



Scientific Drilling

Gyroscopic Survey Report for Chevron

Well Location	UP 48-29
Well Name	UP 48-29
Rig Name	
Survey Date	5/16/2011
Latitude	40.12 deg
North Reference	True North
Grid Correction	0.00 deg
Depth Reference	GL @ 5281'
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 190.08Azim (deg)
Definitive Survey	Computed from 150741B.BIN's HighSpeed: OutRun
Operator	K.Johnson / R.Tapia

Comments

Zero Tool at GL 5281'. Survey to 5200'.



Survey Report

Well Name:		UP 48-29					
Survey:		Computed from 150741B.BIN's HighSpeed: OutRun					
Survey Date:		5/16/2011					
MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
25.00	0.24	274.71	25.00	0.00	0.00	-0.05	0.97
50.00	0.27	250.08	50.00	0.04	-0.01	-0.16	0.45
75.00	0.39	222.71	75.00	0.14	-0.09	-0.27	0.79
100.00	0.42	220.90	100.00	0.29	-0.23	-0.39	0.11
125.00	0.37	225.36	125.00	0.44	-0.35	-0.51	0.21
150.00	0.42	220.34	150.00	0.58	-0.48	-0.63	0.22
175.00	0.40	217.43	175.00	0.74	-0.62	-0.74	0.11
200.00	0.40	220.75	200.00	0.89	-0.76	-0.85	0.09
225.00	0.40	219.00	225.00	1.04	-0.89	-0.96	0.05
250.00	0.42	206.88	249.99	1.21	-1.04	-1.06	0.36
275.00	0.53	195.69	274.99	1.41	-1.23	-1.13	0.56
300.00	0.43	204.35	299.99	1.62	-1.43	-1.20	0.48
325.00	0.45	202.01	324.99	1.80	-1.60	-1.28	0.10
350.00	0.47	205.82	349.99	2.00	-1.79	-1.36	0.15
375.00	0.63	200.37	374.99	2.23	-2.01	-1.45	0.66
400.00	0.64	201.70	399.99	2.50	-2.27	-1.55	0.07
425.00	0.70	199.55	424.99	2.79	-2.54	-1.65	0.26
450.00	0.75	197.98	449.99	3.10	-2.84	-1.75	0.24
475.00	0.75	196.68	474.98	3.43	-3.16	-1.85	0.07
500.00	0.81	196.88	499.98	3.77	-3.48	-1.95	0.23
525.00	0.67	199.44	524.98	4.09	-3.79	-2.05	0.57
550.00	0.81	199.57	549.98	4.41	-4.10	-2.16	0.55
575.00	1.01	195.05	574.97	4.80	-4.47	-2.28	0.84
600.00	1.21	195.55	599.97	5.28	-4.94	-2.40	0.80
625.00	1.13	194.64	624.96	5.79	-5.43	-2.54	0.31
650.00	1.12	197.55	649.96	6.28	-5.91	-2.67	0.23
675.00	1.45	189.55	674.95	6.84	-6.45	-2.80	1.49
700.00	1.29	192.04	699.95	7.44	-7.04	-2.91	0.70
725.00	1.32	192.49	724.94	8.01	-7.59	-3.03	0.14
750.00	1.16	192.66	749.93	8.55	-8.12	-3.15	0.64
775.00	1.26	189.30	774.93	9.07	-8.64	-3.25	0.50
800.00	1.18	190.53	799.92	9.60	-9.16	-3.34	0.35
825.00	1.26	184.19	824.92	10.13	-9.69	-3.41	0.63
850.00	1.22	185.80	849.91	10.67	-10.23	-3.45	0.20
875.00	1.24	185.37	874.90	11.21	-10.76	-3.51	0.07
900.00	1.22	185.04	899.90	11.74	-11.29	-3.55	0.06
925.00	1.20	184.89	924.89	12.27	-11.82	-3.60	0.09
950.00	1.37	184.59	949.89	12.82	-12.38	-3.65	0.66



Survey Report

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Survey:		Computed from 150741B.BIN's HighSpeed: OutRun					
Survey Date:		5/16/2011					
MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
975.00	1.28	183.14	974.88	13.40	-12.95	-3.69	0.38
1000.00	1.30	187.18	999.87	13.96	-13.51	-3.74	0.37
1025.00	1.52	186.28	1024.87	14.57	-14.12	-3.81	0.91
1050.00	1.60	191.16	1049.86	15.25	-14.79	-3.91	0.61
1075.00	1.70	192.06	1074.85	15.97	-15.50	-4.06	0.42
1100.00	1.85	193.30	1099.83	16.74	-16.25	-4.23	0.62
1125.00	1.98	196.78	1124.82	17.57	-17.06	-4.44	0.70
1150.00	1.96	195.58	1149.81	18.43	-17.88	-4.68	0.19
1175.00	2.04	191.86	1174.79	19.30	-18.73	-4.89	0.63
1200.00	1.92	191.48	1199.78	20.16	-19.58	-5.06	0.51
1225.00	1.91	202.82	1224.76	20.99	-20.37	-5.31	1.51
1250.00	1.66	205.75	1249.75	21.74	-21.08	-5.63	1.09
1275.00	1.66	201.25	1274.74	22.44	-21.74	-5.92	0.52
1300.00	1.51	202.37	1299.73	23.12	-22.38	-6.17	0.62
1325.00	1.34	200.44	1324.72	23.73	-22.96	-6.40	0.68
1350.00	1.53	197.34	1349.71	24.35	-23.55	-6.60	0.80
1375.00	1.45	198.49	1374.71	24.99	-24.17	-6.80	0.33
1400.00	1.47	206.66	1399.70	25.61	-24.76	-7.04	0.84
1425.00	1.49	201.99	1424.69	26.23	-25.35	-7.31	0.49
1450.00	1.15	207.89	1449.68	26.79	-25.87	-7.55	1.45
1475.00	1.44	205.08	1474.68	27.33	-26.37	-7.80	1.19
1500.00	1.48	196.89	1499.67	27.96	-26.97	-8.03	0.85
1525.00	1.64	204.51	1524.66	28.63	-27.60	-8.27	1.04
1550.00	1.49	205.73	1549.65	29.29	-28.22	-8.56	0.63
1575.00	1.66	203.97	1574.64	29.95	-28.85	-8.85	0.71
1600.00	1.71	198.11	1599.63	30.67	-29.53	-9.11	0.72
1625.00	1.70	205.27	1624.62	31.40	-30.22	-9.38	0.85
1650.00	1.71	202.94	1649.61	32.12	-30.90	-9.69	0.28
1675.00	1.77	202.86	1674.60	32.86	-31.60	-9.98	0.26
1700.00	1.74	204.55	1699.58	33.61	-32.30	-10.29	0.23
1725.00	1.81	203.31	1724.57	34.36	-33.01	-10.61	0.29
1750.00	1.95	201.09	1749.56	35.16	-33.77	-10.92	0.64
1775.00	1.86	202.38	1774.54	35.97	-34.54	-11.22	0.40
1800.00	1.95	199.45	1799.53	36.79	-35.32	-11.52	0.52
1825.00	1.72	198.58	1824.52	37.58	-36.07	-11.78	0.91
1850.00	1.98	194.20	1849.51	38.38	-36.85	-12.01	1.20
1875.00	1.85	196.50	1874.49	39.22	-37.66	-12.23	0.62
1900.00	1.79	197.94	1899.48	40.00	-38.41	-12.46	0.31



Survey Report

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Survey Date:		5/16/2011					
MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
1925.00	1.80	194.86	1924.47	40.78	-39.17	-12.68	0.39
1950.00	1.55	194.02	1949.46	41.51	-39.87	-12.86	1.01
1975.00	1.59	193.54	1974.45	42.19	-40.54	-13.03	0.19
2000.00	1.70	187.39	1999.44	42.91	-41.25	-13.16	0.81
2025.00	1.59	188.98	2024.43	43.63	-41.96	-13.26	0.46
2050.00	1.51	188.34	2049.42	44.30	-42.62	-13.36	0.34
2075.00	1.41	185.59	2074.41	44.94	-43.26	-13.44	0.47
2100.00	1.31	182.43	2099.40	45.53	-43.85	-13.48	0.51
2125.00	1.30	181.94	2124.39	46.09	-44.42	-13.50	0.07
2150.00	1.37	177.73	2149.39	46.66	-45.00	-13.50	0.49
2175.00	1.29	178.45	2174.38	47.23	-45.57	-13.48	0.33
2200.00	1.34	178.52	2199.37	47.79	-46.15	-13.46	0.23
2225.00	1.42	177.47	2224.37	48.38	-46.75	-13.44	0.32
2250.00	1.61	171.23	2249.36	49.02	-47.41	-13.38	1.00
2275.00	1.44	173.73	2274.35	49.65	-48.06	-13.29	0.74
2300.00	1.67	166.31	2299.34	50.28	-48.73	-13.17	1.23
2325.00	1.70	164.05	2324.33	50.95	-49.44	-12.98	0.29
2350.00	1.90	162.82	2349.32	51.65	-50.19	-12.76	0.83
2375.00	1.99	160.32	2374.30	52.39	-50.99	-12.49	0.48
2400.00	1.88	156.79	2399.29	53.11	-51.78	-12.18	0.64
2425.00	1.56	154.00	2424.28	53.73	-52.46	-11.87	1.32
2450.00	1.49	154.16	2449.27	54.27	-53.06	-11.58	0.28
2475.00	1.32	153.46	2474.26	54.76	-53.61	-11.31	0.66
2500.00	1.39	155.05	2499.25	55.24	-54.14	-11.05	0.32
2525.00	1.40	154.03	2524.25	55.74	-54.69	-10.79	0.10
2550.00	1.35	154.32	2549.24	56.22	-55.23	-10.53	0.19
2575.00	1.36	153.81	2574.23	56.70	-55.76	-10.27	0.06
2600.00	1.50	155.31	2599.22	57.21	-56.33	-10.00	0.59
2625.00	1.51	155.85	2624.22	57.75	-56.93	-9.73	0.06
2650.00	1.61	155.67	2649.21	58.31	-57.55	-9.45	0.41
2675.00	1.59	157.70	2674.20	58.90	-58.19	-9.17	0.25
2700.00	1.58	156.47	2699.19	59.48	-58.83	-8.91	0.14
2725.00	1.79	160.71	2724.18	60.10	-59.51	-8.64	0.95
2750.00	1.77	159.65	2749.16	60.78	-60.24	-8.38	0.14
2775.00	1.83	160.93	2774.15	61.46	-60.98	-8.11	0.29
2800.00	1.94	160.02	2799.14	62.17	-61.76	-7.84	0.46
2825.00	1.99	162.92	2824.12	62.93	-62.57	-7.56	0.45
2850.00	2.06	163.82	2849.11	63.72	-63.42	-7.31	0.30



Survey Report

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Survey:		Computed from 150741B.BIN's HighSpeed: OutRun					
Survey Date:		5/16/2011					
MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
2875.00	2.11	163.67	2874.09	64.53	-64.29	-7.06	0.18
2900.00	1.76	164.31	2899.08	65.29	-65.10	-6.82	1.38
2925.00	1.45	164.68	2924.07	65.92	-65.78	-6.64	1.24
2950.00	1.51	166.20	2949.06	66.51	-66.40	-6.47	0.29
2975.00	1.37	169.16	2974.05	67.09	-67.02	-6.34	0.65
3000.00	1.19	171.52	2999.05	67.62	-67.57	-6.24	0.73
3025.00	1.17	173.54	3024.04	68.11	-68.08	-6.18	0.20
3050.00	1.28	173.26	3049.03	68.62	-68.61	-6.11	0.45
3075.00	1.27	174.10	3074.03	69.15	-69.16	-6.05	0.09
3100.00	1.25	176.47	3099.02	69.68	-69.71	-6.01	0.22
3125.00	1.28	181.60	3124.02	70.23	-70.26	-6.00	0.47
3150.00	1.21	178.66	3149.01	70.76	-70.80	-6.00	0.38
3175.00	1.17	180.13	3174.00	71.27	-71.32	-6.00	0.22
3200.00	1.00	182.66	3199.00	71.74	-71.79	-6.01	0.69
3225.00	0.99	182.60	3224.00	72.17	-72.23	-6.03	0.06
3250.00	0.96	186.08	3248.99	72.59	-72.65	-6.06	0.26
3275.00	1.00	184.95	3273.99	73.01	-73.07	-6.10	0.20
3300.00	1.13	181.68	3298.98	73.47	-73.54	-6.12	0.55
3325.00	0.95	185.64	3323.98	73.92	-73.99	-6.15	0.75
3350.00	1.02	184.91	3348.98	74.35	-74.42	-6.19	0.26
3375.00	1.00	183.76	3373.97	74.79	-74.85	-6.23	0.10
3400.00	0.99	181.99	3398.97	75.22	-75.29	-6.25	0.13
3425.00	0.98	181.23	3423.97	75.65	-75.72	-6.26	0.06
3450.00	0.83	176.31	3448.96	76.03	-76.11	-6.25	0.67
3475.00	0.88	174.36	3473.96	76.40	-76.49	-6.22	0.21
3500.00	0.90	173.81	3498.96	76.77	-76.87	-6.18	0.09
3525.00	0.84	175.42	3523.95	77.13	-77.25	-6.15	0.26
3550.00	0.87	175.88	3548.95	77.49	-77.62	-6.12	0.11
3575.00	0.88	182.63	3573.95	77.87	-78.00	-6.11	0.41
3600.00	0.84	193.01	3598.95	78.24	-78.37	-6.16	0.64
3625.00	0.87	191.63	3623.94	78.61	-78.74	-6.24	0.14
3650.00	0.88	189.62	3648.94	78.99	-79.11	-6.31	0.13
3675.00	0.88	196.68	3673.94	79.38	-79.48	-6.40	0.43
3700.00	0.92	197.36	3698.93	79.77	-79.86	-6.51	0.15
3725.00	0.92	197.43	3723.93	80.16	-80.24	-6.63	0.01
3750.00	0.94	197.70	3748.93	80.57	-80.63	-6.76	0.12
3775.00	0.92	200.87	3773.92	80.97	-81.01	-6.89	0.22
3800.00	0.95	201.17	3798.92	81.37	-81.39	-7.04	0.12
3825.00	0.93	202.91	3823.92	81.77	-81.77	-7.19	0.15



Survey Report

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MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
3850.00	0.86	202.33	3848.91	82.15	-82.13	-7.34	0.28
3875.00	0.80	201.23	3873.91	82.51	-82.47	-7.48	0.23
3900.00	0.71	204.79	3898.91	82.83	-82.77	-7.60	0.41
3925.00	0.80	199.02	3923.91	83.15	-83.08	-7.73	0.48
3950.00	0.73	199.11	3948.90	83.48	-83.40	-7.84	0.28
3975.00	0.77	197.08	3973.90	83.81	-83.71	-7.94	0.18
4000.00	0.81	197.06	3998.90	84.15	-84.04	-8.04	0.15
4025.00	0.79	194.73	4023.90	84.50	-84.37	-8.13	0.14
4050.00	0.58	197.56	4048.90	84.79	-84.66	-8.22	0.85
4075.00	0.51	194.19	4073.90	85.03	-84.89	-8.28	0.31
4100.00	0.50	185.18	4098.89	85.25	-85.11	-8.32	0.32
4125.00	0.51	182.66	4123.89	85.47	-85.33	-8.33	0.10
4150.00	0.44	181.10	4148.89	85.67	-85.53	-8.34	0.31
4175.00	0.52	181.63	4173.89	85.88	-85.74	-8.35	0.35
4200.00	0.54	184.27	4198.89	86.11	-85.98	-8.36	0.13
4225.00	0.50	183.64	4223.89	86.34	-86.20	-8.37	0.19
4250.00	0.48	187.87	4248.89	86.55	-86.41	-8.40	0.16
4275.00	0.46	192.72	4273.89	86.76	-86.62	-8.43	0.18
4300.00	0.44	198.39	4298.89	86.95	-86.80	-8.48	0.19
4325.00	0.37	210.02	4323.89	87.12	-86.97	-8.55	0.43
4350.00	0.35	223.64	4348.89	87.26	-87.09	-8.65	0.35
4375.00	0.31	239.71	4373.89	87.37	-87.18	-8.76	0.41
4400.00	0.30	264.86	4398.88	87.43	-87.22	-8.89	0.54
4425.00	0.30	287.67	4423.88	87.44	-87.21	-9.02	0.48
4450.00	0.38	300.93	4448.88	87.40	-87.14	-9.15	0.45
4475.00	0.47	305.90	4473.88	87.33	-87.04	-9.31	0.38
4500.00	0.49	312.79	4498.88	87.22	-86.91	-9.47	0.25
4525.00	0.56	317.89	4523.88	87.09	-86.74	-9.63	0.32
4550.00	0.67	324.84	4548.88	86.91	-86.53	-9.80	0.52
4575.00	0.79	330.13	4573.88	86.68	-86.27	-9.96	0.58
4600.00	0.82	329.63	4598.88	86.41	-85.96	-10.14	0.10
4625.00	0.82	334.60	4623.87	86.13	-85.65	-10.31	0.29
4650.00	0.97	334.73	4648.87	85.81	-85.29	-10.48	0.59
4675.00	1.09	332.91	4673.87	85.45	-84.89	-10.67	0.51
4700.00	1.21	332.02	4698.86	85.05	-84.44	-10.91	0.49
4725.00	1.17	334.38	4723.86	84.63	-83.98	-11.14	0.25
4750.00	1.01	336.45	4748.85	84.24	-83.55	-11.34	0.69
4775.00	1.19	336.89	4773.85	83.84	-83.11	-11.53	0.73



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4800.00	1.27	330.69	4798.84	83.41	-82.63	-11.77	0.62
4825.00	1.24	335.85	4823.83	82.97	-82.14	-12.01	0.47
4850.00	1.14	338.85	4848.83	82.54	-81.66	-12.21	0.49
4875.00	1.10	334.23	4873.82	82.13	-81.21	-12.41	0.39
4900.00	0.96	337.23	4898.82	81.76	-80.80	-12.59	0.57
4925.00	0.99	342.34	4923.82	81.39	-80.40	-12.74	0.36
4950.00	1.01	339.02	4948.81	81.01	-79.99	-12.88	0.24
4975.00	0.89	336.50	4973.81	80.66	-79.61	-13.04	0.51
5000.00	0.79	336.52	4998.81	80.36	-79.28	-13.19	0.39
5025.00	0.70	339.24	5023.80	80.08	-78.97	-13.31	0.37
5050.00	0.75	338.77	5048.80	79.81	-78.68	-13.42	0.18
5075.00	0.63	334.87	5073.80	79.56	-78.40	-13.54	0.51
5100.00	0.49	337.57	5098.80	79.36	-78.18	-13.64	0.57
5125.00	0.42	344.87	5123.80	79.19	-77.99	-13.70	0.36
5150.00	0.38	349.19	5148.80	79.03	-77.83	-13.74	0.21
5175.00	0.28	343.09	5173.80	78.90	-77.69	-13.77	0.41
5200.00	0.13	1.02	5198.80	78.81	-77.60	-13.79	0.63