



Scientific
Drilling

Scientific Drilling International

Survey Report

Company: J CLEO THOMPSON
Field: Sawyer
Site: Lea County, NM
Well: JCT Federal 13 #1
Wellpath: VH - Job #32K0108025

Date: 02/11/2008 Time: 12:50:38 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,17.81Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 01/09/08

Start Date: 01/09/2008

Company: Scientific Drilling Internatio
Tool: Keeper, Keeper Gyro

Engineer: Melendez w/P&M
Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.30	139.84	100.00	-0.14	-0.20	0.17	0.30	0.26	139.84
200.00	0.18	117.50	200.00	-0.30	-0.47	0.48	0.15	0.67	134.74
300.00	0.26	93.13	300.00	-0.27	-0.56	0.84	0.12	1.01	123.49
400.00	0.31	73.68	400.00	-0.06	-0.49	1.33	0.11	1.42	110.39
500.00	0.19	2.85	500.00	0.25	-0.25	1.60	0.31	1.62	98.98
600.00	0.14	350.46	600.00	0.52	0.03	1.58	0.06	1.59	88.78
700.00	0.08	177.29	700.00	0.56	0.08	1.57	0.22	1.57	86.92
800.00	0.22	23.12	800.00	0.69	0.19	1.65	0.29	1.66	83.37
900.00	0.12	359.05	899.99	0.98	0.47	1.72	0.12	1.78	74.64
1000.00	0.12	354.93	999.99	1.17	0.68	1.71	0.01	1.84	68.26
1100.00	0.13	224.06	1099.99	1.17	0.70	1.62	0.23	1.77	66.52
1200.00	0.02	143.42	1199.99	1.05	0.61	1.55	0.13	1.67	68.59
1300.00	0.20	20.36	1299.99	1.22	0.76	1.62	0.21	1.79	64.96
1400.00	0.05	71.88	1399.99	1.42	0.94	1.73	0.17	1.96	61.54
1500.00	0.20	62.25	1499.99	1.57	1.03	1.92	0.15	2.18	61.80
1600.00	0.35	51.80	1599.99	1.95	1.30	2.32	0.16	2.66	60.69
1700.00	0.35	53.65	1699.99	2.45	1.67	2.80	0.01	3.26	59.20
1800.00	0.57	63.17	1799.99	3.04	2.08	3.49	0.23	4.06	59.27
1900.00	0.53	69.50	1899.98	3.68	2.46	4.37	0.07	5.02	60.59
2000.00	0.59	73.69	1999.98	4.26	2.77	5.30	0.07	5.98	62.40
2100.00	0.56	87.16	2099.97	4.72	2.94	6.28	0.14	6.93	64.93
2200.00	0.57	79.79	2199.97	5.12	3.05	7.26	0.07	7.87	67.20
2300.00	0.48	357.32	2299.97	5.75	3.56	7.73	0.70	8.51	65.28
2400.00	0.56	334.65	2399.96	6.50	4.42	7.50	0.22	8.70	59.50
2500.00	0.65	338.09	2499.96	7.29	5.38	7.08	0.10	8.89	52.73
2600.00	0.64	338.89	2599.95	8.16	6.43	6.66	0.01	9.26	46.01
2700.00	0.50	343.12	2699.94	8.96	7.37	6.34	0.15	9.72	40.68
2800.00	0.64	329.45	2799.94	9.69	8.27	5.93	0.19	10.17	35.63
2900.00	0.50	335.93	2899.93	10.38	9.15	5.46	0.15	10.66	30.85
3000.00	0.54	337.84	2999.93	11.07	9.98	5.11	0.04	11.21	27.10
3100.00	0.45	7.83	3099.93	11.82	10.81	4.98	0.27	11.90	24.75
3200.00	0.53	24.36	3199.92	12.66	11.62	5.23	0.16	12.74	24.23
3300.00	0.44	5.27	3299.92	13.50	12.42	5.45	0.18	13.57	23.70
3400.00	0.71	13.54	3399.91	14.49	13.41	5.63	0.28	14.54	22.79
3500.00	0.71	21.16	3499.91	15.72	14.59	6.00	0.09	15.77	22.37
3600.00	0.67	22.64	3599.90	16.93	15.71	6.45	0.04	16.98	22.33
3700.00	0.64	23.19	3699.89	18.06	16.76	6.90	0.03	18.12	22.37
3800.00	0.61	3.16	3799.89	19.14	17.80	7.15	0.22	19.18	21.87
3900.00	0.66	16.75	3899.88	20.23	18.89	7.34	0.16	20.26	21.24
4000.00	0.52	22.72	3999.88	21.25	19.86	7.68	0.15	21.29	21.15
4100.00	0.59	21.47	4099.87	22.22	20.75	8.05	0.07	22.26	21.19
4200.00	0.75	22.01	4199.86	23.39	21.84	8.48	0.16	23.43	21.22
4300.00	0.57	27.64	4299.86	24.53	22.89	8.96	0.19	24.58	21.37
4400.00	0.58	25.92	4399.85	25.52	23.78	9.41	0.02	25.58	21.58
4500.00	0.82	21.84	4499.84	26.74	24.90	9.90	0.24	26.80	21.67
4600.00	0.88	7.74	4599.83	28.21	26.33	10.27	0.22	28.26	21.30
4700.00	0.74	2.33	4699.82	29.58	27.73	10.39	0.16	29.62	20.55
4800.00	0.74	0.76	4799.82	30.82	29.02	10.43	0.02	30.84	19.77



Scientific Drilling International Survey Report

Company: J CLEO THOMPSON
Field: Sawyer
Site: Lea County, NM
Well: JCT Federal 13 #1
Wellpath: VH - Job #32K0108025

Date: 02/11/2008 Time: 12:50:38 Page: 2
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,17.81Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	0.72	359.83	4899.81	32.04	30.30	10.44	0.02	32.05	19.01
5000.00	0.63	358.06	4999.80	33.15	31.48	10.42	0.09	33.15	18.31
5100.00	0.56	16.76	5099.80	34.16	32.49	10.54	0.21	34.16	17.97
5165.00	0.31	348.02	5164.79	34.63	32.97	10.59	0.50	34.63	17.81