

**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**Oil Cons. N.M. Div-Dist. 2  
BORW. Grand Avenue  
Artesia, NM 88210**

FORM APPROVED  
OMB NO. 1004-0137  
Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO.

NMNM92177

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.

9. API WELL NO.

10. FIELD AND POOL, OR WILDCAT

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

12. COUNTY OR PARISH 13. STATE

19. ELEV. CASINGHEAD

23. INTERVALS DRILLED BY ROTARY TOOLS CABLE TOOLS

25. WAS DIRECTIONAL SURVEY MADE

27. WAS WELL CORED

28. CASING RECORD (Report all strings set in well)

29. LINER RECORD 30. TUBING RECORD

31. PERFORATION RECORD (interval, size and number) 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

33. PRODUCTION

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED *Shane Gray* TITLE PRODUCTION ANALYST DATE 1/30/03

\*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG\***

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other

b. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG-BACK  DIFF. RESVR.  Other

2. NAME OF OPERATOR: MARBOB ENERGY CORPORATION

3. ADDRESS AND TELEPHONE NO.: PO BOX 227, ARTESIA, NM 88211-0227 (505) 748-3303

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements\*)  
At surface: 380 FNL 330 FWL, UNIT D  
At top prod. interval reported below: 985 FNL 454 FWL  
At total depth: 2300.69 FNL 441.43 FWL

14. PERMIT NO. DATE ISSUED: 2993' GL 2004

15. DATE SPUNDED: 11/5/03 16. DATE T.D. REACHED: 11/24/03 17. DATE COMPL. (Ready to prod.): 12/30/03

18. ELEVATIONS (DF, RKB, RT, GE, ETC.): 2993' GL

20. TOTAL DEPTH, MD & TVD: 6812' 21. PLUG, BACK T.D., MD & TVD: 6812' 22. IF MULTIPLE COMPL., HOW MANY\*  
23. INTERVALS DRILLED BY ROTARY TOOLS: 0-6812' CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION-TOP, BOTTOM, NAME (MD AND TVD)\*: 5495' - 6750' DELAWARE

25. WAS DIRECTIONAL SURVEY MADE: YES

26. TYPE ELECTRIC AND OTHER LOGS RUN: DLL, CSNG 27. WAS WELL CORED: NO

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
9 5/8" J55	36#	566'	12 1/4"	375 SX, CIRC	NONE
5 1/2" J55 & L80	17#	6801'	7 7/8"	1700 SX, TOC @ 2200'	NONE

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
-ACCEPTED FOR RECORD-					2 7/8"	4650'	

31. PERFORATION RECORD (interval, size and number): 5495' - 6750' (18 SHOTS)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.: DEPTH INTERVAL (MD): 5495'-6750' AMOUNT AND KIND OF MATERIAL USED: ACDZ W/ 3000 GAL 7 1/2% HCL ACID

33. PRODUCTION: DATE FIRST PRODUCTION: 1/23/04 PRODUCTION METHOD: PUMPING WELL STATUS: PROD

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N FOR TEST PERIOD	OIL--BBL.	GAS--MCF.	WATER--BBL.	GAS-OIL RATIO
1/24/04	24			108	76	88	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): FLARING TEST WITNESSED BY: SHANE GRAY

35. LIST OF ATTACHMENTS: LOGS, DEVIATION SURVEY, DIRECTIONAL SURVEY, MULTI-SHOT GYROSCOPIC SURVEY, SITE FACILITY DIAGRAM

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.

RECEIVED  
 FFB 1 0 2004  
 OCD-ARTESIA

38. GEOLOGICAL MARKERS			38. GEOLOGICAL MARKERS		
NAME	TOP		NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH		MEAS. DEPTH	TRUE VERT. DEPTH
RUSTLER	494'				
TOS	776'				
BOS	2778'				
BELL CANYON	2970'				
CHERRY CANYON	3932'				

# L & M DRILLING, INC.

OIL WELL DRILLING CONTRACTORS  
PO BOX 1370 ARTESIA, NEW MEXICO 88211-1370  
(505) 746-4405 746-3518 748-2205

December 1, 2003

DEC 02 2003

Marbob Energy Corporation  
PO Drawer 227  
Artesia, NM 88211-0227

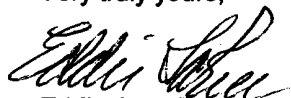
RE: JR's Horz Fed Com #1  
380' FNL & 330' FWL  
Sec. 10, T26S, R29E  
Eddy County, New Mexico

Gentlemen:

The following is a Deviation Survey for the above captioned well.

DEPTH	DEVIATION	DEPTH	DEVIATION
415'	1°	2581'	2°
533'	1°	2827'	3°
869'	1/2°	3079'	1 1/2°
1116'	1°	3327'	1°
1367'	1 1/4°	3574'	3/4°
1616'	3/4°	4069'	1/2°
1865'	1 3/4°	4569'	3/4°
2082'	1 1/2°	5068'	3/4°
2332'	1°		

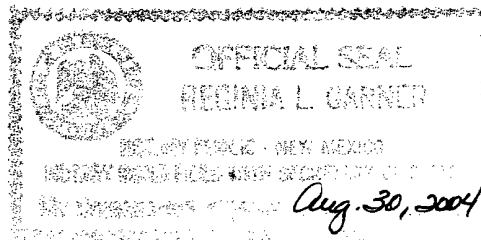
Very truly yours,

  
Eddie C. LaRue  
Vice President

STATE OF NEW MEXICO }  
COUNTY OF EDDY }

The foregoing was acknowledged before me  
this 1<sup>st</sup> day of December, 2003.

  
\_\_\_\_\_  
Notary Public



RECEIVED  
FEB 10 2004  
OCD-ARTESIA

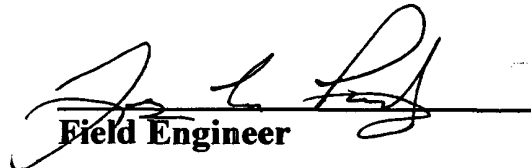


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3201 East Loop 250 North ~ Midland, TX 79705 ~ Phone: 432-687-1647 ~ Fax 432-687-1544

STATE OF TEXAS  
COUNTY OF MIDLAND

I, **Troy Paredes**, certify that; I am employed by PATHFINDER ENERGY SERVICES; that I did on the day(s) of **11/17/04** through **11/25/04** conduct or supervise the taking of a **Measurement While Drilling** survey from a depth of **4,655 feet** to a depth of **6,766 feet**; that the data is true, correct, complete and within the limitations of the tool as set forth by PATHFINDER ENERGY SERVICES; that I am authorized and qualified to make this report; that this survey was conducted at the request of **Marbob Energy** for the **J.Rs Horiz Fed. Com #1**, Well API No. **30-015-33066-00** in **Eddy County, New Mexico**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by PATHFINDER ENERGY SERVICES.

  
**Field Engineer**

# PathFinder Energy Services

Page 1  
 Job No: J-WT-0311-0074  
 Date: 2/3/2004  
 Time: 12:35 pm  
 Wellpath ID: Gyro surveys  
 Date Created: 11/14/2003  
 Last Revision: 11/14/2003

## Survey Report

Calculated using the Minimum Curvature Method  
 Computed using PDS VER2.2.6  
 Vertical Section Plane: 177.03 deg.

Survey Reference: WELLHEAD  
 Vertical Section Reference: WELLHEAD  
 Closure Reference: WELLHEAD  
 TVD Reference: WELLHEAD

MarBob Energy  
 J.R.'s Horiz. Fed. Com. #1  
 L & M #1  
 Eddy, Co. NM  
 Gyro surveys

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist. Dir. (ft) (deg.)		DLS (dg/100ft)
0.00	0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00@ 0.00	0.00	
100.00	0.50	268.86	100.00	-0.01	0.01 S	0.44W	0.44@ 268.86	0.50	
200.00	0.50	281.90	199.99	-0.14	0.07 N	1.30W	1.30@ 273.20	0.11	
300.00	0.50	37.95	299.99	-0.58	0.51 N	1.46W	1.54@ 289.16	0.85	
400.00	0.80	88.99	399.99	-0.89	0.86 N	0.49W	0.99@ 330.33	0.62	
500.00	1.10	159.04	499.98	0.05	0.02 S	0.55 E	0.55@ 92.19	1.12	
600.00	1.50	266.08	599.96	0.98	1.01 S	0.41W	1.09@ 202.29	2.10	
700.00	1.25	176.12	699.94	2.10	2.18 S	1.64W	2.73@ 216.98	1.95	
800.00	0.90	172.17	799.92	3.97	4.05 S	1.46W	4.31@ 199.87	0.36	
900.00	1.00	181.21	899.91	5.62	5.70 S	1.38W	5.87@ 193.56	0.18	
1000.00	0.90	156.26	999.90	7.23	7.29 S	1.08W	7.37@ 188.41	0.42	
1100.00	0.90	156.52	1099.88	8.70	8.73 S	0.45W	8.74@ 182.94	0.00	
1200.00	1.10	140.57	1199.87	10.20	10.19 S	0.47 E	10.20@ 177.34	0.34	
1300.00	1.50	123.62	1299.84	11.76	11.66 S	2.17 E	11.86@ 169.44	0.55	
1400.00	1.30	119.66	1399.81	13.15	12.95 S	4.25 E	13.63@ 161.83	0.22	
1500.00	1.10	124.70	1499.79	14.35	14.05 S	6.02 E	15.29@ 156.80	0.23	
1600.00	1.00	144.74	1599.78	15.67	15.31 S	7.32 E	16.97@ 154.46	0.38	
1700.00	1.90	168.79	1699.74	18.05	17.65 S	8.14 E	19.44@ 155.24	1.07	
1800.00	2.00	171.83	1799.68	21.43	21.00 S	8.71 E	22.74@ 157.47	0.14	
1900.00	2.20	169.88	1899.62	25.07	24.62 S	9.30 E	26.32@ 159.31	0.21	
2000.00	2.00	177.92	1999.55	28.72	28.26 S	9.70 E	29.87@ 161.05	0.36	
2100.00	2.00	183.96	2099.49	32.20	31.74 S	9.64 E	33.17@ 163.10	0.21	
2200.00	1.90	182.00	2199.43	35.58	35.14 S	9.46 E	36.39@ 164.93	0.12	
2300.00	1.80	196.04	2299.38	38.72	38.30 S	8.97 E	39.34@ 166.82	0.46	
2400.00	1.80	169.10	2399.33	41.76	41.36 S	8.83 E	42.29@ 167.94	0.84	
2500.00	2.00	112.15	2499.29	44.05	43.56 S	10.75 E	44.86@ 166.14	1.82	
2600.00	2.75	109.42	2599.20	45.71	45.01 S	14.63 E	47.33@ 162.00	0.76	

# PathFinder Energy Services

## Survey Report

Page 2

Date: 2/3/2004

Wellpath ID: Gyro surveys

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Vertical Section (ft)	TOTAL		Closure		DLS (dg/100ft)
					Rectangular (ft)	Offsets (ft)	Dist. (ft)	Dir. (deg.)	
2700.00	3.20	107.47	2699.06	47.60	46.65 S	19.55 E	50.58@	157.26	0.46
2800.00	3.00	108.51	2798.92	49.53	48.32 S	24.70 E	54.26@	152.93	0.21
2900.00	2.00	117.54	2898.82	51.37	49.95 S	28.72 E	57.62@	150.10	1.07
3000.00	1.25	115.58	2998.78	52.78	51.23 S	31.26 E	60.01@	148.61	0.75
3100.00	1.00	115.62	3098.76	53.72	52.08 S	33.03 E	61.67@	147.62	0.25
3200.00	0.90	107.67	3198.75	54.41	52.69 S	34.56 E	63.02@	146.74	0.17
3300.00	0.90	97.71	3298.74	54.84	53.04 S	36.09 E	64.15@	145.77	0.16
3400.00	0.75	99.75	3398.73	55.13	53.25 S	37.51 E	65.14@	144.84	0.15
3500.00	0.50	85.80	3498.72	55.26	53.33 S	38.59 E	65.83@	144.11	0.29
3600.00	0.50	56.84	3598.72	55.03	53.06 S	39.39 E	66.09@	143.41	0.25
3700.00	0.50	89.88	3698.71	54.83	52.82 S	40.19 E	66.38@	142.73	0.28
3800.00	0.25	197.93	3798.71	55.06	53.03 S	40.56 E	66.76@	142.59	0.62
3900.00	0.25	187.97	3898.71	55.48	53.45 S	40.46 E	67.04@	142.87	0.04
4000.00	0.50	198.01	3998.71	56.10	54.08 S	40.30 E	67.45@	143.31	0.26
4100.00	0.50	228.28	4098.70	56.78	54.79 S	39.84 E	67.74@	143.98	0.26
4200.00	0.75	226.32	4198.70	57.48	55.53 S	39.04 E	67.88@	144.89	0.25
4300.00	0.75	225.36	4298.69	58.34	56.44 S	38.10 E	68.10@	145.98	0.01
4400.00	0.50	223.41	4398.68	59.08	57.22 S	37.34 E	68.32@	146.88	0.25
4500.00	0.80	195.45	4498.68	60.04	58.21 S	36.85 E	68.89@	147.66	0.43
4600.00	0.75	196.50	4598.67	61.32	59.51 S	36.48 E	69.80@	148.49	0.05
4700.00	0.60	233.54	4698.66	62.23	60.45 S	35.87 E	70.29@	149.32	0.45
4800.00	0.75	223.58	4798.65	62.97	61.24 S	35.00 E	70.53@	150.25	0.19
4900.00	0.80	223.63	4898.65	63.90	62.21 S	34.07 E	70.93@	151.30	0.05
5000.00	1.00	217.67	4998.63	65.04	63.41 S	33.05 E	71.51@	152.47	0.22
5100.00	0.80	192.72	5098.62	66.37	64.78 S	32.36 E	72.42@	153.45	0.44
5200.00	1.00	195.76	5198.61	67.87	66.30 S	31.97 E	73.61@	154.26	0.21
5300.00	1.10	198.80	5298.59	69.59	68.05 S	31.43 E	74.96@	155.21	0.11

# PathFinder Energy Services

## Survey Report

Page 1  
 Job No: J-WT-0311-0074  
 Date: 2/3/2004  
 Time: 12:51 pm  
 Wellpath ID: jrhc1h  
 Date Created: 11/16/2003  
 Last Revision: 2/3/2004

Calculated using the Minimum Curvature Method  
 Computed using PDS VER2.2.6  
 Vertical Section Plane: 177.03 deg.

Survey Reference: WELLHEAD  
 Vertical Section Reference: WELLHEAD  
 Closure Reference: WELLHEAD  
 TVD Reference: WELLHEAD

Marbob Energy  
 J.R.s Horiz Fed Com 1H  
 L&M #1  
 #1-H  
 Original  
 Mag. Decl. 8.64° East to True

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Build Rate (dg/100ft)	DLS (dg/100ft)
Tie into gyro survey									
4600.00	0.75	196.50	0.00	4598.67	61.32	59.51 S	36.48 E	0.00	0.00
1st PathFinder MWD survey									
4655.00	1.41	176.69	55.00	4653.66	62.34	60.53 S	36.42 E	1.20	1.36
4672.00	2.29	187.59	17.00	4670.65	62.88	61.08 S	36.38 E	5.18	5.55
4705.00	5.10	168.43	33.00	4703.58	64.98	63.17 S	36.59 E	8.52	9.19
4734.00	8.18	161.13	29.00	4732.38	68.24	66.38 S	37.52 E	10.62	10.99
4767.00	12.13	161.04	33.00	4764.86	73.83	71.89 S	39.40 E	11.97	11.97
4798.00	15.92	157.97	31.00	4794.93	80.98	78.91 S	42.06 E	12.23	12.45
4829.00	19.35	156.47	31.00	4824.47	89.81	87.56 S	45.70 E	11.06	11.16
4860.00	23.57	156.74	31.00	4853.31	100.44	97.97 S	50.20 E	13.61	13.62
4892.00	26.91	157.97	32.00	4882.25	113.29	110.56 S	55.45 E	10.44	10.56
4922.00	30.86	160.08	30.00	4908.52	127.07	124.10 S	60.62 E	13.17	13.60
4953.00	33.85	160.16	31.00	4934.70	142.94	139.70 S	66.26 E	9.65	9.65
4983.00	37.90	158.14	30.00	4959.01	159.66	156.12 S	72.53 E	13.50	14.06
5015.00	41.86	161.66	32.00	4983.56	179.27	175.38 S	79.55 E	12.37	14.24
5043.00	45.29	160.60	28.00	5003.84	197.83	193.64 S	85.80 E	12.25	12.52
5075.00	50.21	162.10	32.00	5025.35	220.63	216.08 S	93.36 E	15.37	15.76
5106.00	54.43	164.73	31.00	5044.30	244.47	239.59 S	100.34 E	13.61	15.18
5137.00	57.24	164.47	31.00	5061.71	269.51	264.31 S	107.15 E	9.06	9.09
5169.00	62.08	166.05	32.00	5077.87	296.54	291.02 S	114.17 E	15.13	15.71
5202.00	66.21	167.55	33.00	5092.26	325.76	319.92 S	120.94 E	12.52	13.17
5234.00	70.61	169.39	32.00	5104.03	355.18	349.07 S	126.88 E	13.75	14.75
5265.00	73.69	172.99	31.00	5113.53	384.52	378.22 S	131.39 E	9.94	14.86
5296.00	75.01	178.27	31.00	5121.90	414.35	407.97 S	133.66 E	4.26	16.94
5326.00	76.33	180.47	30.00	5129.33	443.39	437.04 S	133.98 E	4.40	8.36
5357.00	80.20	182.49	31.00	5135.63	473.64	467.37 S	133.19 E	12.48	14.02
5388.00	84.50	182.93	31.00	5139.76	504.21	498.05 S	131.74 E	13.87	13.94
5400.00	85.47	183.89	12.00	5140.81	516.09	509.98 S	131.03 E	8.08	11.35
5450.00	92.15	184.33	50.00	5141.84	565.67	559.82 S	127.45 E	13.36	13.39
5482.00	92.51	184.33	32.00	5140.54	597.38	591.70 S	125.03 E	1.13	1.13
5514.00	92.90	185.40	32.00	5139.03	629.05	623.55 S	122.32 E	1.22	3.56

# PathFinder Energy Services

## Survey Report

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Build Rate (dg/100ft)	DLS (dg/100ft)
5575.00	93.10	179.80	61.00	5135.84	689.65	684.38 S	119.56 E	0.33	9.17
5605.00	93.10	181.70	30.00	5134.22	719.54	714.33 S	119.17 E	0.00	6.32
5637.00	93.30	181.35	32.00	5132.43	751.40	746.27 S	118.32 E	0.63	1.26
5700.00	92.59	181.08	63.00	5129.19	814.14	809.17 S	116.98 E	-1.13	1.21
5763.00	91.63	184.70	63.00	5126.87	876.76	872.04 S	113.81 E	-1.52	5.94
5824.00	91.63	180.82	61.00	5125.14	937.42	932.93 S	110.87 E	0.00	6.36
5854.00	91.71	178.71	30.00	5124.26	967.37	962.91 S	111.00 E	0.27	7.04
5916.00	89.69	181.17	62.00	5123.50	1029.28	1024.90 S	111.06 E	-3.26	5.13
5979.00	89.25	179.06	63.00	5124.09	1092.18	1087.90 S	110.93 E	-0.70	3.42
6042.00	89.25	181.26	63.00	5124.91	1155.08	1150.89 S	110.76 E	0.00	3.49
6104.00	88.90	181.43	62.00	5125.91	1216.89	1212.86 S	109.30 E	-0.56	0.63
6167.00	89.69	181.61	63.00	5126.69	1279.70	1275.83 S	107.63 E	1.25	1.29
6230.00	89.60	179.68	63.00	5127.08	1342.57	1338.82 S	106.92 E	-0.14	3.07
6293.00	89.60	181.26	63.00	5127.52	1405.45	1401.82 S	106.41 E	0.00	2.51
6355.00	89.69	180.55	62.00	5127.90	1467.31	1463.81 S	105.43 E	0.15	1.15
6417.00	89.08	178.36	62.00	5128.57	1529.24	1525.80 S	106.02 E	-0.98	3.67
6478.00	90.84	177.74	61.00	5128.61	1590.23	1586.76 S	108.09 E	2.89	3.06
6540.00	91.01	178.88	62.00	5127.61	1652.21	1648.73 S	109.92 E	0.27	1.86
6601.00	89.96	178.71	61.00	5127.09	1713.17	1709.71 S	111.20 E	-1.72	1.74
6663.00	89.34	180.55	62.00	5127.47	1775.11	1771.70 S	111.60 E	-1.00	3.13
6725.00	89.69	179.15	62.00	5128.00	1837.03	1833.70 S	111.77 E	0.56	2.33
6766.00	89.43	180.55	41.00	5128.31	1877.98	1874.70 S	111.87 E	-0.63	3.47
PBHL 6812.00	89.43	180.55	46.00	5128.77	1923.89	1920.69 S	111.43 E	0.00	0.00



# PathFinder Energy Services

## BHL Report

Page 1  
Job No: J-WT-0311-0074  
Date: 2/3/2004  
Time: 12:38 pm  
Wellpath ID: jrhc1h  
Date Created: 11/16/2003  
Last Revision: 2/3/2004

*Calculated using the Minimum Curvature Method  
Computed using PDS VER2.2.6  
Vertical Section Plane: 177.03 deg.*

Survey Reference: WELLHEAD  
Vertical Section Reference: WELLHEAD  
Closure Reference: WELLHEAD  
TVD Reference: WELLHEAD

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Marbob Energy  
J.R.s Horiz Fed Com #1H  
Eddy Co. New Mexic  
L&M #1

Decl: 8.64° East to True  
RKB: 19' to Ground Level

Pathfinder Office Supervisor  
Glenn Coyle  
Pathfinder Field Engineer  
Troy Paredez

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Measured Depth	6812.00	(ft)
Inclination	89.43	(deg)
Azimuth	180.55	(deg)
True Vertical Depth	5128.77	(ft)
Vertical Section	1923.89	(ft)
Rectangular Offsets		
North/South	1920.69 S	(ft)
East/West	111.43 E	(ft)
Closure Dist & Dir	1923.92@176.68	(deg)
Dogleg Severity	0.00	(deg/100ft)
Build Rate	0.00	(deg/100ft)
Walk Rate	0.00	(deg/100ft)

# PathFinder Energy Services

Page 1  
 Job No: J-WT-0311-0074  
 Date: 2/3/2004  
 Time: 12:38 pm  
 Wellpath ID: jrhc1h  
 Date Created: 11/16/2003  
 Last Revision: 2/3/2004

## Survey Report

Calculated using the Minimum Curvature Method  
 Computed using PDS VER2.2.6  
 Vertical Section Plane: 177.03 deg.

Survey Reference: WELLHEAD  
 Vertical Section Reference: WELLHEAD  
 Closure Reference: WELLHEAD  
 TVD Reference: WELLHEAD

Marbob Energy  
 J.R.s Horiz Fed Com #1H  
 Eddy Co. New Mexic  
 L&M #1

Decl: 8.64° East to True  
 RKB: 19' to Ground Level

Pathfinder Office Supervisor  
 Glenn Coyle  
 Pathfinder Field Engineer  
 Troy Paredez

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist. Dir. (ft) (deg.)	DLS (dg/100ft)
TIED INTO MULTI-SHOT GYRO SURVEY @ 4600' MD.									
4600.00	0.75	196.50	4598.67	0.00	61.32	59.51 S	36.48 E	69.80@148.49	0.00
4655.00	1.41	176.69	4653.66	55.00	62.34	60.53 S	36.42 E	70.64@148.97	1.36
4672.00	2.29	187.59	4670.65	17.00	62.88	61.08 S	36.38 E	71.09@149.22	5.55
4705.00	5.10	168.43	4703.58	33.00	64.98	63.17 S	36.59 E	73.00@149.92	9.19
4734.00	8.18	161.13	4732.38	29.00	68.24	66.38 S	37.52 E	76.25@150.53	10.99
4767.00	12.13	161.04	4764.86	33.00	73.83	71.89 S	39.40 E	81.98@151.27	11.97
4798.00	15.92	157.97	4794.93	31.00	80.98	78.91 S	42.06 E	89.42@151.94	12.45
4829.00	19.35	156.47	4824.47	31.00	89.81	87.56 S	45.70 E	98.77@152.44	11.16
4860.00	23.57	156.74	4853.31	31.00	100.44	97.97 S	50.20 E	110.08@152.87	13.62
4892.00	26.91	157.97	4882.25	32.00	113.29	110.56 S	55.45 E	123.69@153.37	10.56
4922.00	30.86	160.08	4908.52	30.00	127.07	124.10 S	60.62 E	138.11@153.97	13.60
4953.00	33.85	160.16	4934.70	31.00	142.94	139.70 S	66.26 E	154.61@154.62	9.65
4983.00	37.90	158.14	4959.01	30.00	159.66	156.12 S	72.53 E	172.14@155.08	14.06
5015.00	41.86	161.66	4983.56	32.00	179.27	175.38 S	79.55 E	192.58@155.60	14.24
5043.00	45.29	160.60	5003.84	28.00	197.83	193.64 S	85.80 E	211.80@156.10	12.52
5075.00	50.21	162.10	5025.35	32.00	220.63	216.08 S	93.36 E	235.38@156.63	15.76
5106.00	54.43	164.73	5044.30	31.00	244.47	239.59 S	100.34 E	259.75@157.28	15.18
5137.00	57.24	164.47	5061.71	31.00	269.51	264.31 S	107.15 E	285.21@157.93	9.09
5169.00	62.08	166.05	5077.87	32.00	296.54	291.02 S	114.17 E	312.61@158.58	15.71
5202.00	66.21	167.55	5092.26	33.00	325.76	319.92 S	120.94 E	342.02@159.29	13.17
5234.00	70.61	169.39	5104.03	32.00	355.18	349.07 S	126.88 E	371.41@160.02	14.75
5265.00	73.69	172.99	5113.53	31.00	384.52	378.22 S	131.39 E	400.39@160.84	14.86
5296.00	75.01	178.27	5121.90	31.00	414.35	407.97 S	133.66 E	429.31@161.86	16.94
5326.00	76.33	180.47	5129.33	30.00	443.39	437.04 S	133.98 E	457.11@162.96	8.36
5357.00	80.20	182.49	5135.63	31.00	473.64	467.37 S	133.19 E	485.98@164.09	14.02
5388.00	84.50	182.93	5139.76	31.00	504.21	498.05 S	131.74 E	515.18@165.18	13.94

# PathFinder Energy Services

## Survey Report

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL		Closure		DLS (dg/100ft)
						Rectangular (ft)	Offsets (ft)	Dist. (ft)	Dir. (deg.)	
5400.00	85.47	183.89	5140.81	12.00	516.09	509.98 S	131.03 E	526.55@	165.59	11.35
5450.00	92.15	184.33	5141.84	50.00	565.67	559.82 S	127.45 E	574.14@	167.17	13.39
5482.00	92.51	184.33	5140.54	32.00	597.38	591.70 S	125.03 E	604.77@	168.07	1.13
5514.00	92.90	185.40	5139.03	32.00	629.05	623.55 S	122.32 E	635.43@	168.90	3.56
5575.00	93.10	179.80	5135.84	61.00	689.65	684.38 S	119.56 E	694.74@	170.09	9.17
5605.00	93.10	181.70	5134.22	30.00	719.54	714.33 S	119.17 E	724.20@	170.53	6.32
5637.00	93.30	181.35	5132.43	32.00	751.40	746.27 S	118.32 E	755.59@	170.99	1.26
5700.00	92.59	181.08	5129.19	63.00	814.14	809.17 S	116.98 E	817.58@	171.77	1.21
5763.00	91.63	184.70	5126.87	63.00	876.76	872.04 S	113.81 E	879.43@	172.56	5.94
5824.00	91.63	180.82	5125.14	61.00	937.42	932.93 S	110.87 E	939.49@	173.22	6.36
5854.00	91.71	178.71	5124.26	30.00	967.37	962.91 S	111.00 E	969.29@	173.42	7.04
5916.00	89.69	181.17	5123.50	62.00	1029.28	1024.90 S	111.06 E	1030.90@	173.82	5.13
5979.00	89.25	179.06	5124.09	63.00	1092.18	1087.90 S	110.93 E	1093.54@	174.18	3.42
6042.00	89.25	181.26	5124.91	63.00	1155.08	1150.89 S	110.76 E	1156.20@	174.50	3.49
6104.00	88.90	181.43	5125.91	62.00	1216.89	1212.86 S	109.30 E	1217.78@	174.85	0.63
6167.00	89.69	181.61	5126.69	63.00	1279.70	1275.83 S	107.63 E	1280.36@	175.18	1.29
6230.00	89.60	179.68	5127.08	63.00	1342.57	1338.82 S	106.92 E	1343.09@	175.43	3.07
6293.00	89.60	181.26	5127.52	63.00	1405.45	1401.82 S	106.41 E	1405.85@	175.66	2.51
6355.00	89.69	180.55	5127.90	62.00	1467.31	1463.81 S	105.43 E	1467.60@	175.88	1.15
6417.00	89.08	178.36	5128.57	62.00	1529.24	1525.80 S	106.02 E	1529.48@	176.03	3.67
6478.00	90.84	177.74	5128.61	61.00	1590.23	1586.76 S	108.09 E	1590.44@	176.10	3.06
6540.00	91.01	178.88	5127.61	62.00	1652.21	1648.73 S	109.92 E	1652.39@	176.19	1.86
6601.00	89.96	178.71	5127.09	61.00	1713.17	1709.71 S	111.20 E	1713.32@	176.28	1.74
6663.00	89.34	180.55	5127.47	62.00	1775.11	1771.70 S	111.60 E	1775.21@	176.40	3.13
6725.00	89.69	179.15	5128.00	62.00	1837.03	1833.70 S	111.77 E	1837.10@	176.51	2.33
6766.00	89.43	180.55	5128.31	41.00	1877.98	1874.70 S	111.87 E	1878.03@	176.58	3.47
STRAIGHT LINE PROJECTION TO BIT @ 6812' MD.										
6812.00	89.43	180.55	5128.77	46.00	1923.89	1920.69 S	111.43 E	1923.92@	176.68	0.00

Job Number: 0317505988  
 Company: Marbob Energy Corporation  
 Lease/Well: J.R.'s Horz Federal Com., Well #1  
 Location: Eddy County  
 Rig Name: L & M #1  
 RKB: 12'  
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA  
 Declination: 8.84°  
 Grid: East to Grid  
 File name: F:\2003SU-1\MARBOB-1\JRHORZ1.SVY  
 Date/Time: 18-Nov-03 / 12:51  
 Curve Name: Surface - 5,300' M.D.



We hereby certify that our survey data from  
0' MD to 5300' MD is, to the best of  
 our knowledge a true and accurate account of  
 the well bore.

*Dale Hays* 11/18/03  
 Multi-Shot Date

WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane 177.03  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.50	268.86	100.00	-.01	-.44	-.01	.44	268.86	.50
200.00	.50	281.90	199.99	.07	-1.30	-.14	1.30	273.20	.11
300.00	.50	37.95	299.99	.51	-1.46	-.58	1.54	289.16	.85
400.00	.80	88.99	399.99	.86	-.49	-.89	.99	330.33	.62
500.00	1.10	159.04	499.98	-.02	.55	.05	.55	92.19	1.12
600.00	1.50	266.08	599.96	-1.01	-.41	.98	1.09	202.29	2.10
700.00	1.25	176.12	699.94	-2.18	-1.64	2.10	2.73	216.98	1.95
800.00	.90	172.17	799.92	-4.05	-1.46	3.97	4.31	199.87	.36
900.00	1.00	181.21	899.91	-5.70	-1.38	5.62	5.87	193.56	.18

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1000.00	.90	156.26	999.90	-7.29	-1.08	7.23	7.37	188.41	.42
1100.00	.90	156.52	1099.88	-8.73	-.45	8.70	8.74	182.94	.00
1200.00	1.10	140.57	1199.87	-10.19	.47	10.20	10.20	177.34	.34
1300.00	1.50	123.62	1299.84	-11.66	2.17	11.76	11.86	169.44	.55
1400.00	1.30	119.66	1399.81	-12.95	4.25	13.15	13.63	161.83	.22
1500.00	1.10	124.70	1499.79	-14.05	6.02	14.35	15.29	156.80	.23
1600.00	1.00	144.74	1599.78	-15.31	7.32	15.67	16.97	154.46	.38
1700.00	1.90	168.79	1699.74	-17.65	8.14	18.05	19.44	155.24	1.07
1800.00	2.00	171.83	1799.69	-21.00	8.71	21.43	22.74	157.47	.14
1900.00	2.20	169.88	1899.62	-24.62	9.30	25.07	26.32	159.31	.21
2000.00	2.00	177.92	1999.55	-28.26	9.70	28.72	29.87	161.05	.36
2100.00	2.00	183.96	2099.49	-31.74	9.64	32.20	33.17	163.10	.21
2200.00	1.90	182.00	2199.43	-35.14	9.46	35.58	36.39	164.93	.12
2300.00	1.80	196.04	2299.38	-38.30	8.97	38.72	39.34	166.82	.46
2400.00	1.80	169.10	2399.33	-41.36	8.83	41.76	42.29	167.94	.84
2500.00	2.00	112.15	2499.29	-43.56	10.75	44.05	44.86	166.14	1.82
2600.00	2.75	109.42	2599.20	-45.01	14.63	45.71	47.33	162.00	.76
2700.00	3.20	107.47	2699.07	-46.65	19.55	47.60	50.58	157.26	.46
2800.00	3.00	108.51	2798.92	-48.32	24.70	49.53	54.26	152.93	.21
2900.00	2.00	117.54	2898.82	-49.95	28.72	51.37	57.62	150.10	1.07
3000.00	1.25	115.58	2998.78	-51.23	31.26	52.78	60.01	148.61	.75
3100.00	1.00	115.62	3098.76	-52.08	33.03	53.72	61.67	147.62	.25
3200.00	.90	107.67	3198.75	-52.69	34.56	54.41	63.02	146.74	.17
3300.00	.90	97.71	3298.74	-53.04	36.09	54.84	64.15	145.77	.16
3400.00	.75	99.78	3398.73	-53.25	37.51	55.13	65.14	144.84	.15
3500.00	.50	85.80	3498.72	-53.33	38.59	55.26	65.83	144.11	.29
3600.00	.50	56.84	3598.72	-53.06	39.39	55.03	66.09	143.41	.25
3700.00	.50	89.88	3698.71	-52.82	40.19	54.84	66.38	142.73	.28
3800.00	.25	197.93	3798.71	-53.03	40.56	55.06	66.76	142.59	.62
3900.00	.25	187.97	3898.71	-53.45	40.46	55.48	67.04	142.87	.04

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
4000.00	.50	198.01	3998.71	-54.09	40.30	56.10	67.45	143.31	.26
4100.00	.50	228.28	4098.70	-54.79	39.84	56.78	67.74	143.98	.26
4200.00	.75	226.32	4198.70	-55.53	39.04	57.48	67.88	144.89	.25
4300.00	.75	225.36	4298.69	-56.44	38.10	58.34	68.10	145.98	.01
4400.00	.50	223.41	4398.68	-57.22	37.34	59.08	68.32	146.88	.25
4500.00	.80	195.45	4498.68	-58.21	36.85	60.04	68.89	147.66	.43
4600.00	.75	196.50	4598.67	-59.51	36.48	61.32	69.80	148.49	.05
4700.00	.60	233.54	4698.66	-60.45	35.87	62.23	70.29	149.32	.45
4800.00	.75	223.58	4798.66	-61.24	35.00	62.97	70.53	150.25	.19
4900.00	.80	223.63	4898.65	-62.22	34.07	63.90	70.93	151.30	.05
5000.00	1.00	217.67	4998.63	-63.41	33.05	65.04	71.51	152.47	.22
5100.00	.80	192.72	5098.62	-64.78	32.36	66.37	72.42	153.45	.44
5200.00	1.00	195.76	5198.61	-66.30	31.97	67.87	73.61	154.26	.21
<b>Last Survey Depth Recorded</b>									
5300.00	1.10	198.80	5298.59	-68.05	31.43	69.59	74.96	155.21	.11