



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

## Survey CARLISLE 3317 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 MWD, Proposed? No	Wellbore Name Original Hole
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**Deviation Surveys - Step #1**

Description MWD	Date 7/19/2012	VS Dir (°) 1.43	Comment
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**Tie-in Data**

Azimuth North Type Grid	Convergence (°) 0.00	Declination (°) 0.00	MD Tie In (ftKB) 0.00	Azimuth Tie In (°) 0.00	Inclination Tie In (°) 0.00	TVDTie 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)
0	90.9	1.80	Great White	MWD	0	0	0.00	0.00	0.00
56	90.0	1.80	Great White	MWD	36	36	35.52	1.12	161.20
1,033	0.6	218.90	Great White	MWD	659	654	654.12	16.61	9.26
1,303	0.1	187.70	Great White	MWD	929	653	652.78	15.69	0.19
1,779	0.4	194.60	Great White	MWD	1,405	651	650.76	15.22	0.06
2,255	1.7	170.80	Great White	MWD	1,881	642	642.19	15.93	0.28
2,731	1.6	177.80	Great White	MWD	2,357	629	628.58	17.31	0.05
3,207	0.8	180.10	Great White	MWD	2,833	619	618.61	17.56	0.17
3,684	1.2	170.40	Great White	MWD	3,310	611	610.36	18.39	0.09
4,160	0.7	156.80	Great White	MWD	3,786	603	602.77	20.37	0.11
4,218	1.0	163.50	Great White	MWD	3,844	602	601.96	20.65	0.54
4,250	0.1	183.30	Great White	MWD	3,876	602	601.66	20.73	2.83
4,282	3.0	356.70	Great White	MWD	3,908	603	602.47	20.68	9.69
4,314	4.8	7.10	Great White	MWD	3,940	605	604.64	20.79	6.02
4,345	6.4	8.90	Great White	MWD	3,971	608	607.63	21.22	5.19
4,377	8.6	7.00	Great White	MWD	4,002	612	611.77	21.79	6.92
4,409	10.5	4.40	Great White	MWD	4,034	617	617.05	22.31	6.09
4,441	13.0	2.30	Great White	MWD	4,065	624	623.56	22.67	7.92
4,472	15.3	2.70	Great White	MWD	4,095	632	631.13	23.01	7.43
4,504	18.0	1.70	Great White	MWD	4,126	641	640.29	23.35	8.48
4,536	20.5	1.00	Great White	MWD	4,156	651	650.83	23.60	7.85
4,568	22.9	0.30	Great White	MWD	4,186	663	662.66	23.73	7.54
4,599	25.2	1.10	Great White	MWD	4,214	676	675.29	23.89	7.49
4,631	27.2	0.50	Great White	MWD	4,243	690	689.42	24.08	6.30
4,663	28.8	0.40	Great White	MWD	4,271	705	704.44	24.20	5.00
4,694	31.1	0.40	Great White	MWD	4,298	720	719.92	24.31	7.42
4,726	33.7	0.20	Great White	MWD	4,325	737	737.06	24.39	8.13
4,758	36.1	0.70	Great White	MWD	4,351	756	755.37	24.54	7.55
4,789	38.4	1.50	Great White	MWD	4,376	775	774.13	24.90	7.58
4,821	40.0	2.40	Great White	MWD	4,401	795	794.34	25.59	5.31
4,853	41.4	2.00	Great White	MWD	4,425	816	815.19	26.39	4.45
4,885	42.9	1.80	Great White	MWD	4,449	837	836.65	27.11	4.71
4,916	45.8	1.00	Great White	MWD	4,471	859	858.31	27.63	9.53
4,948	48.7	1.30	Great White	MWD	4,493	882	881.81	28.10	9.09
4,980	50.7	1.20	Great White	MWD	4,513	907	906.20	28.64	6.25
5,012	51.1	1.00	Great White	MWD	4,534	931	931.03	29.11	1.34
5,044	50.7	1.00	Great White	MWD	4,554	956	955.86	29.55	1.25
5,075	50.5	0.70	Great White	MWD	4,573	980	979.81	29.90	0.99
5,107	50.6	0.90	Great White	MWD	4,594	1,005	1,004.52	30.25	0.57
5,139	50.5	1.10	Great White	MWD	4,614	1,030	1,029.23	30.68	0.57
5,170	51.0	0.50	Great White	MWD	4,634	1,054	1,053.23	31.01	2.20
5,202	53.5	0.60	Great White	MWD	4,653	1,079	1,078.53	31.26	7.82
5,234	56.4	0.30	Great White	MWD	4,672	1,105	1,104.72	31.46	9.09
5,266	58.9	0.80	Great White	MWD	4,689	1,132	1,131.75	31.72	7.92
5,297	61.9	0.90	Great White	MWD	4,704	1,159	1,158.70	32.12	9.68



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Step #1 - Create a Deviation Survey

Step

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

Survey Data									
MD (ft)	Incl (°)	Azm (°)	Survey Company	Method	TVD (ft)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
5,329	63.7	2.10	Great White	MWD	4,719	1,188	1,187.15	32.87	6.54
5,361	65.9	2.10	Great White	MWD	4,732	1,217	1,216.08	33.93	6.88
5,393	68.6	1.80	Great White	MWD	4,745	1,246	1,245.57	34.93	8.48
5,424	72.5	1.80	Great White	MWD	4,755	1,275	1,274.79	35.85	12.58
5,456	76.5	1.60	Great White	MWD	4,764	1,306	1,305.60	36.77	12.51
5,488	80.1	2.40	Great White	MWD	4,770	1,337	1,336.91	37.86	11.51
5,520	83.9	2.50	Great White	MWD	4,775	1,369	1,368.57	39.22	11.88
5,551	87.4	2.40	Great White	MWD	4,777	1,400	1,399.44	40.54	11.29
5,583	90.0	1.80	Great White	MWD	4,778	1,432	1,431.41	41.71	8.34
5,685	91.5	2.00	Great White	MWD	4,776	1,534	1,533.34	45.09	1.48
5,781	90.4	2.50	Great White	MWD	4,775	1,630	1,629.25	48.86	1.26
5,876	88.6	2.40	Great White	MWD	4,776	1,725	1,724.16	52.92	1.90
5,969	88.0	1.70	Great White	MWD	4,778	1,818	1,817.06	56.24	0.99
6,061	87.4	0.90	Great White	MWD	4,782	1,910	1,908.96	58.33	1.09
6,153	88.2	0.20	Great White	MWD	4,786	2,002	2,000.89	59.21	1.16
6,245	90.3	0.10	Great White	MWD	4,787	2,094	2,092.87	59.45	2.29
6,337	91.0	0.60	Great White	MWD	4,786	2,186	2,184.86	60.01	0.94
6,428	91.7	0.30	Great White	MWD	4,784	2,277	2,275.84	60.73	0.84
6,520	91.3	1.20	Great White	MWD	4,781	2,369	2,367.80	61.93	1.07
6,611	91.4	0.80	Great White	MWD	4,779	2,460	2,458.76	63.52	0.45
6,703	90.5	1.80	Great White	MWD	4,777	2,552	2,550.72	65.61	1.46
6,794	90.1	2.80	Great White	MWD	4,777	2,643	2,641.64	69.26	1.18
6,886	90.6	2.20	Great White	MWD	4,776	2,735	2,733.55	73.27	0.85
6,977	90.1	2.20	Great White	MWD	4,776	2,826	2,824.48	76.77	0.55
7,069	90.1	1.90	Great White	MWD	4,776	2,918	2,916.42	80.06	0.33
7,160	90.1	2.20	Great White	MWD	4,776	3,009	3,007.37	83.31	0.33
7,253	90.4	2.10	Great White	MWD	4,775	3,101	3,100.30	86.80	0.34
7,345	90.8	2.30	Great White	MWD	4,774	3,193	3,192.23	90.33	0.49
7,437	90.9	2.10	Great White	MWD	4,773	3,285	3,284.15	93.86	0.24
7,528	91.1	2.40	Great White	MWD	4,771	3,376	3,375.06	97.44	0.40
7,619	90.5	0.60	Great White	MWD	4,770	3,467	3,466.02	99.82	2.08
7,711	91.4	0.20	Great White	MWD	4,768	3,559	3,558.00	100.46	1.07
7,807	91.8	359.80	Great White	MWD	4,766	3,655	3,653.97	100.46	0.59
7,902	90.3	0.40	Great White	MWD	4,764	3,750	3,748.95	100.63	1.70
7,998	89.9	0.20	Great White	MWD	4,764	3,846	3,844.94	101.13	0.47
8,094	90.9	358.80	Great White	MWD	4,763	3,942	3,940.93	100.29	1.79
8,190	89.9	358.80	Great White	MWD	4,762	4,038	4,036.91	98.28	1.04
8,286	89.6	358.80	Great White	MWD	4,763	4,134	4,132.89	96.27	0.31
8,409	88.8	1.10	Great White	MWD	4,765	4,257	4,255.87	96.16	1.98
8,504	88.8	0.50	Great White	MWD	4,767	4,352	4,350.84	97.49	0.63
8,600	88.7	1.50	Great White	MWD	4,769	4,448	4,446.80	99.16	1.05
8,696	88.8	1.80	Great White	MWD	4,771	4,544	4,542.73	101.93	0.33
8,792	90.3	2.40	Great White	MWD	4,772	4,640	4,638.66	105.44	1.68
8,888	90.7	2.40	Great White	MWD	4,771	4,736	4,734.58	109.46	0.42
8,983	91.0	2.20	Great White	MWD	4,769	4,831	4,829.49	113.28	0.38
9,079	91.3	1.00	Great White	MWD	4,767	4,927	4,925.43	115.96	1.29
9,175	90.1	2.70	Great White	MWD	4,766	5,023	5,021.37	119.06	2.17
9,271	90.7	2.70	Great White	MWD	4,766	5,119	5,117.26	123.58	0.62
9,367	89.7	3.80	Great White	MWD	4,765	5,215	5,213.10	129.02	1.55
9,463	89.9	3.20	Great White	MWD	4,766	5,311	5,308.92	134.88	0.66
9,558	90.1	2.90	Great White	MWD	4,766	5,406	5,403.79	139.94	0.38
9,654	90.4	2.60	Great White	MWD	4,765	5,502	5,499.67	144.54	0.44



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Step

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### Survey Data

MD (RKB)	Incl (°)	Azm (°)	Survey Company	Method	TVD (RKB)	VS (ft)	NS (ft)	EW (ft)	DLS (°/100ft)
9,750	89.6	2.40	Great White	MWD	4,765	5,598	5,595.58	148.73	0.86
9,846	89.7	2.40	Great White	MWD	4,766	5,694	5,691.50	152.75	0.10
9,914	90.0	1.80	Great White	MWD	4,766	5,762	5,759.45	155.24	0.99
9,964	90.0	1.80	Projection to TD	MWD	4,766	5,812	5,809.43	156.81	0.00