

Leam Drilling Systems

Survey Report

Company: PALADIN OIL & GAS	Date: 3/17/2005	Time: 09:28:18	Page: 1
Field: LEA COUNTY, NEW MEXICO	Co-ordinate(NE) Reference:	Well: 1, Grid North	
Site: South Vacuum 26-5	Vertical (TVD) Reference:	SITE 0.0	
Well: 1	Section (VS) Reference:	Well (0.00N,0.00E,240.03Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Adapti

Survey: Scientific Drilling (2nd Run)	Start Date:	3/17/2005
Company: Leam Drilling Systems	Engineer:	Dwayne Smith
Tool:	Tied-to:	From: Scientific Drilling (1ST)

Well: 1	Slot Name:
Well Position: +N-S 0.00 ft Northing:	ft Latitude:
+E-W 0.00 ft Easting :	ft Longitude:
Position Uncertainty: 0.00 ft	

Annotation

MD ft	TVD ft	
100.00	100.00	SCIENTIFIC DRILLING
8055.00	8054.59	LEAM TIED INTO SCIENTIFIC
8055.00	8054.59	SCIENTIFIC TIE-IN SCIENTIFIC
12649.00	12641.30	LEAM TIED INTO SCIENTIFIC
15248.00	0.00	PROJECTION TO TD

SUR: L-26-18s-35e, 1940/S & 980/W
 BHL: L-26-18s-35e, 1944/S & 968/W
 API # 30-025-37035

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	ClsD ft	ClsAzim deg	Dogleg deg/100ft	Comment
8055.00	0.65	2.63	8054.59	-18.04	-31.29	36.12	36.12	240.03	0.00	
8100.00	0.87	7.10	8099.58	-17.45	-31.23	35.77	35.78	240.81	0.51	
8200.00	1.45	354.83	8199.56	-15.44	-31.25	34.78	34.86	243.71	0.63	
8300.00	2.60	340.70	8299.50	-12.04	-32.12	33.83	34.30	249.46	1.25	
8400.00	5.37	341.73	8399.25	-5.45	-34.33	32.46	34.76	260.98	2.77	
8500.00	4.94	339.80	8498.84	3.03	-37.29	30.78	37.41	274.65	0.46	
8600.00	4.68	336.75	8598.49	10.82	-40.38	29.58	41.81	285.00	0.36	
8700.00	3.14	347.56	8698.26	17.25	-42.58	28.27	45.94	292.05	1.70	
8800.00	2.89	21.75	8798.13	22.26	-42.24	25.47	47.75	297.79	1.79	
8900.00	3.62	37.68	8897.97	27.10	-39.38	20.57	47.80	304.54	1.16	
9000.00	3.80	39.08	8997.76	32.17	-35.36	14.55	47.80	312.30	0.20	
9100.00	2.65	82.50	9097.61	35.05	-30.98	9.32	46.77	318.53	2.61	
9200.00	3.33	104.12	9197.48	34.64	-25.87	5.10	43.23	323.25	1.30	
9300.00	3.10	124.06	9297.32	32.42	-20.81	1.83	38.52	327.30	1.14	
9400.00	2.88	144.68	9397.19	28.85	-17.12	0.41	33.55	329.32	1.09	
9500.00	3.21	149.74	9497.05	24.39	-14.25	0.16	28.25	329.69	0.43	
9600.00	2.82	151.41	9596.91	19.81	-11.67	0.21	22.99	329.50	0.40	
9700.00	2.79	150.09	9696.79	15.54	-9.28	0.27	18.10	329.16	0.07	
9800.00	3.31	153.83	9796.65	10.84	-6.79	0.47	12.79	327.94	0.56	
9900.00	3.90	149.36	9896.45	5.32	-3.78	0.62	6.53	324.59	0.65	
10000.00	4.12	149.25	9996.21	-0.69	-0.21	0.53	0.72	197.06	0.22	
10100.00	3.36	162.75	10095.99	-6.58	2.49	1.13	7.04	159.24	1.16	
10200.00	1.49	163.57	10195.90	-10.62	3.73	2.08	11.26	160.66	1.87	
10300.00	0.74	126.09	10295.88	-12.25	4.62	2.12	13.09	159.34	1.01	
10400.00	0.62	50.87	10395.88	-12.29	5.56	1.32	13.49	155.66	0.84	
10500.00	0.54	43.57	10495.87	-11.61	6.31	0.34	13.21	151.49	0.11	
10600.00	1.18	18.25	10595.86	-10.29	6.95	-0.88	12.42	145.95	0.73	
10700.00	1.54	18.75	10695.83	-8.04	7.71	-2.66	11.14	136.21	0.36	
10800.00	2.25	0.50	10795.78	-4.80	8.16	-4.67	9.47	120.49	0.92	
10900.00	2.63	1.89	10895.69	-0.55	8.25	-6.87	8.27	93.80	0.38	
11000.00	2.89	9.70	10995.57	4.23	8.75	-9.69	9.72	64.20	0.46	
11100.00	3.63	330.14	11095.42	9.46	7.60	-11.31	12.13	38.77	2.31	
11200.00	2.71	330.26	11195.27	14.26	4.85	-11.32	15.06	18.78	0.92	
11300.00	2.17	341.32	11295.17	18.11	3.07	-11.71	18.36	9.62	0.71	
11400.00	2.56	252.96	11395.12	19.25	0.33	-9.90	19.25	0.98	3.31	

Leam Drilling Systems

Survey Report

Company: PALADIN OIL & GAS
 Field: LEA COUNTY, NEW MEXICO
 Site: South Vacuum 26-5
 Well: 1
 Wellpath: 1

Date: 3/17/2005 Time: 09:28:18 Page: 2
 Co-ordinate(NE) Reference: Well: 1, Grid North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,240.03Azi)
 Survey Calculation Method: Minimum Curvature Db: Adapti

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	ClsD ft	ClsAzim deg	Dogleg deg/100ft	Comment
11500.00	3.59	236.57	11494.97	16.87	-4.42	-4.80	17.44	345.31	1.34	
11600.00	4.88	222.62	11594.70	12.01	-9.91	2.59	15.57	320.46	1.64	
11700.00	3.00	175.89	11694.48	6.27	-12.61	7.79	14.08	296.44	3.57	
11800.00	1.49	151.22	11794.41	2.52	-11.79	8.96	12.06	282.06	1.76	
11900.00	1.85	177.19	11894.36	-0.23	-11.09	9.72	11.09	268.80	0.83	
12000.00	2.40	170.82	11994.30	-3.91	-10.68	11.20	11.37	249.88	0.60	
12100.00	2.71	157.12	12094.20	-8.16	-9.42	12.24	12.46	229.12	0.68	
12200.00	3.00	153.29	12194.07	-12.67	-7.33	12.68	14.64	210.04	0.35	
12300.00	3.89	137.03	12293.89	-17.49	-3.84	12.06	17.91	192.38	1.31	
12400.00	4.87	137.35	12393.60	-23.10	1.35	10.37	23.14	176.66	0.98	
12500.00	5.06	144.30	12493.23	-29.80	6.80	9.00	30.57	167.15	0.63	
12600.00	6.62	143.65	12592.70	-38.02	12.79	7.92	40.12	161.41	1.56	
12649.00	8.06	141.35	12641.30	-42.98	16.61	7.09	46.08	158.87	3.00	

Leam Drilling Systems

Survey Report

Company: PALADIN OIL & GAS Field: LEA COUNTY, NEW MEXICO Site: South Vacuum 26-5 Well: 1 Wellpath: 1	Date: 3/17/2005 Co-ordinate(NE) Reference: Well: 1, Grid North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,240.03Azi) Survey Calculation Method: Minimum Curvature	Time: 09:26:18 Page: 1 Db: Adapti
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Survey: LEAM MWD (2ND RUN) Company: Leam Drilling Systems Tool:	Start Date: 3/17/2005 Engineer: Dwayne Smith Tied-to: From: Scientific Drilling (2nd)
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Well: 1 Well Position: +N-S 0.00 ft Northing: +E-W 0.00 ft Easting : Position Uncertainty: 0.00 ft	Slot Name: Latitude: Longitude:
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Annotation		
MD ft	TVD ft	
100.00	100.00	SCIENTIFIC DRILLING
8055.00	8054.59	LEAM TIED INTO SCIENTIFIC
8055.00	8054.59	SCIENTIFIC TIE-IN SCIENTIFIC
12649.00	12641.30	LEAM TIED INTO SCIENTIFIC
15248.00	15237.25	PROJECTION TO TD

Survey										Comment
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	ClsD ft	ClsAzim deg	Dogleg deg/100ft	
12649.00	8.06	141.35	12641.30	-42.98	16.61	7.09	46.08	158.87	0.00	
12749.00	4.70	133.40	12740.67	-51.27	23.97	4.86	56.60	154.95	3.47	
12844.00	2.30	129.90	12835.49	-55.17	28.26	3.09	61.99	152.88	2.54	
12941.00	0.60	68.00	12932.45	-56.23	30.22	1.91	63.84	151.74	2.15	
13035.00	1.90	332.20	13026.44	-54.67	29.95	1.37	62.33	151.28	2.18	
13131.00	1.70	311.50	13122.39	-52.32	28.14	1.76	59.41	151.72	0.70	
13227.00	2.60	312.80	13218.32	-49.89	25.48	2.86	56.02	152.95	0.94	
13321.00	3.40	333.20	13312.19	-45.96	22.66	3.33	51.24	153.76	1.41	
13417.00	3.50	332.30	13408.02	-40.82	20.01	3.06	45.46	153.89	0.12	
13513.00	4.10	329.30	13503.81	-35.28	16.90	2.99	39.11	154.41	0.66	
13608.00	4.40	328.20	13598.55	-29.26	13.24	3.15	32.12	155.65	0.33	
13704.00	4.40	342.00	13694.27	-22.63	10.16	2.50	24.80	155.81	1.10	
13797.00	3.10	318.90	13787.07	-17.34	7.41	2.24	18.85	156.86	2.12	
13892.00	2.00	331.50	13881.98	-13.95	4.93	2.70	14.79	160.53	1.29	
13986.00	4.20	13.30	13975.84	-9.15	4.94	0.30	10.40	151.65	3.21	
14082.00	2.20	352.60	14071.69	-3.90	5.51	-2.82	6.75	125.32	2.37	
14178.00	2.20	340.70	14167.62	-0.34	4.66	-3.87	4.68	94.14	0.47	
14274.00	1.10	303.40	14263.58	1.91	3.28	-3.80	3.80	59.83	1.54	
14370.00	1.10	287.50	14359.56	2.69	1.64	-2.76	3.15	31.28	0.32	
14466.00	1.40	290.90	14455.54	3.39	-0.34	-1.40	3.41	354.31	0.32	
14560.00	1.40	270.70	14549.51	3.81	-2.56	0.31	4.59	326.13	0.52	
14661.00	2.90	260.60	14650.44	3.41	-6.31	3.77	7.18	298.38	1.53	
14758.00	2.00	310.00	14747.36	4.10	-10.03	6.64	10.84	292.22	2.27	
14854.00	0.70	352.50	14843.33	5.76	-11.39	6.99	12.76	296.81	1.62	
14948.00	0.90	1.70	14937.32	7.06	-11.44	6.38	13.45	301.68	0.25	
15044.00	0.50	15.90	15033.32	8.22	-11.31	5.69	13.98	306.02	0.45	
15139.00	0.80	178.60	15128.32	7.96	-11.18	5.71	13.72	305.44	1.35	
15203.00	2.40	189.40	15192.29	6.19	-11.39	6.77	12.96	298.52	2.53	
15248.00	2.40	189.40	15237.25	4.33	-11.69	7.97	12.47	290.31	0.00	