Hughes INTEQ	MWD	1,394	-1.33	-3.63	0.85				
1,425	1.2	287.98	Baker Hughes INTEQ	MWD	1,425	-1.16	-4.15	0.97				
1,456	1.5	290.09	Baker Hughes INTEQ	MWD	1,456	-0.93	-4.81	0.95				
1,486	2.1	291.73	Baker Hughes INTEQ	MWD	1,486	-0.59	-5.69	2.31				
1,517	2.9	286.21	Baker Hughes INTEQ	MWD	1,517	-0.16	-6.98	2.57				
1,548	4	285.58	Baker Hughes INTEQ	MWD	1,548	0.35	-8.76	3.39				
1,608	5.6	281.63	Baker Hughes INTEQ	MWD	1,608	1.5	-13.63	2.84				
1,639	6.5	278.05	Baker Hughes INTEQ	MWD	1,638	0	-16.85	3.09				
1,669	7.2	277.87	Baker Hughes INTEQ	MWD	1,668	0	-20.4	2.37				
1,700	8.2	277.62	Baker Hughes INTEQ	MWD	1,699	0	-24.51	3.1				
1,730	8.8	274.51	Baker Hughes INTEQ	MWD	1,729	0	-28.9	2.49				
1,761	9.4	270.64	Baker Hughes INTEQ	MWD	1,759	0	-33.8	2.95				
1,792	10.7	271.4	Baker Hughes INTEQ	MWD	1,790	0	-39.21	4.02				
1,823	11.2	269.6	Baker Hughes INTEQ	MWD	1,820	1	-45.1	2.12				
1,853	10.8	269.36	Baker Hughes INTEQ	MWD	1,850	2	-50.84	1.51				
1,884	10.7	269.49	Baker Hughes INTEQ	MWD	1,880	2	-56.62	0.21				
1,915	11.4	267.58	Baker Hughes INTEQ	MWD	1,911	3	-62.56	2.32				
1,947	12.3	265.64	Baker Hughes INTEQ	MWD	1,942	4	-69.1	3.22				
1,979	12.8	263.77	Baker Hughes INTEQ	MWD	1,973	6	-76.03	2.04				
2,042	13.2	262.11	Baker Hughes INTEQ	MWD	2,035	9	-90.08	0.82				
2,074	12.9	260.72	Baker Hughes INTEQ	MWD	2,066	11	-97.22	1.23				
2,168	11.9	263.99	Baker Hughes INTEQ	MWD	2,157	16	-117.23	1.33				
2,263	11.7	266.32	Baker Hughes INTEQ	MWD	2,250	20	-136.56	0.55				
2,295	12.1	268.45	Baker Hughes INTEQ	MWD	2,282	21	-143.14	1.85				
2,327	12.1	268.36	Baker Hughes INTEQ	MWD	2,313	22	-149.84	0.09				
2,358	12.5	268.44	Baker Hughes INTEQ	MWD	2,343	22	-156.43	1.13				
2,453	12.1	268.35	Baker Hughes INTEQ	MWD	2,436	25	-176.6	0.39				
2,549	11.9	270.72	Baker Hughes INTEQ	MWD	2,530	28	-196.5	0.57				
2,645	11.2	270.94	Baker Hughes INTEQ	MWD	2,624	29	-215.71	0.64				
2,740	11.4	267.84	Baker Hughes INTEQ	MWD	2,717	32	-234.38	0.67				
2,835	11.1	265.47	Baker Hughes INTEQ	MWD	2,811	35	-252.87	0.62				
2,930	12.5	264.94	Baker Hughes INTEQ	MWD	2,904	39	-272.2	1.5				
3,025	13	268.8	Baker Hughes INTEQ	MWD	2,996	42	-293.08	1.02				
3,120	13.5	270.32	Baker Hughes INTEQ	MWD	3,089	45	-314.85	0.7				
3,215	13.6	271.97	Baker Hughes INTEQ	MWD	3,181	47	-337.14	0.42				
3,310	12.3	269.89	Baker Hughes INTEQ	MWD	3,274	49	-358.45	1.46				
3,404	10.8	271.92	Baker Hughes INTEQ	MWD	3,366	50	-377.25	1.68				
3,500	10.9	267.78	Baker Hughes INTEQ	MWD	3,460	52	-395.25	0.81				
3,595	12.1	269.56	Baker Hughes INTEQ	MWD	3,553	55	-414.15	1.37				
3,690	11.6	267.09	Baker Hughes INTEQ	MWD	3,646	58	-433.63	0.76				
3,787	11.7	262.77	Baker Hughes INTEQ	MWD	3,741	61	-453.13	0.91				
3,850	11.8	260.17	Baker Hughes INTEQ	MWD	3,803	65	-465.8	0.84				
3,914	11.9	245.81	Baker Hughes INTEQ	MWD	3,865	70	-478.26	4.6				
3,945	13.2	233.87	Baker Hughes INTEQ	MWD	3,896	74	-484.05	9.3				
3,977	15.3	224.93	Baker Hughes INTEQ	MWD	3,927	80	-489.97	9.4				
4,008	17.5	223.01	Baker Hughes INTEQ	MWD	3,956	87	-496.03	7.43				

4,040	19.7	220.67	Baker Hughes INTEQ	MWD	3,987	95	-39.7	-502.82	7.11
4,072	22.2	221.27	Baker Hughes INTEQ	MWD	4,017	104	-48.32	-510.31	7.9
4,104	23.6	215.64	Baker Hughes INTEQ	MWD	4,046	115	-58.07	-518.03	8.13
4,136	24	209.15	Baker Hughes INTEQ	MWD	4,075	126	-68.96	-524.93	8.3
4,167	24.2	203.41	Baker Hughes INTEQ	MWD	4,104	138	-80.31	-530.53	7.59
4,199	24.2	198.33	Baker Hughes INTEQ	MWD	4,133	151	-92.55	-535.2	6.51
4,231	23.9	193.31	Baker Hughes INTEQ	MWD	4,162	164	-105.08	-538.75	6.46
4,263	24	190.37	Baker Hughes INTEQ	MWD	4,191	177	-117.78	-541.42	3.73
4,295	25.4	187.05	Baker Hughes INTEQ	MWD	4,220	190	-130.99	-543.43	6.31
4,326	27.6	185.14	Baker Hughes INTEQ	MWD	4,248	204	-144.74	-544.89	7.4
4,358	29.9	185.59	Baker Hughes INTEQ	MWD	4,276	219	-160.06	-546.33	7.47
4,390	31.9	182.46	Baker Hughes INTEQ	MWD	4,304	236	-176.47	-547.47	7.97
4,421	33.9	181.37	Baker Hughes INTEQ	MWD	4,330	253	-193.31	-548.03	6.76
4,453	35.8	180.46	Baker Hughes INTEQ	MWD	4,356	271	-211.6	-548.32	6.16
4,485	37.3	180.13	Baker Hughes INTEQ	MWD	4,382	290	-230.67	-548.42	4.76
4,517	39.6	179.34	Baker Hughes INTEQ	MWD	4,407	310	-250.59	-548.32	7.35
4,549	42.2	178.99	Baker Hughes INTEQ	MWD	4,431	330	-271.55	-548.01	8.06
4,580	43.9	179.5	Baker Hughes INTEQ	MWD	4,454	351	-292.7	-547.74	5.53
4,612	44.9	180.39	Baker Hughes INTEQ	MWD	4,476	374	-315.1	-547.72	3.82
4,644	46.6	180.9	Baker Hughes INTEQ	MWD	4,499	396	-338.02	-547.97	5.19
4,689	49.4	180.9	Baker Hughes INTEQ	MWD	4,529	430	-371.43	-548.5	6.24
4,740	50.2	179.77	Baker Hughes INTEQ	MWD	4,562	468	-410.37	-548.72	2.32
4,785	49.7	179.08	Baker Hughes INTEQ	MWD	4,591	503	-444.81	-548.38	1.57
4,836	50	178.94	Baker Hughes INTEQ	MWD	4,624	541	-483.79	-547.71	0.59
4,868	50.2	178.64	Baker Hughes INTEQ	MWD	4,644	566	-508.33	-547.19	0.93
4,900	51.9	178.78	Baker Hughes INTEQ	MWD	4,664	590	-533.21	-546.63	5.42
4,932	53.2	181.62	Baker Hughes INTEQ	MWD	4,684	615	-558.6	-546.72	8.1
4,963	56.2	182.43	Baker Hughes INTEQ	MWD	4,702	641	-583.88	-547.62	9.88
4,995	59.1	182.78	Baker Hughes INTEQ	MWD	4,719	668	-610.89	-548.85	9.3
5,027	62.4	182.42	Baker Hughes INTEQ	MWD	4,734	696	-638.78	-550.11	10.17
5,058	66.2	180.8	Baker Hughes INTEQ	MWD	4,753	705	-649.68	-533.21	322.12
5,090	69.3	181.62	Baker Hughes INTEQ	MWD	4,770	715	-662.34	-515.08	321.88
5,123	73.2	180.5	Baker Hughes INTEQ	MWD	4,789	746	-693.57	-515.65	12.07
5,154	75.8	180.8	Baker Hughes INTEQ	MWD	4,796	807	-754.6	-516.38	7.64
5,186	78.2	180.64	Baker Hughes INTEQ	MWD	4,802	837	-785.07	-516.6	7.84
5,217	80.6	180.19	Baker Hughes INTEQ	MWD	4,806	869	-816.76	-516.53	9.78
5,249	83.7	179.53	Baker Hughes INTEQ	MWD	4,810	931	-879.61	-515.69	8.6
5,312	89	178.95	Baker Hughes INTEQ	MWD	4,811	1,001	-949.59	-514.55	0.9
5,382	89.6	179.18	Baker Hughes INTEQ	MWD	4,811	1,061	-1,010.59	-514.09	1.28
5,443	89.6	179.96	Baker Hughes INTEQ	MWD	4,811	1,153	-1,102.58	-513.71	1.19
5,535	88.6	179.56	Baker Hughes INTEQ	MWD	4,813	1,243	-1,193.56	-512.98	0.88
5,626	89.4	179.33	Baker Hughes INTEQ	MWD	4,816	1,334	-1,285.53	-512.07	1.06
5,718	88.4	179.62	Baker Hughes INTEQ	MWD	4,817	1,425	-1,377.52	-511.23	2.23
5,810	90.5	179.21	Baker Hughes INTEQ	MWD	4,816	1,516	-1,468.51	-510.3	0.9
5,901	91.2	179.15	Baker Hughes INTEQ	MWD	4,814	1,607	-1,560.48	-508.99	0.37
5,993	90.8	179.16	Baker Hughes INTEQ	MWD	4,812	1,698	-1,652.46	-507.63	0.4
6,085	91.2	179.15	Baker Hughes INTEQ	MWD	4,810	1,790	-1,744.41	-505.75	0.79
6,177	91.5	178.51	Baker Hughes INTEQ	MWD	4,810	1,884	-1,839.36	-503.18	0.96
6,272	90.6	178.38	Baker Hughes INTEQ	MWD	4,807	1,977	-1,933.34	-502.59	2.76
6,366	91.2	180.91	Baker Hughes INTEQ	MWD	4,807	2,074	-2,030.31	-504.51	1.19
6,463	90.2	181.35	Baker Hughes INTEQ	MWD	4,806	2,169	-2,126.28	-506.43	1.91
6,559	88.4	180.95	Baker Hughes INTEQ	MWD	4,807	2,264	-2,221.25	-507.46	1.23
6,654	89.3	180.29	Baker Hughes INTEQ	MWD	4,809	2,358	-2,316.24	-507.7	0.46
6,749	89	180	Baker Hughes INTEQ	MWD	4,810	2,454	-2,412.22	-508.38	0.87
6,845	88.8	180.81	Baker Hughes INTEQ	MWD	4,812	2,549	-2,508.20	-509.43	0.44
6,941	89	180.44	Baker Hughes INTEQ	MWD	4,814	2,645	-2,604.12	-512.45	2.87
7,037	88.7	183.17	Baker Hughes INTEQ	MWD	4,816				

7,133	89	179.11	Baker Hughes INTEQ	MWD	4,818	2,740	-2,700.06	-514.96	4.24
7,229	89	180.45	Baker Hughes INTEQ	MWD	4,819	2,836	-2,796.04	-513.99	1.4
7,324	88.7	180.86	Baker Hughes INTEQ	MWD	4,821	2,930	-2,891.02	-515.08	0.52
7,419	88.9	181.94	Baker Hughes INTEQ	MWD	4,823	3,025	-2,985.97	-517.4	1.15
7,514	87.8	179.19	Baker Hughes INTEQ	MWD	4,826	3,119	-3,080.91	-518.33	3.1
7,610	89.6	179.17	Baker Hughes INTEQ	MWD	4,828	3,215	-3,176.88	-516.96	1.86
7,706	90	178.25	Baker Hughes INTEQ	MWD	4,828	3,310	-3,272.85	-514.8	1.04
7,801	90.2	177.86	Baker Hughes INTEQ	MWD	4,828	3,404	-3,367.80	-511.57	0.47
7,897	90.7	177.98	Baker Hughes INTEQ	MWD	4,827	3,499	-3,463.73	-508.09	0.5
7,992	91	177.67	Baker Hughes INTEQ	MWD	4,826	3,593	-3,558.65	-504.49	0.48
8,088	91.1	177.29	Baker Hughes INTEQ	MWD	4,826	3,687	-3,654.54	-500.26	0.41
8,183	89.8	178.8	Baker Hughes INTEQ	MWD	4,824	3,781	-3,749.48	-497.02	2.14
8,279	89.7	178.19	Baker Hughes INTEQ	MWD	4,824	3,877	-3,845.44	-494.5	0.64
8,375	90.4	177.99	Baker Hughes INTEQ	MWD	4,824	3,972	-3,941.39	-491.3	0.75
8,470	91	177.14	Baker Hughes INTEQ	MWD	4,823	4,065	-4,036.29	-487.27	1.14
8,565	90.8	177.78	Baker Hughes INTEQ	MWD	4,821	4,159	-4,131.19	-483.06	0.7
8,661	89	178.75	Baker Hughes INTEQ	MWD	4,822	4,254	-4,227.14	-480.15	2.15
8,729	89	178.75	Baker Hughes INTEQ	MWD	4,823	4,322	-4,295.11	-478.67	0