



An Operating Unit of Smith International, Inc.

DIRECTIONAL SURVEY REPORT

MARBOB ENERGY CORPORATION

SHOW STOPPER F.C. # 1H

EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

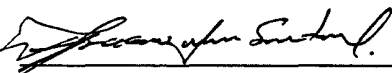
Pathfinder Energy Services, Inc.
6213 W. Interstate 20 • Midland, TX • 79706
(432) 681-6000

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JUSTIN HAWKINS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 7/15/09 TO 7/24/09
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

MARBOB ENERGY CORPORATION
SHOW STOPPER F.C. # 1H
EDDY COUNTY, NM
RIG: PATRIOT # 3
9. SURVEY CERTIFIED FROM: 6190 TO 11156 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4462 FEET ON A BEARING OF 268.86 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11231 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



FRANCISCO SINISTERRA
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 07/15/2009
Date Completed: 07/24/2009

MARBOB ENERGY CORPORATION
SHOWSTOPPER #1H
EDDY COUNTY, NEW MEXICO
Rig: PATRIOT #3
PathFinder Office Supervisor: F. SINISTERRA
PathFinder Field Engineers: J. HAWKINS

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.9.3.6010 N LON: 104.0.58.5947 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 598124.8000 Y: 418799.8000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.83° EAST TO GRID
Vertical Section Plane: 269.60
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude: 2926.00' Ground To MSL

Measured Depth	11231.00	(feet)
Inclination	92.59	(deg)
Azimuth	269.22	(deg)
True Vertical Depth	6935.60	(feet)
Vertical Section	4461.84	(feet)
Survey X cord	593663.55	(feet)
Survey Y cord	418710.78	(feet)
Survey Lat	32.15079084 N	(deg)
Survey Lon	104.03069197 W	(deg)
Rectangular Corr. N/S	88.91 S	(feet)
Rectangular Corr. E/W	4461.33 W	(feet)
Closure Distance	4462.21	(feet)
Direction of Closure	268.86	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY CORPORATION

SHOWSTOPPER #1H

EDDY COUNTY, NEW MEXICO

Rig: PATRIOT #3

PathFinder Office Supervisor: F. SINISTERRA

PathFinder Field Engineers: J. HAWKINS

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.9.3.6010 N LON: 104.0.58.5947 W

Reference: NAD27 new mexico east Transverse Mercator

Ref GRID Coord: X: 598124.8000 Y: 418799.8000

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.83° EAST TO GRID

Vertical Section Plane: 269.60

Survey Vert. Reference: 18.00' Kelly Bushing To Ground

Altitude: 2926.00' Ground To MSL

Survey Calculations by RX5 V5.11i using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIE IN TO SCIENTIFIC DRILLING GYRO SURVEY @ 6118' MD.										
6118.00	1.31	168.41	6116.51	0.00	-79.12	17.30 S	79.24 E	81.11@	102.32	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
6190.00	1.14	175.51	6188.49	72.00	-79.33	18.82 S	79.46 E	81.66@	103.32	0.32
6283.00	1.32	181.22	6281.47	93.00	-79.36	20.81 S	79.51 E	82.19@	104.67	0.23
6370.00	1.23	178.79	6368.45	87.00	-79.35	22.75 S	79.51 E	82.70@	105.97	0.12
6397.00	1.41	194.80	6395.44	27.00	-79.27	23.36 S	79.43 E	82.79@	106.39	1.51
6429.00	2.20	232.60	6427.43	32.00	-78.67	24.11 S	78.84 E	82.45@	107.01	4.34
6461.00	7.03	262.98	6459.32	32.00	-76.23	24.73 S	76.41 E	80.31@	107.93	16.41
6492.00	13.19	264.80	6489.82	31.00	-70.82	25.28 S	71.00 E	75.36@	109.60	19.89
6524.00	19.43	264.32	6520.52	32.00	-61.87	26.14 S	62.06 E	67.34@	112.84	19.51
6556.00	24.97	264.85	6550.14	32.00	-49.83	27.27 S	50.02 E	56.98@	118.60	17.32
6588.00	30.60	264.83	6578.43	32.00	-34.97	28.61 S	35.17 E	45.34@	129.13	17.59
6619.00	33.15	266.30	6604.76	31.00	-18.65	29.87 S	18.86 E	35.32@	147.74	8.60
6651.00	34.91	267.45	6631.28	32.00	-0.76	30.84 S	0.97 E	30.86@	178.19	5.86
6683.00	36.23	269.23	6657.31	32.00	17.85	31.38 S	17.63 W	35.99@	209.33	5.24
6715.00	37.72	271.11	6682.87	32.00	37.09	31.32 S	36.87 W	48.38@	229.66	5.85
6747.00	40.01	271.74	6707.79	32.00	57.16	30.81 S	56.95 W	64.75@	241.58	7.26
6778.00	42.74	271.71	6731.05	31.00	77.63	30.20 S	77.42 W	83.11@	248.69	8.81
6810.00	45.02	271.54	6754.11	32.00	99.80	29.57 S	99.60 W	103.89@	253.46	7.13
6842.00	47.66	271.47	6776.20	32.00	122.94	28.96 S	122.74 W	126.11@	256.72	8.25
6874.00	50.21	271.59	6797.22	32.00	147.05	28.32 S	146.85 W	149.56@	259.09	7.97
6905.00	53.29	271.38	6816.41	31.00	171.38	27.69 S	171.19 W	173.41@	260.81	9.95
6937.00	56.19	271.62	6834.88	32.00	197.49	27.00 S	197.30 W	199.14@	262.21	9.08

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY CORPORATION
SHOWSTOPPER #1H
EDDY COUNTY, NEW MEXICO
RIG: PATRIOT #3

Page 02/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
6969.00	58.39	271.31	6852.17	32.00	224.40	26.31 S	224.22 W	225.76@	263.31	6.92
7001.00	59.44	269.83	6868.69	32.00	251.80	26.04 S	251.62 W	252.96@	264.09	5.14
7033.00	60.15	268.21	6884.79	32.00	279.45	26.52 S	279.27 W	280.53@	264.58	4.91
7064.00	62.78	267.59	6899.60	31.00	306.67	27.52 S	306.48 W	307.72@	264.87	8.66
7096.00	65.95	267.51	6913.44	32.00	335.50	28.75 S	335.30 W	336.53@	265.10	9.91
7128.00	69.03	267.63	6925.69	32.00	365.04	30.00 S	364.84 W	366.07@	265.30	9.63
7160.00	72.19	268.39	6936.32	32.00	395.20	31.05 S	395.00 W	396.22@	265.51	10.13
7192.00	75.53	268.91	6945.21	32.00	425.94	31.77 S	425.72 W	426.91@	265.73	10.55
7223.00	78.88	269.19	6952.07	31.00	456.16	32.27 S	455.95 W	457.09@	265.95	10.84
7255.00	81.51	269.33	6957.52	32.00	487.69	32.68 S	487.47 W	488.57@	266.16	8.23
7287.00	83.71	269.46	6961.64	32.00	519.42	33.02 S	519.20 W	520.25@	266.36	6.89
7319.00	85.91	269.51	6964.53	32.00	551.29	33.30 S	551.07 W	552.07@	266.54	6.88
7350.00	88.11	269.73	6966.15	31.00	582.24	33.51 S	582.02 W	582.99@	266.71	7.13
7382.00	88.72	269.54	6967.04	32.00	614.23	33.71 S	614.01 W	614.94@	266.86	2.00
7414.00	89.08	269.85	6967.65	32.00	646.22	33.88 S	646.00 W	646.89@	267.00	1.48
7477.00	90.75	269.14	6967.74	63.00	709.22	34.44 S	709.00 W	709.83@	267.22	2.88
7541.00	91.10	268.99	6966.71	64.00	773.21	35.48 S	772.98 W	773.80@	267.37	0.60
7636.00	91.71	268.35	6964.38	95.00	868.17	37.68 S	867.93 W	868.75@	267.51	0.93
7700.00	91.80	267.69	6962.42	64.00	932.11	39.89 S	931.86 W	932.71@	267.55	1.04
7763.00	90.31	268.09	6961.26	63.00	995.07	42.21 S	994.80 W	995.70@	267.57	2.45
7827.00	91.80	269.52	6960.08	64.00	1059.05	43.55 S	1058.78 W	1059.67@	267.64	3.23
7891.00	91.28	268.42	6958.36	64.00	1123.02	44.70 S	1122.74 W	1123.63@	267.72	1.90
7954.00	89.78	267.95	6957.78	63.00	1186.00	46.69 S	1185.70 W	1186.62@	267.74	2.50
8018.00	88.20	267.94	6958.91	64.00	1249.96	48.99 S	1249.65 W	1250.61@	267.76	2.47
8081.00	88.55	267.93	6960.70	63.00	1312.91	51.26 S	1312.58 W	1313.59@	267.76	0.56
8145.00	88.81	267.86	6962.17	64.00	1376.87	53.61 S	1376.52 W	1377.57@	267.77	0.42
8208.00	89.78	268.51	6962.94	63.00	1439.84	55.60 S	1439.49 W	1440.56@	267.79	1.85

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY CORPORATION
SHOWSTOPPER #1H
EDDY COUNTY, NEW MEXICO
RIG: PATRIOT #3

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
8272.00	90.31	269.19	6962.89	64.00	1503.83	56.89 S	1503.47 W	1504.55@	267.83	1.35
8335.00	90.48	268.90	6962.46	63.00	1566.83	57.94 S	1566.46 W	1567.53@	267.88	0.53
8399.00	90.75	268.67	6961.77	64.00	1630.82	59.29 S	1630.44 W	1631.52@	267.92	0.55
8462.00	90.92	267.56	6960.85	63.00	1693.79	61.37 S	1693.40 W	1694.51@	267.92	1.78
8526.00	91.10	267.73	6959.73	64.00	1757.74	64.00 S	1757.34 W	1758.50@	267.91	0.39
8589.00	90.57	268.46	6958.81	63.00	1820.71	66.09 S	1820.30 W	1821.50@	267.92	1.43
8653.00	91.19	268.22	6957.83	64.00	1884.69	67.94 S	1884.26 W	1885.49@	267.93	1.04
8717.00	91.54	268.25	6956.30	64.00	1948.65	69.91 S	1948.21 W	1949.47@	267.94	0.55
8780.00	91.19	269.38	6954.80	63.00	2011.63	71.22 S	2011.18 W	2012.44@	267.97	1.88
8844.00	90.13	270.12	6954.06	64.00	2075.62	71.50 S	2075.17 W	2076.41@	268.03	2.02
8907.00	89.87	269.27	6954.06	63.00	2138.62	71.83 S	2138.17 W	2139.38@	268.08	1.41
8971.00	90.13	268.72	6954.06	64.00	2202.62	72.95 S	2202.16 W	2203.37@	268.10	0.95
9034.00	90.22	268.56	6953.87	63.00	2265.61	74.45 S	2265.15 W	2266.37@	268.12	0.29
9098.00	89.69	268.60	6953.92	64.00	2329.60	76.04 S	2329.12 W	2330.37@	268.13	0.83
9161.00	90.48	269.11	6953.83	63.00	2392.59	77.29 S	2392.11 W	2393.36@	268.15	1.49
9225.00	91.36	269.70	6952.80	64.00	2456.58	77.96 S	2456.10 W	2457.34@	268.18	1.66
9289.00	91.80	269.52	6951.04	64.00	2520.56	78.39 S	2520.07 W	2521.29@	268.22	0.74
9352.00	91.71	269.40	6949.11	63.00	2583.53	78.99 S	2583.04 W	2584.25@	268.25	0.24
9416.00	89.43	270.18	6948.47	64.00	2647.52	79.22 S	2647.03 W	2648.22@	268.29	3.77
9479.00	89.60	269.49	6949.00	63.00	2710.52	79.40 S	2710.03 W	2711.19@	268.32	1.13
9543.00	88.99	269.07	6949.79	64.00	2774.51	80.21 S	2774.02 W	2775.18@	268.34	1.16
9608.00	88.90	268.40	6950.99	65.00	2839.49	81.64 S	2838.99 W	2840.17@	268.35	1.04
9670.00	89.60	268.32	6951.80	62.00	2901.47	83.42 S	2900.96 W	2902.16@	268.35	1.14
9733.00	90.40	269.44	6951.80	63.00	2964.47	84.65 S	2963.95 W	2965.16@	268.36	2.18
9797.00	90.48	269.31	6951.31	64.00	3028.46	85.35 S	3027.94 W	3029.14@	268.39	0.24
9860.00	90.92	268.86	6950.54	63.00	3091.46	86.35 S	3090.93 W	3092.13@	268.40	1.00
9924.00	90.40	268.15	6949.80	64.00	3155.44	88.02 S	3154.90 W	3156.13@	268.40	1.37

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY CORPORATION
SHOWSTOPPER #1H
EDDY COUNTY, NEW MEXICO
RIG: PATRIOT #3

Page 04/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
9986.00	90.66	267.83	6949.23	62.00	3217.41	90.20 S	3216.86 W	3218.12@	268.39	0.67
10051.00	91.01	269.57	6948.28	65.00	3282.39	91.67 S	3281.83 W	3283.11@	268.40	2.73
10114.00	90.57	269.69	6947.41	63.00	3345.39	92.08 S	3344.83 W	3346.09@	268.42	0.72
10177.00	89.87	270.36	6947.17	63.00	3408.39	92.05 S	3407.83 W	3409.07@	268.45	1.54
10241.00	90.40	270.26	6947.02	64.00	3472.38	91.70 S	3471.82 W	3473.04@	268.49	0.84
10305.00	89.69	270.73	6946.97	64.00	3536.37	91.15 S	3535.82 W	3537.00@	268.52	1.33
10368.00	90.13	271.17	6947.07	63.00	3599.35	90.11 S	3598.81 W	3599.94@	268.57	0.99
10432.00	90.48	271.04	6946.73	64.00	3663.33	88.87 S	3662.80 W	3663.88@	268.61	0.58
10495.00	88.81	270.80	6947.12	63.00	3726.31	87.86 S	3725.79 W	3726.82@	268.65	2.68
10559.00	87.85	271.27	6948.98	64.00	3790.26	86.71 S	3789.75 W	3790.74@	268.69	1.67
10622.00	87.67	270.63	6951.44	63.00	3853.20	85.66 S	3852.69 W	3853.65@	268.73	1.05
10686.00	89.43	270.01	6953.06	64.00	3917.17	85.30 S	3916.67 W	3917.60@	268.75	2.91
10750.00	91.63	270.38	6952.47	64.00	3981.16	85.09 S	3980.66 W	3981.57@	268.78	3.49
10813.00	91.28	270.00	6950.87	63.00	4044.13	84.88 S	4043.64 W	4044.53@	268.80	0.82
10877.00	92.15	269.89	6948.96	64.00	4108.10	84.94 S	4107.61 W	4108.49@	268.82	1.37
10940.00	91.63	269.55	6946.88	63.00	4171.07	85.25 S	4170.58 W	4171.45@	268.83	0.99
11004.00	92.07	269.52	6944.81	64.00	4235.04	85.77 S	4234.54 W	4235.41@	268.84	0.69
11068.00	92.15	268.97	6942.46	64.00	4298.99	86.61 S	4298.49 W	4299.36@	268.85	0.87
11132.00	92.24	269.29	6940.00	64.00	4362.94	87.58 S	4362.44 W	4363.32@	268.85	0.52
11156.00	92.59	269.22	6938.99	24.00	4386.92	87.89 S	4386.41 W	4387.29@	268.85	1.49
STRAIGHT LINE PROJECTION TO BIT @ 11231' MD.										
11231.00	92.59	269.22	6935.60	75.00	4461.84	88.91 S	4461.33 W	4462.21@	268.86	0.00

FINDER ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	Marbob Energy		
LEASE / WELL No.:	Show Stopper F.C.	#1H	
WELL LOCATION:	Eddy County, NM		
COUNTY / STATE / COUNTRY:	Eddy	NM	USA
RIG:	Patriot #3		
API WELL No:	30-015-36559		
JOB No:	101008709-WT-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PES		

WELL SITE INFORMATION

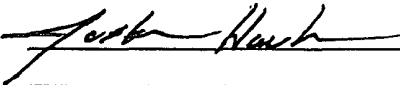
TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.832145	LWD Calculated:	Agreed Upon:
X =	598124.800000	Feet	Y = 418799.800000
			Feet
SITE LATITUDE:	32.151000 N	SITE LONGITUDE:	104.016276 W
GRID SYSTEM:	TRUE ☐ UTM ☒	LAMBERT ☐	ZONE: New Mexico East
PROPOSED DRIFT DIRECTION:	269.02		
KELLY BUSHING ELEVATION:	18		
ALTITUDE:	2926	Feet	WATER DEPTH: 0
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	6118		
DRIFT ANGLE:	1.31		
DRIFT DIRECTION:	168.41		
TRUE VERTICAL DEPTH:	6116.51		
VERTICAL SECTION:	-78.94		
RECTANGULAR COORDINATE (N / S) :	-17.3		
RECTANGULAR COORDINATE (E / W) :	79.24		
CLOSURE DISTANCE / DIRECTION:	81.11	102.32	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	Scientific Drilling		
COPY OF TIE-IN SURVEY REPORT	☒ YES ☐ NO		

WELL PLAN

KICKOFF DEPTH:	8622.5	TOTAL DEPTH:	13369.52
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers:  / J. Hawkins **Signature of both field engineers required if applicable

Directional Driller: _____ / F. Smith

DATE: 15-Jul-2009

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MARBOB ENERGY
SHOW STOPPER FEDERAL COM #1H
EDDY COUNTY, NEW MEXICO
Rig: PATRIOT 3

Mon Jul 13 17:13:17 2009

Coordinates

Latitude: 32.151000 N (32 deg. 9 min. 3.6010 sec.)
Longitude: 104.016276 W (-104 deg. 0 min. 58.5947 sec.)
Elevation: 2926.00 feet.
Calculation Date: Jul/13/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.1036 degrees
Total Magnetic Field: 0.48747 gauss
Magnetic Declination: 8.000869 degrees
Horizontal Intensity: 0.242971 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.000869 Degr.

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 598124.8000 feet
Y: 418799.8000 feet
True to Grid: (convergence) -0.168724 degrees
Magnetic to Grid: 7.832145 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.832145 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MARBOB ENERGY CORPORATION
SHOWSTOPPER #1H
WILLOW LAKE; BONE SPRING
Rig:PATRIOT #3

Tue Jul 28 16:57:33 2009

Coordinates

Latitude: 32.151000 N (32 deg. 9 min. 3.6010 sec.)
Longitude: 104.016276 W (-104 deg. 0 min. 58.5947 sec.)
Elevation: 2944.00 feet.
Calculation Date: Jul/15/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.1035 degrees
Total Magnetic Field: 0.48746 gauss
Magnetic Declination: 8.000213 degrees
Horizontal Intensity: 0.242968 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.000213 Degs

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 598124.8000 feet
Y: 418799.8000 feet
True to Grid: (convergence) -0.168724 degrees
Magnetic to Grid: 7.831489 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.831489 Degs.