

Scientific Drilling International Survey Report

Company: PALADIN
Field: State BTC
Site: Lea County, Texas
Well: State BTC #5
Wellpath: VH - Job #32K1002358/374

Date: 10/21/2002 Time: 11:48:43 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, Texas, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Well (0.0E, 0.0N, 136.9Azi)
Survey Calculation Method: Minimum Curvature

Survey: 10/11/02 & 10/18/02
KSRG 0'-9955' & 10000'-10844'

Start Date: 10/11/2002

Company: Scientific Drilling International
Tool: Keeper

Engineer: Ron Drake

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.00
100.0	0.22	175.10	100.0	0.2	-0.2	0.0	0.2	175.10	0.22
200.0	0.23	131.29	200.0	0.5	-0.5	0.2	0.5	160.42	0.17
300.0	0.26	110.54	300.0	0.9	-0.7	0.5	0.9	143.08	0.09
400.0	0.35	95.59	400.0	1.3	-0.8	1.1	1.4	128.20	0.12
500.0	0.40	102.23	500.0	1.8	-0.9	1.7	1.9	118.83	0.07
600.0	0.18	108.98	600.0	2.2	-1.1	2.2	2.4	115.86	0.22
700.0	0.26	116.98	700.0	2.5	-1.2	2.5	2.8	115.56	0.08
800.0	0.14	107.86	800.0	2.9	-1.4	2.9	3.2	115.37	0.12
900.0	0.13	126.21	900.0	3.1	-1.5	3.1	3.4	115.46	0.04
1000.0	0.19	146.76	1000.0	3.3	-1.7	3.3	3.7	117.13	0.08
1100.0	0.10	124.82	1100.0	3.6	-1.9	3.4	3.9	118.51	0.10
1200.0	0.13	100.96	1200.0	3.8	-1.9	3.6	4.1	118.16	0.06
1300.0	0.16	107.22	1300.0	4.0	-2.0	3.8	4.3	117.37	0.03
1400.0	0.20	120.71	1400.0	4.2	-2.1	4.1	4.6	117.19	0.06
1500.0	0.30	109.41	1500.0	4.6	-2.3	4.5	5.1	116.91	0.11
1600.0	0.29	121.43	1600.0	5.1	-2.5	5.0	5.6	116.77	0.06
1700.0	0.32	115.22	1700.0	5.6	-2.8	5.5	6.1	116.89	0.04
1800.0	0.59	137.23	1800.0	6.3	-3.3	6.1	6.9	118.31	0.31
1900.0	0.96	148.38	1900.0	7.7	-4.3	6.8	8.1	122.44	0.40
2000.0	1.15	146.93	2000.0	9.5	-5.9	7.8	9.8	127.01	0.20
2100.0	1.61	145.77	2099.9	11.9	-7.9	9.2	12.1	130.77	0.46
2200.0	1.69	144.73	2199.9	14.8	-10.3	10.8	14.9	133.53	0.09
2300.0	1.80	140.75	2299.8	17.8	-12.7	12.6	17.9	135.08	0.16
2400.0	1.49	134.78	2399.8	20.7	-14.8	14.6	20.8	135.49	0.35
2500.0	1.17	129.95	2499.8	23.0	-16.4	16.3	23.1	135.20	0.34
2600.0	1.05	131.67	2599.8	24.9	-17.6	17.7	25.0	134.86	0.13
2700.0	1.09	132.27	2699.7	26.7	-18.9	19.1	26.9	134.66	0.04
2800.0	1.12	132.26	2799.7	28.6	-20.2	20.5	28.8	134.50	0.03
2900.0	1.02	137.38	2899.7	30.5	-21.5	21.9	30.7	134.51	0.14
3000.0	0.86	145.36	2999.7	32.1	-22.8	22.9	32.3	134.84	0.21
3100.0	0.69	149.97	3099.7	33.5	-23.9	23.6	33.6	135.34	0.18
3200.0	0.58	154.77	3199.7	34.6	-24.9	24.2	34.7	135.87	0.12
3300.0	0.55	167.44	3299.7	35.5	-25.8	24.5	35.6	136.54	0.13
3400.0	0.51	170.65	3399.7	36.3	-26.7	24.7	36.4	137.32	0.05
3500.0	0.52	179.65	3499.7	37.0	-27.6	24.7	37.1	138.17	0.08
3600.0	0.38	173.91	3599.7	37.7	-28.4	24.8	37.7	138.93	0.15
3700.0	0.42	186.28	3699.7	38.2	-29.1	24.8	38.2	139.62	0.09
3800.0	0.35	173.13	3799.6	38.7	-29.8	24.8	38.7	140.26	0.11
3900.0	0.32	179.36	3899.6	39.2	-30.4	24.8	39.2	140.76	0.05
4000.0	0.26	165.72	3999.6	39.6	-30.9	24.9	39.6	141.15	0.09
4100.0	0.25	151.66	4099.6	40.0	-31.3	25.0	40.0	141.34	0.06
4200.0	0.27	171.36	4199.6	40.5	-31.7	25.2	40.5	141.57	0.09
4300.0	0.26	162.26	4299.6	40.9	-32.1	25.3	40.9	141.84	0.04
4400.0	0.27	167.13	4399.6	41.3	-32.6	25.4	41.3	142.09	0.02
4500.0	0.50	153.00	4499.6	41.9	-33.2	25.6	41.9	142.34	0.25
4600.0	0.68	140.79	4599.6	43.0	-34.1	26.2	43.0	142.43	0.22
4700.0	0.73	139.69	4699.6	44.2	-35.0	27.0	44.2	142.36	0.05