

Results of Directional Survey

30-025-35179

TRILOGY OPERATING INC
EMERALD # 2 Sidetrack 02

	MD	N/S	E/W	VD
	6860	9.94	-11.25	6859.49
TOP PERFS/OH	6891	13.39	-11.05	6890.25
	6911	15.62	-10.92	6910.09
	7788	547.46	606.98	7007.56
BOT PERFS/OH	7865	598.25	664.84	7008.52
	7816	565.93	628.02	7007.91

NEXT TO LAST	7788	547.46	606.98	7007.56
LAST READING	7816	565.93	628.02	7007.91
TD	7865	598.25	664.84	7008.52

Surface Location	400	FS	2310	FE
Projected BHL	998	FS	1645	FE
Location of				
Top Perfs/OH	413	FS	2321	FE
Bottom Perfs/OH	998	FS	1645	FE

SUMMARY of Subsurface Locations

Surface Location	O-24-19S-38E	400	FS	2310	FE	Vert. Depth
Top Perfs/OH	O-24-19S-38E	413	FS	2321	FE	6890.25
Bottom Perfs/OH	O-24-19S-38E	998	FS	1645	FE	7008.52
Projected TD	O-24-19S-38E	998	FS	1645	FE	7008.52



Scientific Drilling Survey

Company: Stevens & Tull	Date: 3/9/2005	Time: 16:19:25	Page: 1
Field: Nadine	Co-ordinate(NE) Reference: Well: Emerald #2, Grid North		
Site: Lea County, NM	Vertical (TVD) Reference: SITE 0.0		
Well: Emerald #2	Section (VS) Reference: Well (0.00N,0.00E,48.21Azi)		
Wellpath: NorthEast Lateral	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Nadine

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: Wmm_2000

Site: Lea County, NM

Site Position:	Northing: 601825.13 ft	Latitude: 32 38 54.431 N
From: Map	Easting: 919348.74 ft	Longitude: 103 6 18.787 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 0.00 ft		Grid Convergence: 0.66 deg

Well: Emerald #2	Slot Name:
Well Position: +N/-S -3209.40 ft	Latitude: 32 38 22.525 N
+E/-W 1353.42 ft	Longitude: 103 6 3.396 W
Position Uncertainty: 0.00 ft	

Wellpath: NorthEast Lateral	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 12/30/2004	Above System Datum: Mean Sea Level
Field Strength: 49744 nT	Declination: 8.29 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.90 deg
ft	+E/-W Direction
	ft deg
0.00	0.00 0.00 48.21

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	ClsA deg	ClsD ft	Tool
6911.00	11.96	2.00	6910.09	15.62	-10.91	2.28	0.00	0.00	0.00	325.07	19.05	MWD
6931.00	17.32	29.60	6929.46	20.29	-9.36	6.54	43.29	26.80	138.00	335.22	22.35	MWD
6941.00	21.63	35.84	6938.88	23.08	-7.55	9.75	47.80	43.10	62.40	341.89	24.28	MWD
6951.00	25.59	39.89	6948.04	26.23	-5.08	13.69	42.77	39.60	40.50	349.03	26.72	MWD
6961.00	29.90	43.14	6956.89	29.71	-1.99	18.31	45.66	43.10	32.50	356.16	29.78	MWD
6971.00	34.56	43.75	6965.35	33.58	1.68	23.63	46.71	46.60	6.10	2.86	33.62	MWD
6981.00	39.31	43.31	6973.34	37.93	5.81	29.61	47.57	47.50	-4.40	8.71	38.38	MWD
6991.00	43.79	43.14	6980.82	42.77	10.35	36.22	44.81	44.80	-1.70	13.61	44.00	MWD
7001.00	48.28	43.23	6987.76	48.01	15.28	43.39	44.90	44.90	0.90	17.65	50.39	MWD
7011.00	53.11	44.28	6994.10	53.60	20.63	51.10	48.98	48.30	10.50	21.05	57.43	MWD
7035.00	61.47	48.67	7007.06	67.46	35.28	71.26	38.07	34.83	18.29	27.61	76.13	MWD
7067.00	70.43	51.84	7020.09	86.10	57.74	100.43	29.42	28.00	9.91	33.84	103.67	MWD
7098.00	75.27	52.45	7029.23	104.27	81.12	129.97	15.73	15.61	1.97	37.88	132.11	MWD
7129.00	80.37	51.93	7035.77	122.84	105.05	160.19	16.53	16.45	-1.68	40.54	161.64	MWD
7160.00	85.38	52.01	7039.61	141.79	129.27	190.88	16.16	16.16	0.26	42.36	191.87	MWD
7192.00	91.19	52.63	7040.57	161.33	154.58	222.76	18.26	18.16	1.94	43.78	223.43	MWD
7223.00	94.00	51.40	7039.16	180.39	178.98	253.66	9.89	9.06	-3.97	44.78	254.12	MWD
7255.00	94.70	51.14	7036.74	200.35	203.87	285.52	2.33	2.19	-0.81	45.50	285.84	MWD
7286.00	95.06	50.78	7034.10	219.81	227.86	316.37	1.64	1.16	-1.16	46.03	316.60	MWD
7318.00	93.65	49.64	7031.67	240.23	252.38	348.26	5.66	-4.41	-3.56	46.41	348.43	MWD
7333.00	92.15	49.55	7030.91	249.94	263.79	363.24	10.02	-10.00	-0.60	46.54	363.39	MWD
7349.00	91.89	49.64	7030.35	260.30	275.96	379.22	1.72	-1.62	0.56	46.67	379.36	MWD
7380.00	93.03	49.73	7029.02	280.34	299.58	410.18	3.69	3.68	0.29	46.90	410.29	MWD
7411.00	94.70	49.64	7026.93	300.35	323.16	441.10	5.39	5.39	-0.29	47.10	441.18	MWD
7443.00	95.14	49.38	7024.18	321.05	347.41	472.97	1.60	1.37	-0.81	47.26	473.04	MWD
7474.00	96.02	49.20	7021.17	341.17	370.80	503.82	2.90	2.84	-0.58	47.38	503.87	MWD
7505.00	93.47	49.29	7018.60	361.34	394.20	534.71	8.23	-8.23	0.29	47.49	534.75	MWD
7536.00	93.12	48.76	7016.82	381.63	417.56	565.65	2.05	-1.13	-1.71	47.57	565.69	MWD

SUR: O-24-19s-38e, 400/S & 2310/E
 BHL: O-24-19s-38e, 998/S & 1645/E
 API # 30-025-35179

Scientific Drilling Survey

Company: Stevens & Tull
Field: Nadine
Site: Lea County, NM
Well: Emerald #2
Wellpath: NorthEast Lateral

Date: 3/9/2005 **Time:** 16:19:25 **Page:** 2
Co-ordinate(NE) Reference: Well: Emerald #2, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,48.21Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	ClsA deg	ClsD ft	Tool
7568.00	90.75	48.67	7015.74	402.73	441.59	597.63	7.41	-7.41	-0.28	47.64	597.66	MWD
7600.00	91.19	48.41	7015.20	423.92	465.57	629.63	1.60	1.37	-0.81	47.68	629.65	MWD
7631.00	92.24	48.32	7014.27	444.50	488.73	660.61	3.40	3.39	-0.29	47.71	660.64	MWD
7662.00	93.74	49.11	7012.65	464.93	511.99	691.57	5.47	4.84	2.55	47.76	691.59	MWD
7694.00	94.62	49.55	7010.32	485.73	536.20	723.48	3.07	2.75	1.37	47.83	723.49	MWD
7725.00	92.86	49.03	7008.30	505.90	559.65	754.40	5.92	-5.68	-1.68	47.89	754.41	MWD
7757.00	90.04	48.59	7007.49	526.97	583.72	786.39	8.92	-8.81	-1.37	47.92	786.40	MWD
7788.00	89.69	48.67	7007.56	547.46	606.98	817.39	1.16	-1.13	0.26	47.95	817.39	MWD
7816.00	88.90	48.76	7007.91	565.93	628.02	845.38	2.84	-2.82	0.32	47.98	845.39	MWD

