

Scientific Drilling

MARBOB ENERGY

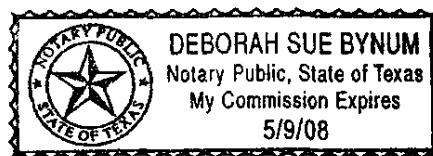
Field: Sly Hawk
Site: Eddy County, NM
Well: Sly Hawk State #2
Wellpath: VH - Job #32K0405307
Survey: 04/29/05

This survey is correct to the best of my knowledge
and is supported by actual field data.

Deborah Sue Bynum Company Representative

Notorized this date 30th of June, 2005.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International Survey Report

Company: MARBOB ENERGY
Field: Sly Hawk
Site: Eddy County, NM
Well: Sly Hawk State #2
Wellpath: VH - Job #32K0405307

Date: 6/30/2005 Time: 20:42:15 Page: 1
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,358.73Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 04/29/05
KSRG 0'-4358'
Company: Scientific Drilling Internatio
Tool: Keeper, Keeper Gyro

Start Date: 4/29/2005
Engineer: Foster w/P&M
Tied-to: From Surface

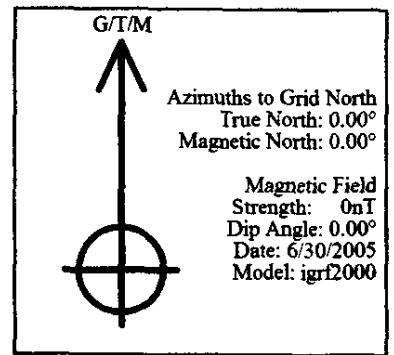
Survey

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	0.32	161.28	100.00	-0.27	-0.26	0.09	0.32	0.28	161.28
200.00	0.54	145.88	200.00	-0.93	-0.92	0.44	0.25	1.02	154.24
300.00	0.76	167.15	299.99	-1.97	-1.96	0.86	0.32	2.13	156.38
400.00	1.63	153.80	399.97	-3.91	-3.88	1.63	0.91	4.21	157.19
500.00	2.06	167.77	499.92	-6.97	-6.91	2.64	0.62	7.40	159.10
600.00	2.46	167.81	599.84	-10.84	-10.77	3.47	0.40	11.31	162.12
700.00	1.89	171.82	699.77	-14.58	-14.50	4.16	0.59	15.08	163.98
800.00	1.66	173.44	799.72	-17.66	-17.57	4.56	0.24	18.15	165.44
900.00	1.30	193.34	899.68	-20.20	-20.11	4.47	0.62	20.60	167.48
1000.00	1.08	219.99	999.66	-22.01	-21.94	3.60	0.59	22.23	170.69
1100.00	1.26	240.62	1099.64	-23.24	-23.20	2.03	0.45	23.29	174.99
1200.00	1.60	252.39	1199.61	-24.15	-24.16	-0.25	0.45	24.16	180.60
1300.00	1.44	265.65	1299.58	-24.61	-24.68	-2.84	0.39	24.84	186.56
1400.00	1.45	296.36	1399.55	-24.09	-24.21	-5.22	0.77	24.77	192.18
1500.00	1.54	294.04	1499.51	-22.93	-23.10	-7.59	0.11	24.31	198.18
1600.00	1.71	269.03	1599.47	-22.34	-22.58	-10.30	0.72	24.82	204.53
1700.00	1.77	269.42	1699.43	-22.32	-22.62	-13.34	0.06	26.26	210.53
1800.00	1.38	271.49	1799.39	-22.24	-22.60	-16.09	0.39	27.74	215.44
1900.00	0.18	272.81	1899.38	-22.17	-22.56	-17.45	1.20	28.52	217.72
2000.00	1.00	88.06	1999.37	-22.15	-22.53	-16.73	1.18	28.06	216.61
2100.00	2.26	95.51	2099.33	-22.37	-22.69	-13.90	1.28	26.61	211.49
2200.00	2.99	99.99	2199.23	-23.12	-23.33	-9.37	0.76	25.14	201.88
2300.00	3.03	102.28	2299.09	-24.24	-24.34	-4.22	0.13	24.71	189.83
2400.00	2.69	107.60	2398.96	-25.62	-25.62	0.60	0.43	25.62	178.65
2500.00	1.41	119.69	2498.90	-27.01	-26.93	3.91	1.34	27.22	171.75
2600.00	0.97	118.84	2598.88	-28.07	-27.95	5.72	0.44	28.53	168.44
2700.00	0.56	115.41	2698.87	-28.72	-28.57	6.90	0.41	29.39	166.42
2800.00	0.56	119.64	2798.86	-29.19	-29.02	7.77	0.04	30.04	165.02
2900.00	0.37	101.45	2898.86	-29.51	-29.33	8.51	0.24	30.54	163.82
3000.00	0.47	95.93	2998.86	-29.63	-29.43	9.23	0.11	30.85	162.58
3100.00	0.20	109.18	3098.86	-29.74	-29.53	9.81	0.28	31.12	161.63
3200.00	0.40	132.51	3198.85	-30.05	-29.83	10.23	0.23	31.53	161.07
3300.00	0.38	145.65	3298.85	-30.56	-30.34	10.67	0.09	32.16	160.62
3400.00	0.33	131.68	3398.85	-31.04	-30.80	11.07	0.10	32.73	160.22
3500.00	0.71	178.85	3498.85	-31.85	-31.61	11.30	0.54	33.57	160.33
3600.00	0.51	171.26	3598.84	-32.92	-32.67	11.38	0.22	34.60	160.79
3700.00	0.22	191.26	3698.84	-33.54	-33.30	11.41	0.31	35.20	161.08
3800.00	0.86	260.03	3798.83	-33.85	-33.62	10.64	0.81	35.26	162.44
3900.00	0.82	251.72	3898.82	-34.17	-33.97	9.22	0.13	35.20	164.82
4000.00	0.99	270.27	3998.81	-34.35	-34.19	7.67	0.34	35.04	167.35
4100.00	0.73	255.37	4098.80	-34.48	-34.35	6.19	0.34	34.90	169.78
4200.00	0.89	255.81	4198.79	-34.80	-34.70	4.82	0.16	35.03	172.09
4300.00	1.01	264.60	4298.78	-35.04	-34.97	3.19	0.19	35.12	174.78
4358.00	1.10	263.40	4356.77	-35.12	-35.09	2.13	0.16	35.15	176.52



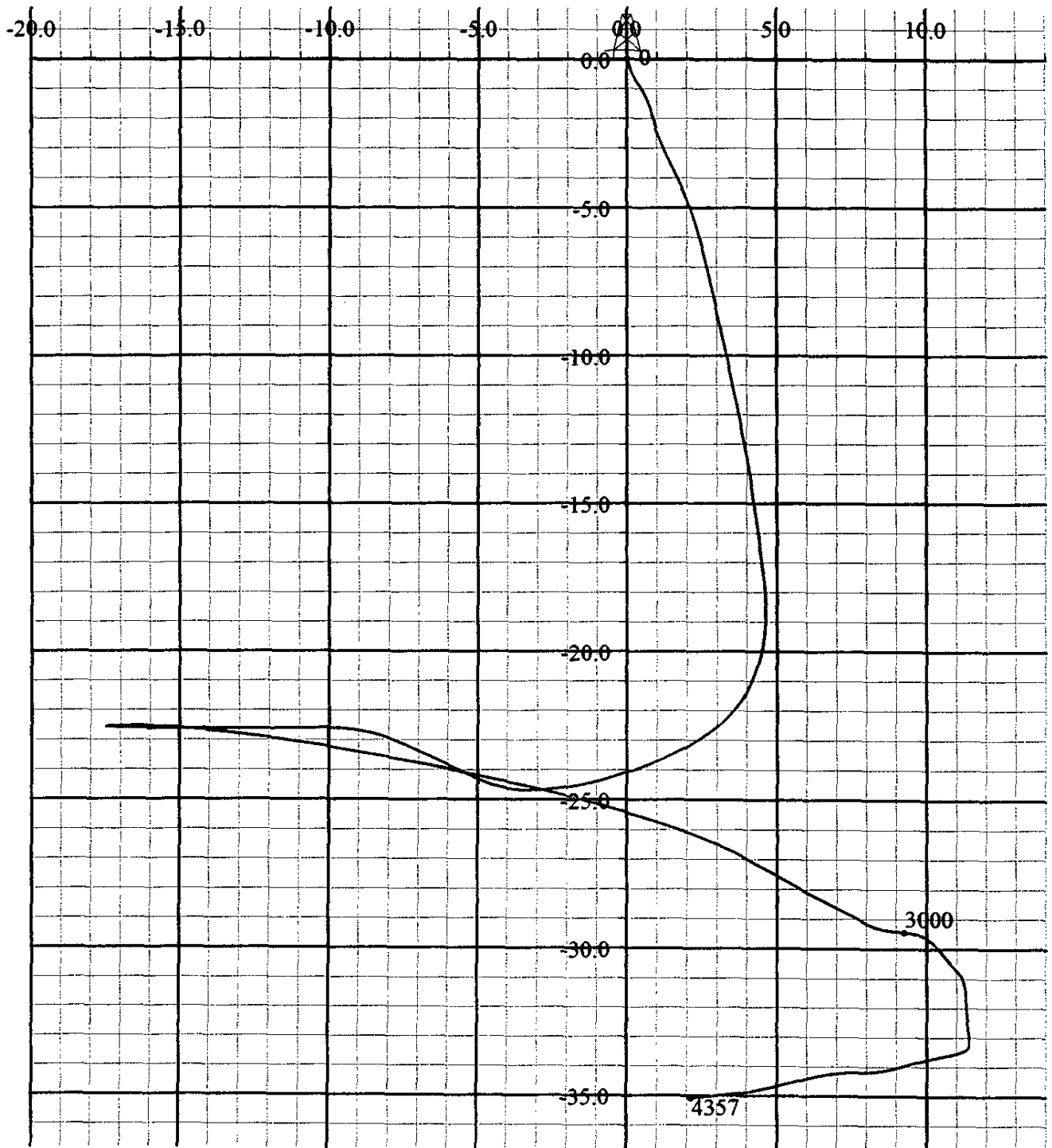
Scientific
Drilling

Field: Sly Hawk
Site: Eddy County, NM
Well: Sly Hawk State #2
Wellpath: VH - Job #32K0405307
Survey: 04/29/05



West(-)/East(+) [5ft/in]

South(-)/North(+) [5ft/in]



PathFinder Survey Report

Company: Marbob Energy	Date: 5/9/2005	Time: 09:07:50	Page: 1
Field: Sly Hawk Field	Co-ordinate(NE) Reference:	Well: Sly Hawk State #2, True North	
Site: Sly Hawk State #2	Vertical (TVD) Reference:	SITE 0.0	
Well: Sly Hawk State #2	Section (VS) Reference:	Well (0.00N,0.00E,358.73Azi)	
Wellpath: Original Hole	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Field: Sly Hawk Field Section 3, T25-S, R28-E Eddy County, New Mexico	Map Zone: New Mexico, Eastern Zone
Map System: US State Plane Coordinate System 1927	Coordinate System: Well Centre
Geo Datum: NAD27 (Clarke 1866)	Geomagnetic Model: igrf2005
Sys Datum: Mean Sea Level	

Site: Sly Hawk State #2 Eddy County, New Mexico Section 3, T25-S, R28-E	
Site Position:	Northing: 421760.72 ft Latitude: 32 9 33.390 N
From: Geographic	Easting: 579697.49 ft Longitude: 104 4 32.860 W
Position Uncertainty: 0.00 ft	North Reference: True
Ground Level: 2999.00 ft	Grid Convergence: 0.14 deg

Well: Sly Hawk State #2	Slot Name:
Well Position: +N/-S 0.00 ft Northing: 421760.72 ft Latitude: 32 9 33.390 N	
+E/-W 0.00 ft Easting: 579697.49 ft Longitude: 104 4 32.860 W	
Position Uncertainty: 0.00 ft	

Wellpath: Original Hole	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 4/29/2005	Above System Datum: Mean Sea Level
Field Strength: 49169 nT	Declination: 8.52 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.18 deg
ft	+N/-S
	+E/-W
	Direction
	deg
0.00	0.00
0.00	0.00
0.00	358.73

Survey: PathFinder MWD Surveys	Start Date: 5/2/2005
Company: PathFinder Energy Services	Engineer: Ron McIntyre
Tool:	Tied-to: From: Definitive Path

Survey: PathFinder MWD Surveys										
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
4358.00	1.10	263.40	4356.77	-35.09	2.13	-35.12	0.00	0.00	0.00	
4388.00	0.88	275.80	4386.76	-35.10	1.62	-35.12	1.02	-0.73	41.33	
4451.00	6.24	355.78	4449.63	-31.63	0.88	-31.64	9.76	8.51	126.95	
4513.00	14.07	358.06	4510.61	-20.72	0.38	-20.72	12.64	12.63	3.68	
4575.00	22.60	359.99	4569.41	-1.24	0.12	-1.24	13.79	13.76	3.11	
4638.00	31.48	1.49	4625.47	27.37	0.55	27.35	14.14	14.10	2.38	
4700.00	40.01	0.70	4675.74	63.55	1.21	63.50	13.78	13.76	-1.27	
4763.00	46.78	0.08	4721.50	106.80	1.49	106.74	10.77	10.75	-0.98	
4825.00	52.67	0.17	4761.56	154.09	1.60	154.01	9.50	9.50	0.15	
4886.00	57.86	358.85	4796.30	204.19	1.15	204.12	8.69	8.51	-2.16	
4947.00	66.57	358.24	4824.71	258.09	-0.23	258.03	14.31	14.28	-1.00	
5009.00	75.80	359.38	4844.69	316.70	-1.43	316.65	14.99	14.89	1.84	
5072.00	78.79	359.82	4858.54	378.15	-1.86	378.10	4.79	4.75	0.70	
5135.00	86.26	358.30	4866.73	440.56	-2.89	440.52	12.10	11.86	-2.41	
5165.00	88.46	358.29	4868.11	470.51	-3.78	470.48	7.33	7.33	-0.03	
5229.00	88.90	357.71	4869.59	534.46	-6.01	534.46	1.14	0.69	-0.91	
5291.00	89.34	357.57	4870.54	596.40	-8.57	596.44	0.74	0.71	-0.23	
5354.00	89.52	358.10	4871.17	659.35	-10.95	659.43	0.89	0.29	0.84	
5415.00	89.69	357.91	4871.59	720.31	-13.07	720.42	0.42	0.28	-0.31	
5475.00	90.04	358.16	4871.73	780.27	-15.13	780.42	0.72	0.58	0.42	
5537.00	90.31	358.04	4871.54	842.24	-17.18	842.41	0.48	0.44	-0.19	
5599.00	90.57	358.49	4871.06	904.21	-19.06	904.41	0.84	0.42	0.73	
5661.00	90.22	358.68	4870.64	966.19	-20.59	966.41	0.64	-0.56	0.31	
5722.00	89.08	358.09	4871.01	1027.16	-22.31	1027.40	2.10	-1.87	-0.97	

PathFinder

Survey Report

Company: Marbob Energy	Date: 5/9/2005	Time: 09:07:50	Page: 2
Field: Sly Hawk Field	Co-ordinate(NE) Reference:	Well: Sly Hawk State #2, True North	
Site: Sly Hawk State #2	Vertical (TVD) Reference:	SITE 0.0	
Well: Sly Hawk State #2	Section (VS) Reference:	Well (0.00N,0.00E,358.73Azi)	
Wellpath: Orginal Hole	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: PathFinder MWD Surveys

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
5785.00	86.61	357.51	4873.38	1090.07	-24.73	1090.35	4.03	-3.92	-0.92	
5849.00	85.47	357.25	4877.80	1153.84	-27.65	1154.17	1.83	-1.78	-0.41	
5910.00	91.36	0.89	4879.48	1214.78	-28.63	1215.11	11.35	9.66	5.97	
5972.00	89.96	3.18	4878.77	1276.73	-26.43	1277.00	4.33	-2.26	3.69	
6034.00	84.59	359.39	4881.72	1338.61	-25.04	1338.83	10.60	-8.66	-6.11	
6096.00	81.34	356.66	4889.31	1400.09	-27.15	1400.35	6.82	-5.24	-4.40	
6159.00	81.78	355.20	4898.56	1462.25	-31.58	1462.59	2.40	0.70	-2.32	
6218.00	82.00	355.00	4906.88	1520.45	-36.57	1520.88	0.50	0.37	-0.34	

Marbob Energy

Sly Hawk State #2

Section 3, T25-S, R28-E

Eddy County, New Mexico

Plan #2 050205

PATHFINDER
ENERGY SERVICES

COMPANY DETAILS

Marbob Energy
2208 W. Main St.
Artesia, New Mexico

Calculation Method: Minimum Curvature
Error System: Systematic Ellipse
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Warning Method: Error Ratio

SITE DETAILS

Sly Hawk State #2
Eddy County, New Mexico
Section 3, T25-S, R28-E

Site Centre Latitude: 32°09'33.390N
Longitude: 104°04'32.860W

Ground Level: 2999.00
Positional Uncertainty: 0.00
Convergence: 0.14

FIELD DETAILS

Sly Hawk Field
Section 3, T25-S, R28-E
Eddy County, New Mexico

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: New Mexico, Eastern Zone
Magnetic Model: mgr2005

System Datum: Mean Sea Level
Local North: True North

WELLPATH DETAILS

Original Hole

Rig: L & M #1
Ref. Datum: SITE 0.00R
V. Section Angle: 358.73°
Origin +N/-S: 0.00
Origin +E/-W: 0.00
Starting From TVD: 0.00

Azimuths to True North
Magnetic North: 8.52°



Magnetic Field
Strength: 49169nT
Dip Angle: 60.18°
Date: 4/29/2005
Model: mgr2005

Survey: Pathfinder MWD Surveys (Sly Hawk State #2/Original Hole)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
23	5661.00	90.22	358.68	4870.64	966.19	-20.59	0.64	151.50	966.41
24	5722.00	89.08	358.09	4871.01	1027.16	-22.31	2.10	-152.64	1027.40
25	5785.00	86.61	357.51	4873.38	1090.07	-24.73	4.03	-166.80	1090.35
26	5849.00	85.47	357.25	4877.80	1153.84	-27.65	1.83	-167.19	1154.17
27	5910.00	91.36	0.89	4879.48	1214.78	-28.63	11.35	31.78	1215.11
28	5972.00	89.96	3.18	4878.77	1276.73	-26.43	4.33	121.42	1277.00
29	6034.00	84.59	359.39	4881.72	1338.61	-25.04	10.60	-144.89	1338.83
30	6096.00	81.34	356.66	4889.31	1400.09	-27.15	6.82	-140.34	1400.35
31	6159.00	81.78	355.20	4898.56	1462.25	-31.58	2.40	-73.16	1462.59
32	6218.00	82.00	355.00	4906.88	1520.45	-36.57	0.50	-42.00	1520.88

