



Scientific Drilling Survey Report

SUR: D-24-19s-37e, 990/N & 760/W
BHL: C-24-19s-37e, 904/N & 2165/W
API # 30-025-36221

Company: Trilogy Operating, Inc.	Date: 2005/01/10	Time: 11:11:48	Page: 1
Field: Nadine	Co-ordinate(NE) Reference:	Site: Lea County, TX, Grid North	
Site: Lea County, TX	Vertical (TVD) Reference:	AGL 3599 & DFE 15 3614.0	
Well: Diamond #3	Section (VS) Reference:	Well (0.00N,0.00E,86.41Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Field: Nadine		
Map System: US State Plane Coordinate System 1927	Map Zone:	New Mexico, Eastern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System:	Site Centre
Sys Datum: Mean Sea Level	Geomagnetic Model:	Wmm_2000

Site: Lea County, TX		
Site Position:	Northing:	602361.00 ft
From: Map	Easting:	877238.00 ft
Position Uncertainty: 0.00 ft	Latitude:	32 39 0.028 N
Ground Level: 0.00 ft	Longitude:	103 6 27.828 W
	North Reference:	Grid
	Grid Convergence:	0.66 deg

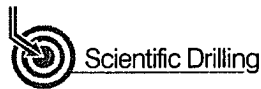
Well: Diamond #3	Slot Name:	
Well Position: +N/-S 0.00 ft	Northing:	602361.00 ft
+E/-W 0.00 ft	Easting:	877238.00 ft
Position Uncertainty: 0.00 ft	Latitude:	32 39 0.028 N
	Longitude:	103 6 27.828 W

Wellpath: 1	Drilled From:	Surface
Current Datum: AGL 3599 & DFE 15	Tie-on Depth:	0.00 ft
Magnetic Data: 2004/11/05	Above System Datum:	Mean Sea Level
Field Strength: 49757 nT	Declination:	8.30 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle:	60.90 deg
ft	+N/-S	ft
0.00	ft	ft
	+E/-W	ft
	ft	ft
	Direction	deg
	deg	deg
	86.41	

Survey Program for Definitive Wellpath		
Date: 2005/01/10	Validated: No	Version: 1
Actual From To	Survey	Toolcode
ft ft		Tool Name
100.00 4135.00	Gyro (100.00-4135.00)	Keeper
4149.00 5627.00	MWD2 (4149.00-5627.00)	MWD
		Keeper Standard Rate Gyro
		MWD - Standard ISCWSA

Survey

MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
0.00	0.00	359.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
100.00	0.43	236.90	100.00	-0.20	-0.31	-0.33	0.43	0.43	0.00	Keeper
200.00	0.14	181.60	200.00	-0.53	-0.63	-0.66	0.37	-0.29	-55.30	Keeper
300.00	0.42	318.84	300.00	-0.38	-0.88	-0.90	0.53	0.28	137.24	Keeper
400.00	0.05	3.31	400.00	-0.06	-1.12	-1.12	0.39	-0.37	44.47	Keeper
500.00	0.04	16.99	500.00	0.02	-1.10	-1.10	0.01	-0.01	13.68	Keeper
600.00	0.35	28.89	600.00	0.32	-0.94	-0.92	0.31	0.31	11.90	Keeper
700.00	0.30	68.27	699.99	0.68	-0.55	-0.51	0.22	-0.05	39.38	Keeper
800.00	0.32	38.22	799.99	1.00	-0.14	-0.08	0.16	0.02	-30.05	Keeper
900.00	0.09	351.14	899.99	1.30	0.02	0.10	0.27	-0.23	-47.08	Keeper
1000.00	0.26	86.85	999.99	1.39	0.24	0.32	0.28	0.17	95.71	Keeper
1100.00	0.24	19.97	1099.99	1.60	0.53	0.63	0.28	-0.02	-66.88	Keeper
1200.00	0.28	133.67	1199.99	1.62	0.78	0.88	0.44	0.04	113.70	Keeper
1300.00	0.29	134.58	1299.99	1.28	1.14	1.22	0.01	0.01	0.91	Keeper
1400.00	0.66	150.00	1399.99	0.60	1.61	1.64	0.39	0.37	15.42	Keeper
1500.00	0.53	146.07	1499.98	-0.28	2.15	2.13	0.14	-0.13	-3.93	Keeper
1600.00	0.69	144.86	1599.97	-1.16	2.76	2.68	0.16	0.16	-1.21	Keeper
1700.00	0.81	163.55	1699.97	-2.33	3.31	3.15	0.27	0.12	18.69	Keeper
1800.00	0.30	272.99	1799.96	-2.99	3.24	3.05	0.95	-0.51	109.44	Keeper
1900.00	0.74	290.22	1899.96	-2.75	2.38	2.20	0.46	0.44	17.23	Keeper
2000.00	0.84	308.00	1999.95	-2.08	1.19	1.06	0.26	0.10	17.78	Keeper
2100.00	1.17	325.65	2099.93	-0.79	0.04	-0.01	0.45	0.33	17.65	Keeper



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Wellpath: 1

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Co-ordinate(NE) Reference: Site: Lea County, TX, Grid North
Vertical (TVD) Reference: AGL 3599 & DFE 15 3614.0
Section (VS) Reference: Well (0.00N,0.00E,86.41Azi)
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	Tool/Comment
2200.00	0.82	327.81	2199.92	0.66	-0.92	-0.87	0.35	-0.35	2.16	Keeper
2300.00	1.03	340.05	2299.91	2.11	-1.61	-1.47	0.29	0.21	12.24	Keeper
2400.00	1.05	16.38	2399.89	3.84	-1.65	-1.41	0.65	0.02	36.33	Keeper
2500.00	1.03	5.62	2499.87	5.61	-1.31	-0.95	0.20	-0.02	-10.76	Keeper
2600.00	1.39	19.36	2599.85	7.65	-0.82	-0.34	0.46	0.36	13.74	Keeper
2700.00	1.47	22.95	2699.82	9.97	0.09	0.71	0.12	0.08	3.59	Keeper
2800.00	1.09	30.18	2799.79	11.98	1.06	1.81	0.41	-0.38	7.23	Keeper
2900.00	0.50	19.60	2899.78	13.21	1.69	2.51	0.61	-0.59	-10.58	Keeper
3000.00	0.67	50.91	2999.78	13.99	2.29	3.16	0.36	0.17	31.31	Keeper
3100.00	0.59	47.11	3099.77	14.71	3.12	4.03	0.09	-0.08	-3.80	Keeper
3200.00	0.31	10.56	3199.77	15.33	3.55	4.50	0.39	-0.28	-36.55	Keeper
3300.00	0.28	4.23	3299.77	15.84	3.61	4.60	0.04	-0.03	-6.33	Keeper
3400.00	0.55	6.57	3399.77	16.56	3.69	4.72	0.27	0.27	2.34	Keeper
3500.00	0.46	328.91	3499.76	17.38	3.53	4.62	0.34	-0.09	-37.66	Keeper
3600.00	0.61	325.39	3599.76	18.16	3.02	4.16	0.15	0.15	-3.52	Keeper
3700.00	0.33	286.30	3699.76	18.68	2.45	3.61	0.41	-0.28	-39.09	Keeper
3800.00	0.19	314.08	3799.75	18.87	2.05	3.23	0.18	-0.14	27.78	Keeper
3900.00	0.29	257.36	3899.75	18.93	1.68	2.87	0.24	0.10	-56.72	Keeper
4000.00	0.51	304.43	3999.75	19.13	1.07	2.27	0.38	0.22	47.07	Keeper
4100.00	0.51	267.53	4099.75	19.36	0.26	1.47	0.32	0.00	-36.90	Keeper
4135.00	0.63	270.18	4134.75	19.36	-0.09	1.12	0.35	0.34	7.57	Keeper
4149.00	4.93	88.92	4148.73	19.37	0.44	1.65	39.71	30.71	1276.71	MWD
4159.00	9.78	88.92	4158.65	19.39	1.72	2.93	48.50	48.50	0.00	MWD
4169.00	14.76	88.92	4168.41	19.43	3.84	5.05	49.80	49.80	0.00	MWD
4179.00	19.80	88.92	4177.96	19.49	6.81	8.02	50.40	50.40	0.00	MWD
4187.00	23.68	94.49	4185.39	19.39	9.77	10.96	54.88	48.50	69.62	MWD
4202.00	31.20	93.08	4198.69	18.94	16.66	17.81	50.32	50.13	-9.40	MWD
4217.00	37.66	90.38	4211.06	18.70	25.13	26.25	44.24	43.07	-18.00	MWD
4248.00	52.86	90.69	4232.82	18.49	47.08	48.15	49.04	49.03	1.00	MWD
4279.00	62.32	88.11	4249.41	18.80	73.22	74.25	31.31	30.52	-8.32	MWD
4310.00	65.17	84.04	4263.13	20.71	100.94	102.04	14.94	9.19	-13.13	MWD
4342.00	73.71	80.56	4274.36	24.74	130.60	131.89	28.56	26.69	-10.87	MWD
4373.00	82.74	81.38	4280.68	29.50	160.54	162.07	29.24	29.13	2.65	MWD
4406.00	85.60	81.97	4284.03	34.25	193.02	194.79	8.85	8.67	1.79	MWD
4437.00	85.72	82.44	4286.38	38.44	223.65	225.61	1.56	0.39	1.52	MWD
4469.00	84.86	82.11	4289.01	42.73	255.25	257.42	2.88	-2.69	-1.03	MWD
4500.00	81.56	81.51	4292.67	47.11	285.71	288.10	10.82	-10.65	-1.94	MWD
4532.00	81.90	83.60	4297.27	51.22	317.11	319.70	6.55	1.06	6.53	MWD
4563.00	82.34	83.24	4301.52	54.74	347.62	350.36	1.83	1.42	-1.16	MWD
4594.00	81.59	83.89	4305.86	58.18	378.12	381.02	3.19	-2.42	2.10	MWD
4625.00	76.95	83.09	4311.63	61.63	408.37	411.43	15.18	-14.97	-2.58	MWD
4656.00	76.72	83.01	4318.69	65.28	438.33	441.56	0.78	-0.74	-0.26	MWD
4688.00	77.54	82.50	4325.82	69.21	469.28	472.69	3.00	2.56	-1.59	MWD
4719.00	82.23	84.62	4331.26	72.63	499.60	503.16	16.56	15.13	6.84	MWD
4750.00	85.42	86.86	4334.59	74.92	530.33	533.98	12.55	10.29	7.23	MWD
4782.00	88.49	88.99	4336.29	76.08	562.25	565.91	11.67	9.59	6.66	MWD
4813.00	88.62	89.84	4337.08	76.39	593.24	596.86	2.77	0.42	2.74	MWD
4845.00	92.21	89.57	4336.84	76.56	625.24	628.80	11.25	11.22	-0.84	MWD
4876.00	91.41	89.72	4335.86	76.75	656.22	659.74	2.63	-2.58	0.48	MWD
4907.00	91.37	90.08	4335.11	76.80	687.21	690.67	1.17	-0.13	1.16	MWD
4938.00	91.68	90.21	4334.29	76.72	718.20	721.59	1.08	1.00	0.42	MWD
4969.00	95.15	90.59	4332.44	76.51	749.14	752.46	11.26	11.19	1.23	MWD
5001.00	95.05	90.84	4329.60	76.11	781.01	784.24	0.84	-0.31	0.78	MWD



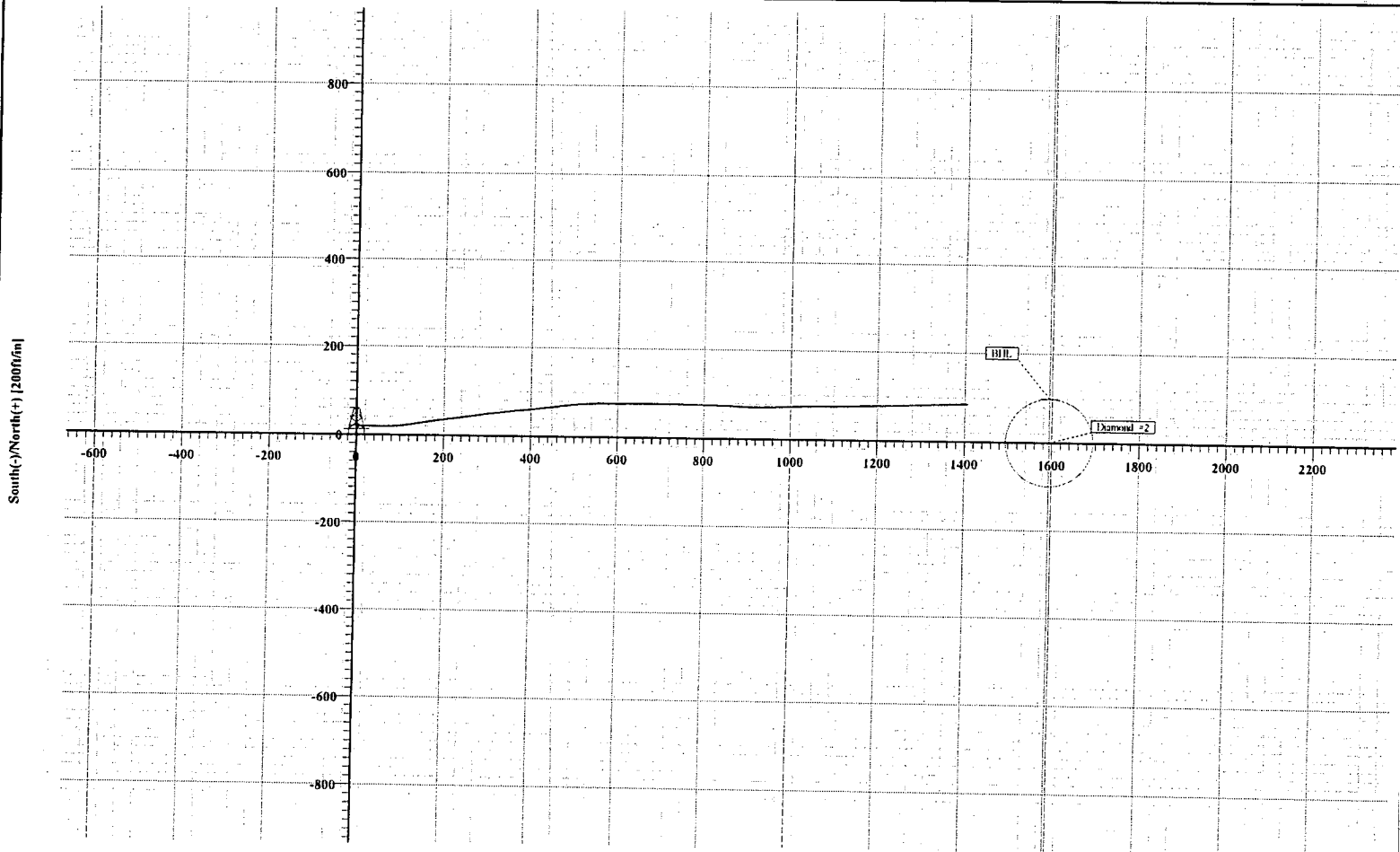
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MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5032.00	96.11	91.08	4326.58	75.59	811.86	815.00	3.51	3.42	0.77	MWD
5064.00	95.67	91.97	4323.30	74.75	843.68	846.70	3.09	-1.37	2.78	MWD
5095.00	95.16	92.85	4320.37	73.45	874.51	877.39	3.27	-1.65	2.84	MWD
5127.00	89.13	90.76	4319.18	72.44	906.46	909.21	19.94	-18.84	-6.53	MWD
5159.00	87.45	89.10	4320.13	72.48	938.44	941.14	7.38	-5.25	-5.19	MWD
5190.00	84.69	87.84	4322.26	73.31	969.35	972.04	9.78	-8.90	-4.06	MWD
5221.00	84.53	88.23	4325.17	74.37	1000.20	1002.89	1.35	-0.52	1.26	MWD
5252.00	87.59	88.05	4327.30	75.37	1031.10	1033.80	9.89	9.87	-0.58	MWD
5284.00	87.78	89.95	4328.59	75.93	1063.07	1065.74	5.96	0.59	5.94	MWD
5316.00	91.55	88.84	4328.78	76.26	1095.06	1097.69	12.28	11.78	-3.47	MWD
5347.00	92.01	88.60	4327.81	76.96	1126.04	1128.65	1.67	1.48	-0.77	MWD
5379.00	91.85	88.51	4326.74	77.76	1158.01	1160.61	0.57	-0.50	-0.28	MWD
5411.00	92.42	89.06	4325.54	78.44	1189.98	1192.56	2.47	1.78	1.72	MWD
5442.00	91.41	87.93	4324.51	79.26	1220.95	1223.52	4.89	-3.26	-3.65	MWD
5473.00	92.79	88.08	4323.37	80.33	1251.91	1254.49	4.48	4.45	0.48	MWD
5504.00	93.01	87.20	4321.80	81.61	1282.85	1285.44	2.92	0.71	-2.84	MWD
5536.00	94.03	87.99	4319.84	82.95	1314.76	1317.37	4.03	3.19	2.47	MWD
5567.00	94.41	88.38	4317.56	83.93	1345.66	1348.27	1.75	1.23	1.26	MWD
5627.00	94.80	88.38	4312.74	85.62	1405.44	1408.04	0.65	0.65	0.00	MWD



West(-)/East(+) [200ft/in]

