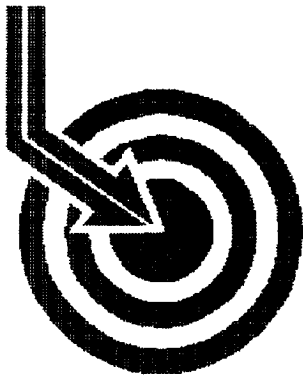




Scientific Drilling

MARBOB ENERGY

Field: Willow Lake
Site: Eddy County, NM
Well: Scared Hawk State #1
Wellpath: VH - Job #32K0906768
Survey: 09/21/06

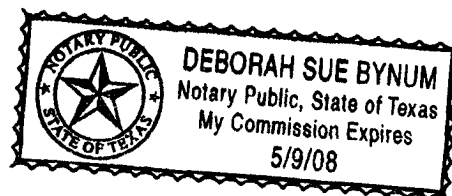
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....R. Wharton..... Company Representative

Notorized this date 26th of September, 2006.

Deborah Sue Bynum

Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

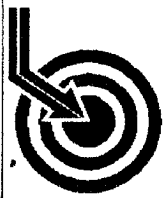
Company: MARBOB ENERGY
Field: Willow Lake
Site: Eddy County, NM
Well: Scared Hawk State #1
Wellpath: VH - Job #32K0906768

Date: 09/22/2006 Time: 10:43:08 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,116.40Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 09/21/06 Start Date: 09/21/2006
KSRG 0'-4500'
Company: Scientific Drilling Internatio Engineer: Gonzales w/Geogyro
Tool: Keeper;Keeper Gyro Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ChD ft	ChA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.13	282.11	100.00	-0.11	0.02	-0.11	0.13	0.11	282.11
200.00	0.30	231.92	200.00	-0.33	-0.11	-0.43	0.24	0.44	255.10
300.00	0.56	263.77	300.00	-0.86	-0.33	-1.12	0.34	1.17	253.66
400.00	0.63	254.51	399.99	-1.68	-0.53	-2.14	0.12	2.20	256.11
500.00	0.46	282.07	499.99	-2.48	-0.59	-3.06	0.31	3.11	259.06
600.00	0.77	306.86	599.98	-3.53	-0.10	-3.99	0.40	3.99	268.50
700.00	0.84	296.76	699.97	-4.92	0.63	-5.18	0.16	5.22	276.92
800.00	0.94	239.02	799.96	-6.09	0.54	-6.54	0.86	6.56	274.69
900.00	1.21	225.10	899.94	-6.88	-0.63	-7.99	0.37	8.01	265.49
1000.00	1.33	220.62	999.92	-7.50	-2.26	-9.49	0.16	9.76	256.63
1100.00	1.35	224.03	1099.89	-8.14	-3.98	-11.07	0.08	11.76	250.20
1200.00	1.40	224.68	1199.86	-8.88	-5.70	-12.74	0.05	13.96	245.90
1300.00	1.34	225.50	1299.83	-9.65	-7.39	-14.44	0.06	16.22	242.90
1400.00	1.24	221.32	1399.81	-10.31	-9.02	-15.99	0.14	18.36	240.56
1500.00	1.31	221.72	1499.78	-10.89	-10.69	-17.46	0.07	20.47	238.53
1600.00	1.38	227.90	1599.76	-11.63	-12.35	-19.12	0.16	22.76	237.14
1700.00	1.56	229.76	1699.72	-12.61	-14.03	-21.05	0.19	25.30	236.31
1800.00	0.59	181.90	1799.71	-12.94	-15.43	-22.10	1.24	26.96	235.09
1900.00	1.20	108.64	1899.70	-11.69	-16.28	-21.13	1.17	26.67	232.39
2000.00	1.75	88.73	1999.66	-9.30	-16.58	-18.61	0.74	24.92	228.31
2100.00	2.05	90.33	2099.61	-6.34	-16.55	-15.29	0.30	22.54	222.74
2200.00	2.27	94.60	2199.54	-2.90	-16.72	-11.53	0.27	20.31	214.59
2300.00	2.42	93.36	2299.45	0.89	-17.01	-7.45	0.16	18.57	203.66
2400.00	2.14	96.68	2399.37	4.59	-17.35	-3.49	0.31	17.69	191.37
2500.00	1.77	92.52	2499.32	7.76	-17.63	-0.09	0.40	17.63	180.30
2600.00	1.37	94.17	2599.28	10.28	-17.79	2.64	0.40	17.98	171.55
2700.00	1.33	100.40	2699.25	12.50	-18.08	4.98	0.15	18.76	164.61
2800.00	1.36	93.73	2799.22	14.71	-18.37	7.30	0.16	19.77	158.32
2900.00	1.18	83.52	2899.20	16.67	-18.33	9.51	0.29	20.65	152.58
3000.00	1.04	81.87	2999.18	18.28	-18.09	11.43	0.14	21.40	147.70
3100.00	0.84	78.86	3099.17	19.61	-17.82	13.05	0.21	22.08	143.78
3200.00	0.88	67.43	3199.16	20.70	-17.38	14.48	0.18	22.62	140.20
3300.00	0.68	66.42	3299.15	21.58	-16.85	15.73	0.20	23.05	136.96
3400.00	0.76	71.06	3399.14	22.43	-16.40	16.90	0.10	23.55	134.13
3500.00	0.67	68.74	3499.13	23.29	-15.97	18.07	0.09	24.12	131.46
3600.00	0.52	73.50	3599.12	24.02	-15.63	19.05	0.16	24.64	129.36
3700.00	0.53	62.76	3699.12	24.62	-15.29	19.90	0.10	25.09	127.53
3800.00	0.49	72.81	3799.12	25.21	-14.95	20.72	0.10	25.55	125.81
3900.00	0.47	63.29	3899.11	25.76	-14.64	21.50	0.08	26.01	124.25
4000.00	0.39	54.35	3999.11	26.17	-14.25	22.14	0.10	26.33	122.78
4100.00	0.39	62.62	4099.11	26.53	-13.90	22.72	0.06	26.63	121.46
4200.00	0.35	40.18	4199.11	26.80	-13.51	23.22	0.15	26.86	120.20
4300.00	0.26	42.78	4299.10	26.94	-13.11	23.57	0.09	26.97	119.09
4400.00	0.20	46.72	4399.10	27.06	-12.82	23.85	0.06	27.08	118.27
4500.00	0.83	21.13	4499.10	27.06	-12.03	24.24	0.66	27.06	116.40



**Scientific
Drilling**

Field: Willow Lake
Site: Eddy County, NM
Well: Scared Hawk State #1
Wellpath: VH - Job #32K0906768
Survey: 09/21/06

G/T/M

Azimuths to Grid North

True North: 0.00°

Magnetic North: 0.00°

Magnetic Field

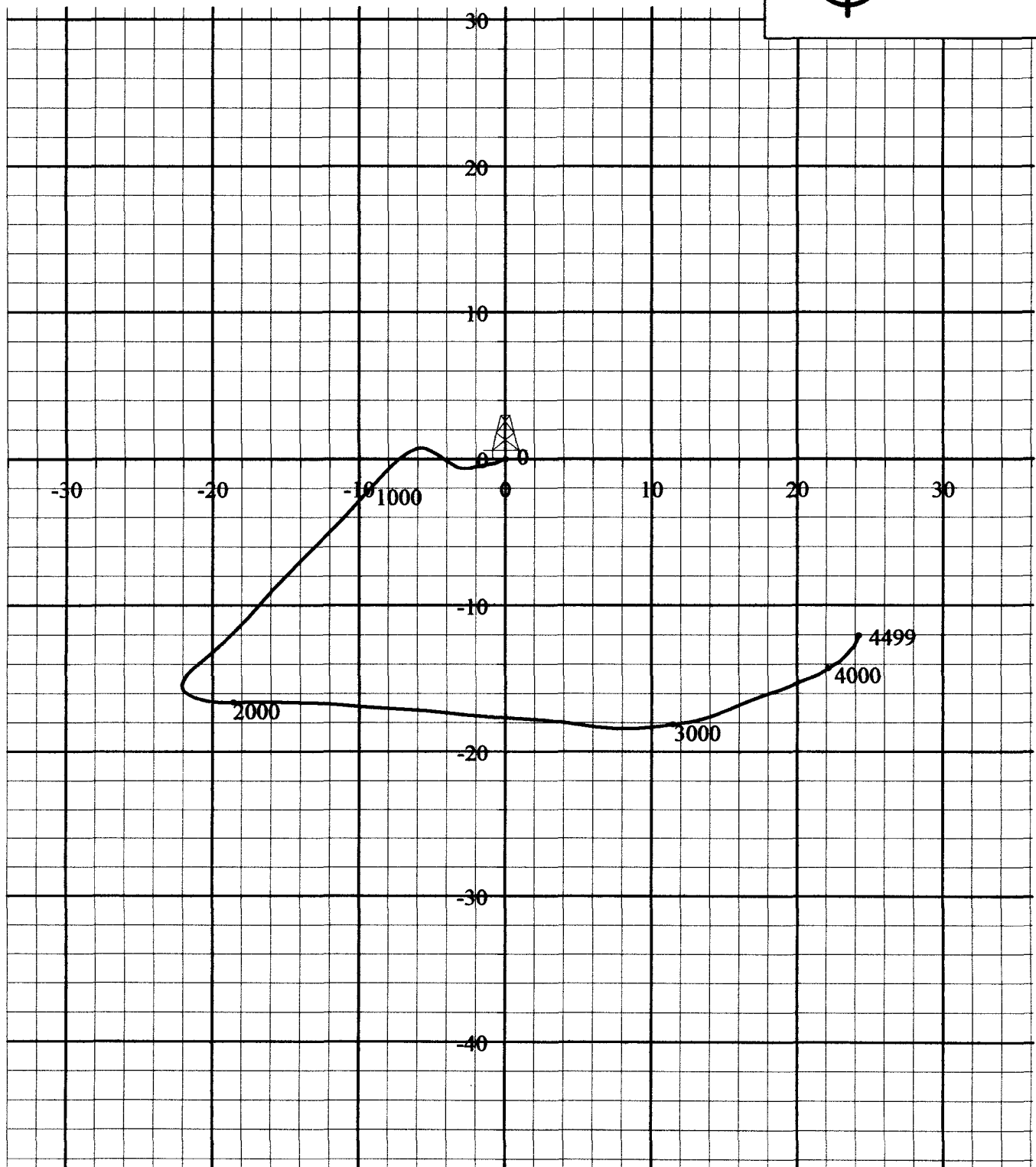
Strength: 0nT

Dip Angle: 0.00°

Date: 09/22/2006

Model: igrf2000

South(-)/North(+) [10ft/in]



West(-)/East(+) [10ft/in]

Pathfinder Energy

Survey Report

Company: Marbob Energy	Date: 10/5/2006	Time: 14:58:32	Page: 1
Field: Eddy County, NM NAD-27	Co-ordinate(NE) Reference: Well: Scared Hawk St Com #1, Grid North		
Site: Scared Hawk St Com #1	Vertical (TVD) Reference: SITE 0.0		
Well: Scared Hawk St Com #1	Section (VS) Reference: Well (0.00N,0.00E,267.49Azi)		
Wellpath: OH	Survey Calculation Method: Minimum Curvature		
	Db: Sybase		

Field: Eddy County, NM NAD-27

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2005

Site: Scared Hawk St Com #1

Site Position:	Northing:	ft	Latitude:
From: Lease Line	Easting:	ft	Longitude:
Position Uncertainty: 0.00 ft			North Reference: Grid
Ground Level: 3009.00 ft			Grid Convergence: 0.13 deg

Well: Scared Hawk St Com #1	Slot Name:
Well Position: +N/-S 0.00 ft	Latitude: 32 9 55.688 N
+E/-W 0.00 ft	Longitude: 104 5 0.226 W
Position Uncertainty: 0.00 ft	

Wellpath: OH	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 9/22/2006	Above System Datum: Mean Sea Level
Field Strength: 49038 nT	Declination: 8.36 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.16 deg
ft	+E/-W
	Direction
	deg
0.00	0.00
0.00	267.49

Survey: Pathfinder MWD Surveys	Start Date: 10/5/2006
Company: Pathfinder Energy	Engineer: Midwellplan
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
4300.00	0.26	42.78	4299.10	-13.11	23.57	-22.97	0.00	0.00	0.00	Tie In
4336.00	0.26	278.93	4335.10	-13.04	23.54	-22.95	1.27	0.00	-344.03	
4349.90	0.97	288.90	4349.00	-12.99	23.40	-22.81	5.15	5.11	71.75	KOP @ 4350' MD / TVD' Bui
4367.00	1.85	290.62	4366.10	-12.85	23.00	-22.42	5.15	5.14	10.04	
4399.00	3.34	273.75	4398.06	-12.61	21.59	-21.02	5.18	4.66	-52.72	
4431.00	5.63	266.63	4429.96	-12.64	19.09	-18.52	7.35	7.16	-22.25	
4463.00	9.76	258.02	4461.67	-13.29	14.87	-14.28	13.36	12.91	-26.91	
4495.00	16.44	262.85	4492.82	-14.42	7.72	-7.08	21.14	20.87	15.09	
4527.00	21.72	268.21	4523.05	-15.17	-2.70	3.36	17.37	16.50	16.75	
4558.00	26.64	270.93	4551.33	-15.24	-15.39	16.05	16.27	15.87	8.77	
4590.00	30.95	272.17	4579.36	-14.81	-30.80	31.41	13.60	13.47	3.87	
4622.00	35.35	266.54	4606.16	-15.06	-48.27	48.88	16.77	13.75	-17.59	
4654.00	39.92	263.73	4631.49	-16.74	-67.73	68.40	15.25	14.28	-8.78	
4686.00	42.74	263.29	4655.52	-19.13	-88.73	89.48	8.86	8.81	-1.37	
4718.00	48.19	265.92	4677.96	-21.25	-111.42	112.25	18.01	17.03	8.22	
4749.00	51.35	264.08	4697.98	-23.32	-135.00	135.89	11.15	10.19	-5.94	
4781.00	54.52	265.40	4717.26	-25.65	-160.42	161.39	10.44	9.91	4.12	
4813.00	57.68	262.15	4735.11	-28.55	-186.81	187.88	12.98	9.87	-10.16	
4845.00	61.73	264.46	4751.25	-31.76	-214.25	215.43	14.11	12.66	7.22	
4877.00	65.42	265.40	4765.49	-34.28	-242.79	244.05	11.83	11.53	2.94	
4909.00	68.32	267.07	4778.06	-36.21	-272.15	273.47	10.25	9.06	5.22	
4940.00	69.29	266.01	4789.27	-37.96	-301.00	302.37	4.47	3.13	-3.42	
4972.00	71.58	267.33	4799.98	-39.70	-331.09	332.51	8.14	7.16	4.12	
5004.00	75.18	268.21	4809.13	-40.90	-361.73	363.17	11.55	11.25	2.75	

Pathfinder Energy

Survey Report

Company: Marbob Energy Field: Eddy County, NM NAD-27 Site: Scared Hawk St Com #1 Well: Scared Hawk St Com #1 Wellpath: OH	Date: 10/5/2006 Time: 14:58:32 Page: 2 Co-ordinate(NE) Reference: Well: Scared Hawk St Com #1, Grid North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,267.49Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey: Pathfinder MWD Surveys

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5036.00	79.05	268.39	4816.27	-41.82	-392.90	394.36	12.11	12.09	0.56	
5068.00	81.69	266.10	4821.62	-43.34	-424.41	425.90	10.86	8.25	-7.16	
5100.00	85.21	266.63	4825.27	-45.35	-456.13	457.68	11.12	11.00	1.66	
5101.44	85.36	266.61	4825.39	-45.44	-457.57	459.12	10.62	10.48	-1.72	EOC @ 5101' MD / 4828 TVD
5131.00	88.46	266.10	4826.98	-47.32	-487.02	488.62	10.62	10.48	-1.71	
5163.00	90.04	266.36	4827.40	-49.42	-518.95	520.61	5.00	4.94	0.81	
5191.00	90.84	267.51	4827.19	-50.92	-546.90	548.61	5.00	2.86	4.11	
5223.00	91.63	267.68	4826.50	-52.26	-578.87	580.60	2.53	2.47	0.53	
5254.00	92.77	267.60	4825.31	-53.53	-609.82	611.58	3.69	3.68	-0.26	
5286.00	93.83	267.95	4823.46	-54.78	-641.74	643.52	3.49	3.31	1.09	
5318.00	93.74	267.16	4821.35	-56.14	-673.64	675.45	2.48	-0.28	-2.47	
5350.00	92.95	265.92	4819.49	-58.07	-705.53	707.39	4.59	-2.47	-3.87	
5382.00	94.18	266.54	4817.50	-60.17	-737.40	739.32	4.30	3.84	1.94	
5414.00	94.09	266.54	4815.19	-62.09	-769.26	771.23	0.28	-0.28	0.00	
5477.00	91.19	267.24	4812.29	-65.51	-832.09	834.16	4.74	-4.60	1.11	
5509.00	91.09	267.24	4811.65	-67.05	-864.05	866.15	0.31	-0.31	0.00	
5573.00	91.45	267.60	4810.23	-69.93	-927.96	930.13	0.80	0.56	0.56	
5636.00	88.90	266.72	4810.04	-73.05	-990.88	993.13	4.28	-4.05	-1.40	
5668.00	88.20	266.89	4810.85	-74.83	-1022.82	1025.11	2.25	-2.19	0.53	
5700.00	88.46	266.89	4811.78	-76.57	-1054.76	1057.10	0.81	0.81	0.00	
5732.00	88.29	266.01	4812.69	-78.55	-1086.69	1089.08	2.80	-0.53	-2.75	
5763.00	88.29	267.68	4813.61	-80.25	-1117.62	1120.06	5.38	0.00	5.39	
5795.00	87.41	266.80	4814.81	-81.79	-1149.56	1152.04	3.89	-2.75	-2.75	
5827.00	87.23	266.10	4816.31	-83.77	-1181.47	1184.00	2.26	-0.56	-2.19	
5859.00	87.41	266.01	4817.81	-85.97	-1213.36	1215.95	0.63	0.56	-0.28	
5891.00	87.58	265.52	4819.21	-88.33	-1245.24	1247.91	1.62	0.53	-1.53	
5923.00	87.32	265.40	4820.63	-90.86	-1277.11	1279.86	0.89	-0.81	-0.37	
5954.00	87.85	265.31	4821.94	-93.37	-1307.98	1310.81	1.73	1.71	-0.29	
5986.00	88.37	265.35	4822.99	-95.97	-1339.85	1342.77	1.63	1.62	0.12	
6018.00	88.81	264.87	4823.78	-98.70	-1371.73	1374.73	2.03	1.37	-1.50	
6050.00	89.87	264.87	4824.15	-101.56	-1403.60	1406.69	3.31	3.31	0.00	
6082.00	90.13	264.70	4824.15	-104.47	-1435.46	1438.66	0.97	0.81	-0.53	
6145.00	91.01	264.34	4823.52	-110.49	-1498.17	1501.57	1.51	1.40	-0.57	
6177.00	91.28	264.34	4822.88	-113.64	-1530.01	1533.52	0.84	0.84	0.00	
6241.00	90.48	264.26	4821.90	-120.00	-1593.69	1597.41	1.26	-1.25	-0.12	
6303.00	90.40	264.08	4821.42	-126.29	-1655.36	1659.30	0.32	-0.13	-0.29	
6337.00	89.79	264.34	4821.37	-129.72	-1689.19	1693.25	1.95	-1.79	0.76	
6431.00	90.92	265.75	4820.78	-137.84	-1782.83	1787.15	1.92	1.20	1.50	
6494.00	91.19	264.96	4819.62	-142.94	-1845.61	1850.10	1.32	0.43	-1.25	
6558.00	90.57	265.40	4818.64	-148.32	-1909.38	1914.04	1.19	-0.97	0.69	
6590.00	90.40	265.40	4818.37	-150.89	-1941.28	1946.02	0.53	-0.53	0.00	
6654.00	90.31	265.40	4817.97	-156.02	-2005.07	2009.97	0.14	-0.14	0.00	
6717.00	91.98	265.40	4816.71	-161.07	-2067.85	2072.92	2.65	2.65	0.00	
6780.00	91.45	264.08	4814.83	-166.84	-2130.56	2135.81	2.26	-0.84	-2.10	
6850.00	91.19	265.05	4813.22	-173.47	-2200.22	2205.70	1.43	-0.37	1.39	
6915.00	91.19	265.05	4811.87	-179.08	-2264.96	2270.63	0.00	0.00	0.00	

Annotation

MD ft	TVD ft	
4349.90	4349.00	KOP @ 4350' MD / TVD' Build 12"/100'
5101.44	4825.39	EOC @ 5101' MD / 4828 TVD
4300.00	4299.10	Tie In



Field: Eddy County, NM NAD-27
Site: Scared Hawk St Com #1
Well: Scared Hawk St Com #1
Wellpath: OH
Survey: Pathfinder MWD Surveys



WELLPATH DETAILS

Rig: OH
Ref Datum: SITE 0.00ft
V Section: Origin +N/-S Origin +E/-W Starting From TVD
Angle: 267.49° 0.00 0.00 0.00

SITE DETAILS

Scared Hawk St Com #1
Ground Level: 3009.00
Positional Uncertainty: 0.00
Convergence: 0.13

ANNOTATIONS

No.	TVD	MD	Annotation
1	4349.00	4349.90	KOP @ 4350' MD / TVD Build 12°/100'
2	4829.39	5101.44	EOC @ 5101' MD / 4828' TVD
3	4299.10	4300.00	Tie In

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
PBHL	4800.00	-100.00	-2285.00	Point

Survey: Pathfinder MWD Surveys (Scared Hawk St Com #1/OH)									
No	MD	Inc	Az	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
60	6431.00	90.92	265.75	4820.78	-137.84	-1782.83	1.92	51.29	1787.15
61	6494.00	91.19	264.96	4819.62	-142.94	-1845.61	1.32	-71.12	1850.10
62	6558.00	90.57	265.40	4818.64	-148.32	-1909.38	1.19	144.64	1914.04
63	6590.00	90.40	265.40	4818.37	-150.89	-1941.28	0.53	180.00	1946.02
64	6654.00	90.31	265.40	4817.97	-156.02	-2005.07	0.14	180.00	2009.97
65	6717.00	91.98	265.40	4816.71	-161.07	-2067.85	2.65	0.00	2072.92
66	6780.00	91.45	264.08	4814.83	-166.84	-2130.56	2.26	-111.86	2135.81
67	6850.00	91.19	265.02	4813.22	-173.47	-2200.22	1.43	105.00	2205.70
68	6915.00	91.19	265.03	4811.87	-179.08	-2264.96	0.00	0.00	2270.63

