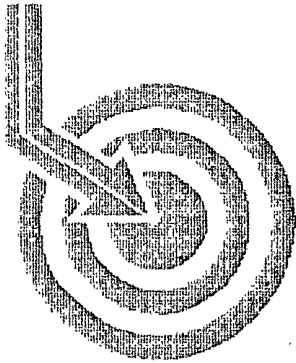
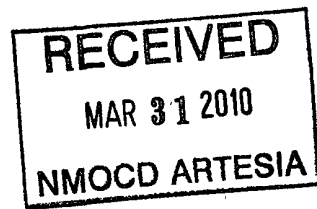


30 015 37374



Scientific Drilling



MARBOB ENERGY

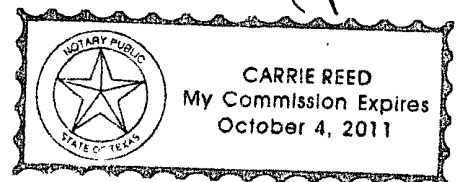
Field: Willow Lake
Site: Eddy County, NM
Well: Showstopper 19 Federal #4
Wellpath: VH - Job #32K1109514
Survey: 11/25/09

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

[Signature] Company Representative

Notorized this date 10th of December, 2009.

[Signature]
Notary Signature
County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International Survey Report

Company: MARBOB ENERGY	Date: 11/30/2009	Time: 12:50:42	Page: 1
Field: Willow Lake	Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North		
Site: Eddy County, NM	Vertical (TVD) Reference: SITE 0.0		
Well: Showstopper 19 Federal #4	Section (VS) Reference: Well (0.00N,0.00E,1.41Azi)		
Wellpath: VH - Job #32K1109514	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: 11/25/09	Start Date: 11/25/2009
Company: Scientific Drilling Internatio	Engineer: Guebara w/Gray
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	ClsD ft	ClsA: deg
0.00	0.00	359.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.76	340.91	100.00	0.62	0.63	-0.22	0.76	0.66	340.91
200.00	0.80	352.31	199.99	1.93	1.95	-0.53	0.16	2.02	344.84
300.00	0.59	7.87	299.98	3.13	3.15	-0.55	0.28	3.19	350.08
400.00	0.34	77.23	399.98	3.72	3.72	-0.19	0.57	3.73	357.07
500.00	0.29	83.88	499.98	3.82	3.82	0.35	0.06	3.83	5.25
600.00	0.28	98.16	599.98	3.83	3.81	0.84	0.07	3.90	12.50
700.00	0.29	115.26	699.97	3.70	3.66	1.31	0.09	3.89	19.74
800.00	0.19	125.01	799.97	3.50	3.46	1.68	0.11	3.85	25.88
900.00	0.22	146.12	899.97	3.25	3.21	1.92	0.08	3.74	30.94
1000.00	0.24	156.51	999.97	2.91	2.86	2.11	0.05	3.55	36.50
1100.00	0.14	161.48	1099.97	2.60	2.55	2.24	0.10	3.39	41.26
1200.00	0.36	237.53	1199.97	2.31	2.26	2.01	0.35	3.03	41.59
1300.00	0.47	232.73	1299.97	1.88	1.85	1.42	0.12	2.33	37.52
1400.00	0.38	230.93	1399.96	1.41	1.39	0.83	0.09	1.62	30.97
1500.00	0.35	232.30	1499.96	1.00	0.99	0.33	0.03	1.05	18.62
1600.00	0.37	233.34	1599.96	0.61	0.61	-0.17	0.02	0.64	344.86
1700.00	0.40	236.63	1699.96	0.21	0.23	-0.72	0.04	0.75	287.71
1800.00	0.36	215.36	1799.96	-0.25	-0.22	-1.19	0.15	1.21	259.56
1900.00	0.29	194.09	1899.95	-0.76	-0.72	-1.43	0.14	1.60	243.30
2000.00	0.35	124.89	1999.95	-1.17	-1.14	-1.24	0.37	1.69	227.48
2100.00	1.13	92.34	2099.94	-1.36	-1.36	-0.01	0.86	1.36	180.36
2200.00	1.33	86.51	2199.92	-1.27	-1.33	2.13	0.24	2.51	121.84
2300.00	1.83	88.79	2299.88	-1.10	-1.22	4.89	0.50	5.04	104.02
2400.00	1.84	89.55	2399.83	-0.98	-1.18	8.09	0.03	8.18	98.26
2500.00	1.88	91.37	2499.78	-0.92	-1.20	11.34	0.07	11.40	96.05
2600.00	1.32	91.36	2599.74	-0.92	-1.27	14.13	0.56	14.18	95.13
2700.00	0.78	80.87	2699.72	-0.79	-1.19	15.95	0.57	16.00	94.26
2800.00	0.70	59.18	2799.71	-0.34	-0.77	17.15	0.29	17.17	92.56
2900.00	0.65	66.58	2899.71	0.22	-0.23	18.19	0.10	18.19	90.72
3000.00	0.57	56.22	2999.70	0.74	0.27	19.13	0.14	19.13	89.18
3100.00	0.62	54.03	3099.70	1.36	0.87	19.98	0.05	20.00	87.51
3200.00	0.51	64.53	3199.69	1.89	1.38	20.82	0.15	20.86	86.21
3300.00	0.33	68.23	3299.69	2.20	1.68	21.49	0.18	21.55	85.54
3400.00	0.32	68.04	3399.69	2.43	1.89	22.01	0.01	22.09	85.10
3500.00	0.33	84.22	3499.69	2.57	2.02	22.56	0.09	22.65	84.88
3600.00	0.15	323.94	3599.69	2.71	2.16	22.77	0.43	22.87	84.59
3700.00	0.09	328.33	3699.69	2.88	2.33	22.65	0.06	22.77	84.13
3800.00	0.07	294.62	3799.69	2.97	2.42	22.55	0.05	22.68	83.88
3900.00	0.14	353.50	3899.69	3.12	2.57	22.48	0.12	22.63	83.49
4000.00	0.04	69.26	3999.68	3.25	2.70	22.50	0.14	22.66	83.16
4100.00	0.03	215.47	4099.68	3.24	2.69	22.52	0.07	22.68	83.18
4200.00	0.09	177.52	4199.68	3.14	2.59	22.51	0.07	22.66	83.43
4300.00	0.26	218.08	4299.68	2.88	2.33	22.37	0.20	22.49	84.04
4400.00	0.25	215.77	4399.68	2.52	1.98	22.10	0.01	22.19	84.88
4500.00	0.31	228.16	4499.68	2.16	1.62	21.78	0.08	21.84	85.74
4600.00	0.33	203.86	4599.68	1.71	1.18	21.46	0.14	21.49	86.86
4700.00	0.45	193.67	4699.68	1.06	0.53	21.25	0.14	21.26	88.56
4800.00	0.64	196.16	4799.67	0.13	-0.39	21.00	0.19	21.00	91.05



Scientific
Drilling

Scientific Drilling International Survey Report

Company: MARBOB ENERGY	Date: 11/30/2009	Time: 12:50:42	Page: 2
Field: Willow Lake	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Showstopper 19 Federal #4	Section (VS) Reference:	Well (0.00N,0.00E,1.41Azi)	
Wellpath: VH - Job #32K1109514	Survey Calculation Method:	Minimum Curvature	
		Db:	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	1.11	180.10	4899.66	-1.38	-1.89	20.84	0.53	20.93	95.18
5000.00	1.20	175.72	4999.64	-3.39	-3.90	20.92	0.13	21.28	100.57
5100.00	1.29	181.34	5099.62	-5.55	-6.07	20.97	0.15	21.83	106.15
5200.00	1.24	178.57	5199.59	-7.76	-8.28	20.97	0.08	22.55	111.54
5300.00	1.00	175.07	5299.57	-9.71	-10.23	21.07	0.25	23.43	115.89
5400.00	1.05	163.24	5399.56	-11.45	-11.98	21.41	0.22	24.54	119.22
5500.00	1.11	162.95	5499.54	-13.24	-13.78	21.96	0.06	25.93	122.11
5600.00	1.09	157.99	5599.52	-15.03	-15.59	22.60	0.10	27.46	124.59
5700.00	1.14	159.50	5699.50	-16.82	-17.40	23.31	0.06	29.09	126.75
5800.00	1.29	161.06	5799.48	-18.80	-19.40	24.02	0.15	30.88	128.92
5900.00	1.17	154.10	5899.46	-20.76	-21.38	24.83	0.19	32.77	130.73
6000.00	1.53	153.64	5999.43	-22.85	-23.50	25.87	0.36	34.95	132.25
6100.00	1.67	153.34	6099.39	-25.32	-25.99	27.12	0.14	37.56	133.79
6200.00	1.83	148.03	6199.34	-27.94	-28.65	28.62	0.23	40.49	135.04
6300.00	1.68	154.96	6299.30	-30.58	-31.33	30.08	0.26	43.44	136.17
6345.00	1.62	155.89	6344.28	-31.75	-32.51	30.62	0.15	44.66	136.72



**Scientific
Drilling**

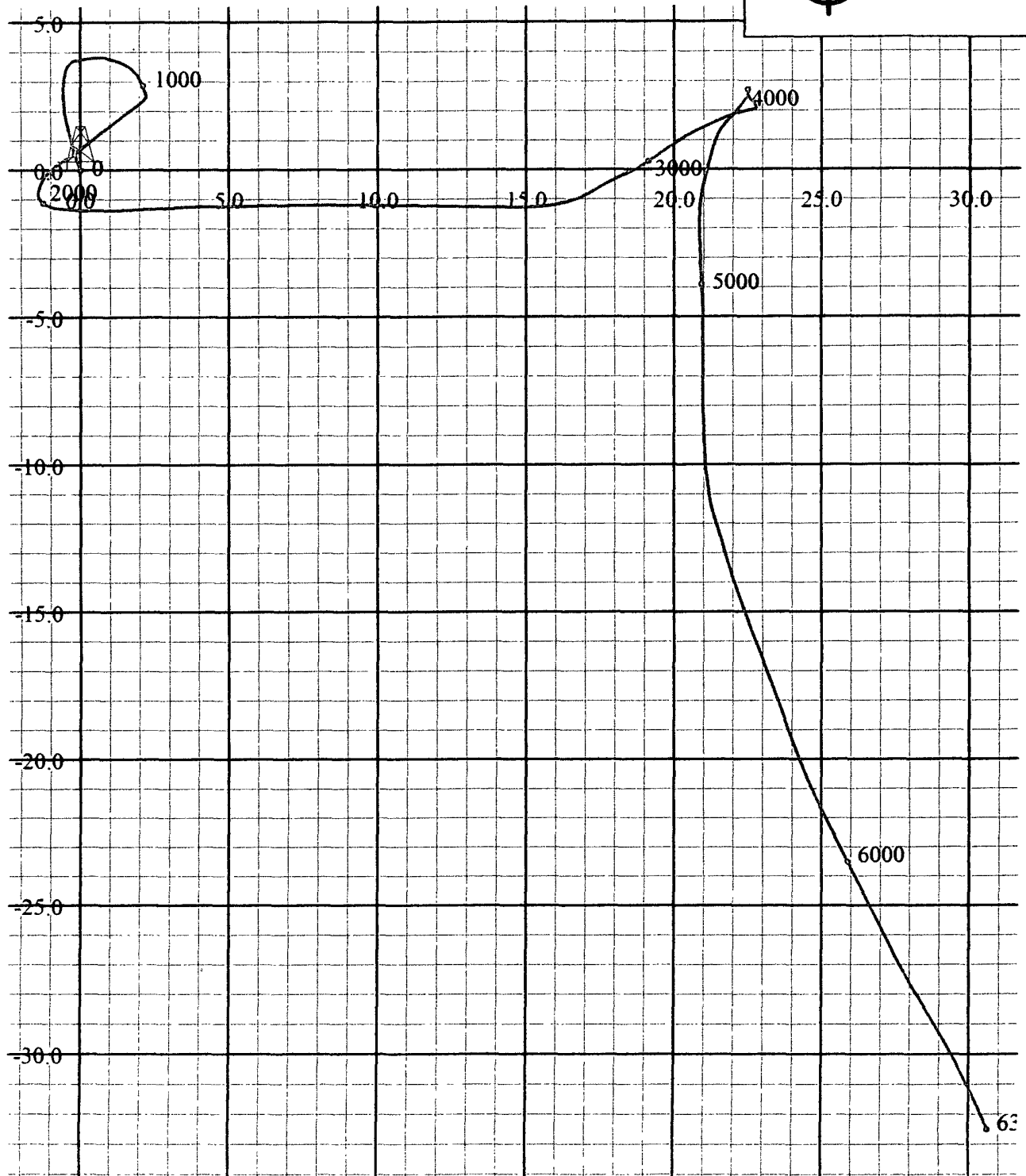
Field: Willow Lake
Site: Eddy County, NM
Well: Showstopper 19 Federal #4
Wellpath: VH - Job #32K1109514
Survey: 11/25/09



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 11/30/2009
Model: igr2000

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



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



An Operating Unit of Smith International, Inc.

DIRECTIONAL SURVEY REPORT

MARBOB ENERGY CORPORATION

SHOWSTOPPER 19 FED #4

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) JAMES EIMERS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 11/27/09 TO 12/04/09
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
SHOWSTOPPER 19 FEDERAL #4
EDDY COUNTY, NM
RIG: PATRIOT 2

9. SURVEY CERTIFIED FROM: 6409 TO 11066 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4283.64 FEET ON A BEARING OF 1.21 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11115 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: 11/26/2009
Date Completed: 12/04/2009

MARBOB ENERGY
SHOWSTOPPER 19 FED #4
EDDY COUNTY, NM
Rig: PATRIOT 2
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: J. EIMERS
J. ALCOCER

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.6.35.9153 N LON: 104.1.19.8780 W
GRID Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 596338.2000 Y: 403871.4000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.79° EAST TO GRID
Vertical Section Plane: 1.41
Survey Vert. Reference: 15.60' Kelly Bushing To Ground
Altitude: 2909.00' Ground To MSL

Measured Depth	11115.00	(feet)
Inclination	87.32	(deg)
Azimuth	0.32	(deg)
True Vertical Depth	6967.53	(feet)
Vertical Section	4283.61	(feet)
Survey X cord	596428.51	(feet)
Survey Y cord	408154.07	(feet)
Survey Lat	32.12174884 N	(deg)
Survey Lon	104.02185670 W	(deg)
Rectangular Corr. N/S	4282.68 N	(feet)
Rectangular Corr. E/W	90.33 E	(feet)
Closure Distance	4283.64	(feet)
Direction of Closure	1.21	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
SHOWSTOPPER 19 FED #4

EDDY COUNTY, NM

Rig: PATRIOT 2

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: J. EIMERS

J. ALCOCER

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.6359153 N LON: 104.1198780 W

Reference: NAD27 new mexico east Transverse Mercator

Ref GRID Coord: X: 596338.2000 Y: 403871.4000

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.79° EAST TO GRID

Vertical Section Plane: 1.41

Survey Vert. Reference: 15.60' Kelly Bushing To Ground

Altitude: 2909.00' Ground To MSL

Survey Calculations by RX5 V6.02A 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 GYRO SURVEY @ 6345' MD.										
6345.00	1.62	155.89	6344.28	0.00	-31.83	32.59 S	30.58 E	44.69@	136.82	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
6409.00	1.85	152.19	6408.25	64.00	-33.55	34.33 S	31.43 E	46.55@	137.52	0.40
6440.00	1.49	142.18	6439.24	31.00	-34.29	35.09 S	31.91 E	47.43@	137.72	1.49
6472.00	1.85	61.05	6471.23	32.00	-34.36	35.17 S	32.62 E	47.97@	137.15	6.84
6503.00	4.66	35.74	6502.18	31.00	-33.06	33.90 S	33.79 E	47.87@	135.09	9.97
6535.00	7.91	28.36	6533.98	32.00	-30.03	30.91 S	35.60 E	47.15@	130.97	10.45
6567.00	10.99	24.23	6565.54	32.00	-25.25	26.19 S	37.90 E	46.07@	124.65	9.85
6598.00	13.89	20.36	6595.81	31.00	-19.01	20.01 S	40.40 E	45.09@	116.34	9.73
6630.00	15.30	12.62	6626.78	32.00	-11.23	12.28 S	42.66 E	44.40@	106.06	7.51
6662.00	17.67	9.46	6657.46	32.00	-2.28	3.37 S	44.38 E	44.51@	94.34	7.92
6694.00	19.96	7.61	6687.75	32.00	7.96	6.83 N	45.91 E	46.41@	81.53	7.39
6725.00	21.72	4.80	6716.72	31.00	18.95	17.80 N	47.09 E	50.34@	69.30	6.53
6756.00	24.27	358.56	6745.26	31.00	31.04	29.88 N	47.41 E	56.04@	57.77	11.37
6788.00	27.52	352.32	6774.05	32.00	44.92	43.79 N	46.25 E	63.70@	46.57	13.24
6819.00	31.57	349.33	6801.02	31.00	59.93	58.87 N	43.79 E	73.37@	36.64	13.90
6851.00	36.49	350.39	6827.53	32.00	77.47	76.50 N	40.65 E	86.63@	27.99	15.49
6882.00	41.15	353.29	6851.68	31.00	96.63	95.72 N	37.92 E	102.96@	21.61	16.13
6914.00	45.20	357.24	6875.01	32.00	118.39	117.53 N	36.14 E	122.97@	17.09	15.21
6946.00	49.68	0.32	6896.65	32.00	141.92	141.09 N	35.66 E	145.53@	14.19	15.69
6977.00	54.52	1.55	6915.69	31.00	166.38	165.54 N	36.07 E	169.42@	12.29	15.92
7009.00	59.44	2.25	6933.12	32.00	193.20	192.35 N	36.96 E	195.87@	10.88	15.48
7041.00	64.81	2.78	6948.08	32.00	221.47	220.60 N	38.21 E	223.88@	9.83	16.85
7073.00	70.35	3.48	6960.28	32.00	251.02	250.12 N	39.83 E	253.27@	9.05	17.43
7104.00	76.33	4.19	6969.16	31.00	280.68	279.74 N	41.81 E	282.85@	8.50	19.41

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
SHOWSTOPPER 19 FED #4
EDDY COUNTY, NM
RIG: PATRIOT 2

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)
7135.00	82.31	5.07	6974.91	31.00	311.08	310.09 N	44.27 E	313.23@	8.13	19.49
7166.00	87.76	6.21	6977.59	31.00	341.87	340.81 N	47.31 E	344.08@	7.90	17.96
7198.00	89.52	6.47	6978.35	32.00	373.74	372.60 N	50.84 E	376.06@	7.77	5.56
7229.00	89.16	5.94	6978.70	31.00	404.63	403.42 N	54.19 E	407.04@	7.65	2.07
7261.00	88.99	6.65	6979.22	32.00	436.51	435.22 N	57.70 E	439.03@	7.55	2.28
7293.00	90.48	6.21	6979.37	32.00	468.39	467.02 N	61.28 E	471.03@	7.48	4.85
7324.00	91.80	5.86	6978.75	31.00	499.28	497.84 N	64.54 E	502.01@	7.39	4.40
7356.00	92.42	5.68	6977.57	32.00	531.17	529.66 N	67.76 E	533.98@	7.29	2.02
7387.00	92.77	5.77	6976.17	31.00	562.05	560.47 N	70.85 E	564.93@	7.20	1.16
7419.00	93.12	5.94	6974.53	32.00	593.91	592.26 N	74.11 E	596.88@	7.13	1.22
7450.00	92.24	6.21	6973.08	31.00	624.77	623.05 N	77.38 E	627.84@	7.08	2.97
7481.00	92.51	6.38	6971.79	31.00	655.63	653.84 N	80.78 E	658.81@	7.04	1.03
7513.00	93.03	6.30	6970.25	32.00	687.48	685.61 N	84.31 E	690.77@	7.01	1.64
7544.00	93.21	5.94	6968.56	31.00	718.32	716.39 N	87.61 E	721.72@	6.97	1.30
7576.00	92.33	5.86	6967.01	32.00	750.19	748.18 N	90.90 E	753.68@	6.93	2.76
7607.00	92.15	5.94	6965.80	31.00	781.07	778.99 N	94.08 E	784.65@	6.89	0.64
7638.00	90.13	5.59	6965.18	31.00	811.97	809.83 N	97.19 E	815.64@	6.84	6.61
7670.00	89.96	5.24	6965.16	32.00	843.89	841.68 N	100.21 E	847.63@	6.79	1.22
7764.00	91.54	4.63	6963.93	94.00	937.71	935.32 N	108.30 E	941.57@	6.60	1.80
7859.00	91.63	4.36	6961.30	95.00	1032.53	1029.99 N	115.74 E	1036.48@	6.41	0.30
7952.00	91.80	3.13	6958.52	93.00	1125.41	1122.75 N	121.81 E	1129.34@	6.19	1.33
8046.00	90.31	2.52	6956.79	94.00	1219.36	1216.62 N	126.44 E	1223.17@	5.93	1.71
8141.00	90.31	2.43	6956.27	95.00	1314.35	1311.53 N	130.55 E	1318.01@	5.68	0.09
8234.00	88.64	1.90	6957.12	93.00	1407.33	1404.46 N	134.06 E	1410.84@	5.45	1.88
8328.00	90.13	2.34	6958.13	94.00	1501.31	1498.38 N	137.54 E	1504.68@	5.24	1.65
8422.00	88.90	0.94	6958.93	94.00	1595.31	1592.34 N	140.23 E	1598.50@	5.03	1.98

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
SHOWSTOPPER 19 FED #4
EDDY COUNTY, NM
RIG:PATRIOT 2

Page 03/04

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)
8515.00	89.69	0.94	6960.07	93.00	1688.30	1685.32 N	141.75 E	1691.27@	4.81	0.85
8611.00	91.45	2.43	6959.12	96.00	1784.28	1781.26 N	144.57 E	1787.12@	4.64	2.40
8704.00	90.22	1.99	6957.76	93.00	1877.26	1874.18 N	148.16 E	1880.03@	4.52	1.40
8800.00	87.67	0.23	6959.53	96.00	1973.23	1970.14 N	150.02 E	1975.84@	4.35	3.23
8895.00	87.67	0.06	6963.39	95.00	2068.13	2065.06 N	150.26 E	2070.52@	4.16	0.18
8989.00	89.16	359.62	6965.99	94.00	2162.06	2159.02 N	150.00 E	2164.22@	3.97	1.65
9084.00	89.43	358.56	6967.16	95.00	2256.97	2254.00 N	148.49 E	2258.88@	3.77	1.15
9178.00	89.78	358.30	6967.81	94.00	2350.84	2347.96 N	145.91 E	2352.49@	3.56	0.46
9273.00	90.84	358.83	6967.30	95.00	2445.72	2442.93 N	143.53 E	2447.14@	3.36	1.25
9368.00	88.02	355.57	6968.24	95.00	2540.44	2537.79 N	138.90 E	2541.59@	3.13	4.54
9462.00	89.08	356.45	6970.62	94.00	2633.99	2631.53 N	132.36 E	2634.85@	2.88	1.47
9556.00	90.22	355.93	6971.19	94.00	2727.59	2725.32 N	126.11 E	2728.23@	2.65	1.33
9651.00	90.75	356.63	6970.39	95.00	2822.21	2820.11 N	119.95 E	2822.66@	2.44	0.92
9744.00	92.24	358.74	6967.96	93.00	2914.97	2913.00 N	116.19 E	2915.31@	2.28	2.78
9839.00	92.68	359.09	6963.89	95.00	3009.80	3007.89 N	114.40 E	3010.07@	2.18	0.59
9933.00	91.98	359.35	6960.06	94.00	3103.65	3101.80 N	113.12 E	3103.87@	2.09	0.79
10028.00	87.58	357.77	6960.43	95.00	3198.50	3196.75 N	110.73 E	3198.66@	1.98	4.92
10122.00	87.67	356.45	6964.32	94.00	3292.16	3290.54 N	106.00 E	3292.25@	1.84	1.41
10217.00	88.90	356.72	6967.17	95.00	3386.78	3385.33 N	100.34 E	3386.82@	1.70	1.33
10311.00	90.84	356.63	6967.38	94.00	3480.45	3479.17 N	94.89 E	3480.46@	1.56	2.07
10404.00	90.31	357.15	6966.45	93.00	3573.16	3572.03 N	89.84 E	3573.16@	1.44	0.80
10499.00	90.40	358.12	6965.86	95.00	3667.95	3666.94 N	85.92 E	3667.95@	1.34	1.03
10592.00	90.57	359.09	6965.07	93.00	3760.83	3759.91 N	83.66 E	3760.84@	1.27	1.06
10687.00	91.28	0.14	6963.54	95.00	3855.77	3854.89 N	83.02 E	3855.79@	1.23	1.33
10781.00	90.40	1.46	6962.16	94.00	3949.75	3948.87 N	84.33 E	3949.77@	1.22	1.69
10876.00	90.40	1.99	6961.50	95.00	4044.75	4043.83 N	87.19 E	4044.77@	1.24	0.56

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
SHOWSTOPPER 19 FED #4
EDDY COUNTY, NM
RIG: PATRIOT 2

Page 04/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir		DLS
						(ft)	(ft)	(ft)	(deg)	(dg/100ft)
10970.00	88.90	0.58	6962.07	94.00	4138.74	4137.80 N	89.30 E	4138.76@	1.24	2.19
11066.00	87.32	0.32	6965.24	96.00	4234.67	4233.74 N	90.05 E	4234.69@	1.22	1.67
STRAIGHT-LINE PROJECTION TO BIT @ 11115' MD.										
11115.00	87.32	0.32	6967.53	49.00	4283.61	4282.68 N	90.33 E	4283.64@	1.21	0.00



ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	MARBOB ENERGY		
LEASE / WELL No.:	SHOWSTOPPER 19 FED	#4	
WELL LOCATION:	EDDY COUNTY, NM		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	PATRIOT 2		
API WELL No:	30-015-37374		
JOB No:	101009334 WT-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER ENERGY SERVICES		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.79	LWD Calculated:	7.79084
		Agreed Upon:	7.79
X =	596338.200000	Feet	Y = 403871.400000
			Feet
SITE LATITUDE:	32.109976 N	SITE LONGITUDE:	104.022188 W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	1.41		
KELLY BUSHING ELEVATION:	22		
ALTITUDE:	2909	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	6345		
DRIFT ANGLE:	1.62		
DRIFT DIRECTION:	155.89		
TRUE VERTICAL DEPTH:	6344.28		
VERTICAL SECTION:	-31.83		
RECTANGULAR COORDINATE (N / S) :	-32.59		
RECTANGULAR COORDINATE (E / W) :	30.58		
CLOSURE DISTANCE / DIRECTION:	44.69	136.82	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	SCIENTIFIC GYRO		
COPY OF TIE-IN SURVEY REPORT	☒ YES		☐ NO

WELL PLAN

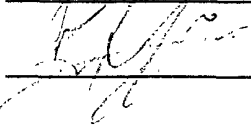
KICKOFF DEPTH:	6400	TOTAL DEPTH:	11100
KICKOFF ANGLE:	0	MAX ANGLE:	90

PES Engineers:



**Signature of both field engineers required if applicable

Directional Driller:



DATE: 26-Nov-2009



Scientific Drilling

Gyroscopic Survey Report for MARBOB

Well Location	EDDY COUNTY, NEW MEXICO
Well Name	SHOW STOPPER 19 FED NO.4
Rig Name	PATRIOT NO.2
Survey Date	11/26/2009
Latitude	32.11 deg
North Reference	Grid North
Grid Correction	-0.17 deg
Depth Reference	RKB
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 1.41Azim (deg)
Definitive Survey	FINAL OUTRUN SURVEY
Operator	ANGEL GUEBARA

Comments



Survey Report

Well Name:		SHOW STOPPER 19 FED NO.4							
Survey:		FINAL OUTFUN SURVEY							
Survey Date:		11/26/2009							
MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.76	340.91	100.00	0.62	0.62	-0.22	0.76	0.66	340.91
200.00	0.80	352.31	199.99	1.92	1.94	-0.52	0.16	2.01	344.85
300.00	0.59	7.87	299.98	3.12	3.14	-0.55	0.28	3.19	350.10
400.00	0.34	77.23	399.98	3.71	3.71	-0.19	0.57	3.72	357.14
500.00	0.29	83.88	499.98	3.81	3.81	0.35	0.07	3.82	5.33
600.00	0.28	98.16	599.98	3.82	3.80	0.84	0.07	3.89	12.53
700.00	0.29	115.26	699.97	3.69	3.66	1.31	0.09	3.88	19.78
800.00	0.19	125.01	799.97	3.49	3.45	1.68	0.11	3.84	25.92
900.00	0.22	146.12	899.97	3.25	3.20	1.92	0.08	3.73	30.91
1000.00	0.24	156.51	999.97	2.91	2.86	2.10	0.05	3.55	36.37
1100.00	0.14	161.48	1099.97	2.61	2.55	2.22	0.10	3.39	41.06
1200.00	0.36	237.53	1199.97	2.32	2.27	2.00	0.35	3.02	41.34
1300.00	0.47	232.73	1299.97	1.89	1.85	1.41	0.11	2.33	37.18
1400.00	0.38	230.93	1399.96	1.41	1.39	0.82	0.09	1.62	30.46
1500.00	0.35	232.30	1499.96	1.00	0.99	0.32	0.03	1.04	17.63
1600.00	0.37	233.34	1599.96	0.61	0.61	-0.19	0.02	0.64	342.97
1700.00	0.40	236.63	1699.96	0.21	0.23	-0.74	0.03	0.77	287.18
1800.00	0.36	215.36	1799.96	-0.25	-0.22	-1.21	0.14	1.23	259.65
1900.00	0.29	194.09	1899.95	-0.76	-0.73	-1.46	0.14	1.63	243.49
2000.00	0.35	124.89	1999.95	-1.18	-1.15	-1.27	0.37	1.71	227.91
2100.00	1.13	92.34	2099.94	-1.36	-1.36	-0.04	0.85	1.36	181.60
2200.00	1.33	86.51	2199.92	-1.28	-1.33	2.10	0.24	2.49	122.34
2300.00	1.83	88.79	2299.88	-1.11	-1.23	4.85	0.51	5.00	104.18
2400.00	1.84	89.55	2399.83	-0.98	-1.18	8.05	0.03	8.14	98.33
2500.00	1.88	91.37	2499.78	-0.93	-1.21	11.30	0.07	11.37	96.09
2600.00	1.32	91.36	2599.74	-0.92	-1.27	14.10	0.56	14.16	95.15
2700.00	0.78	80.87	2699.72	-0.80	-1.19	15.93	0.58	15.97	94.28
2800.00	0.70	59.18	2799.71	-0.35	-0.77	17.12	0.29	17.14	92.58
2900.00	0.65	66.58	2899.71	0.21	-0.24	18.16	0.10	18.17	90.74
3000.00	0.57	56.22	2999.70	0.74	0.27	19.10	0.13	19.10	89.20
3100.00	0.62	54.03	3099.70	1.35	0.86	19.95	0.05	19.97	87.52
3200.00	0.51	64.53	3199.69	1.88	1.37	20.79	0.15	20.83	86.23
3300.00	0.33	68.23	3299.69	2.20	1.67	21.45	0.18	21.52	85.56
3400.00	0.32	68.04	3399.69	2.42	1.88	21.98	0.02	22.06	85.12
3500.00	0.33	84.22	3499.69	2.56	2.01	22.52	0.09	22.61	84.90
3600.00	0.15	323.94	3599.69	2.70	2.14	22.72	0.42	22.82	84.61
3700.00	0.09	328.33	3699.69	2.87	2.31	22.60	0.07	22.72	84.15
3800.00	0.07	294.62	3799.69	2.96	2.40	22.51	0.05	22.64	83.91



Well Name:		SHOW STOPPER 19 FED NO.4								
Survey:		FINAL OUTFRAN SURVEY								
Survey Date:		11/26/2009								
MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle	
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg	
3900.00	0.14	353.50	3899.69	3.10	2.54	22.45	0.12	22.59	83.53	
4000.00	0.04	69.26	3999.69	3.23	2.67	22.46	0.13	22.62	83.21	
4100.00	0.03	215.47	4099.69	3.21	2.66	22.48	0.07	22.64	83.25	
4200.00	0.09	177.52	4199.69	3.11	2.56	22.46	0.07	22.61	83.50	
4300.00	0.26	218.08	4299.68	2.85	2.31	22.33	0.20	22.45	84.11	
4400.00	0.25	215.77	4399.68	2.49	1.95	22.06	0.01	22.14	84.96	
4500.00	0.31	228.16	4499.68	2.12	1.59	21.73	0.09	21.78	85.83	
4600.00	0.33	203.86	4599.68	1.67	1.14	21.41	0.14	21.44	86.94	
4700.00	0.45	193.67	4699.68	1.02	0.50	21.20	0.15	21.20	88.65	
4800.00	0.64	196.16	4799.67	0.09	-0.42	20.95	0.19	20.95	91.16	
4900.00	1.11	180.10	4899.66	-1.42	-1.93	20.79	0.52	20.88	95.30	
5000.00	1.20	175.72	4999.64	-3.42	-3.94	20.87	0.12	21.24	100.69	
5100.00	1.29	181.34	5099.62	-5.59	-6.11	20.92	0.16	21.79	106.28	
5200.00	1.24	178.57	5199.59	-7.80	-8.32	20.92	0.08	22.51	111.68	
5300.00	1.00	175.07	5299.57	-9.75	-10.27	21.02	0.25	23.39	116.03	
5400.00	1.05	163.24	5399.56	-11.49	-12.02	21.36	0.22	24.51	119.36	
5500.00	1.11	162.95	5499.54	-13.28	-13.83	21.91	0.06	25.91	122.25	
5600.00	1.09	157.99	5599.52	-15.08	-15.64	22.56	0.10	27.45	124.74	
5700.00	1.14	159.50	5699.50	-16.88	-17.46	23.26	0.06	29.09	126.89	
5800.00	1.29	161.06	5799.48	-18.87	-19.46	23.98	0.15	30.88	129.07	
5900.00	1.17	154.10	5899.46	-20.83	-21.45	24.79	0.19	32.78	130.87	
6000.00	1.53	153.64	5999.43	-22.92	-23.57	25.83	0.36	34.97	132.38	
6100.00	1.67	153.34	6099.39	-25.39	-26.06	27.08	0.13	37.58	133.91	
6200.00	1.83	148.03	6199.34	-28.01	-28.72	28.58	0.23	40.51	135.14	
6300.00	1.68	154.96	6299.30	-30.66	-31.41	30.04	0.26	43.46	136.27	
6345.00	1.62	155.89	6344.28	-31.83	-32.59	30.58	0.15	44.69	136.82	

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MARBOB ENERGY
SHOWSTOPPER 19 FEDERAL #4
EDDY COUNTY, NEW MEXICO
Rig:PATRIOT 2

Wed Nov 25 09:35:58 2009

Coordinates

Latitude: 32.109976 N (32 deg. 6 min. 35.9153 sec.)
Longitude: 104.022188 W (-104 deg. 1 min. 19.8780 sec.)
Elevation: 2931.00 feet.
Calculation Date: Nov/25/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.0567 degrees
Total Magnetic Field: 0.48686 gauss
Magnetic Declination: 7.956549 degrees
Horizontal Intensity: 0.243014 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.956549 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 596338.2000 feet
Y: 403871.4000 feet
True to Grid: (convergence) -0.165389 degrees
Magnetic to Grid: 7.791160 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.791160 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MARBOB ENERGY
SHOWSTOPPER 19 FED #4
EDDY COUNTY, NM
Rig: PATRIOT 2

Sat Nov 28 16:20:15 2009

FIELD COPY

Coordinates

Latitude: 32.109976 N (32 deg. 6 min. 35.9153 sec.)
Longitude: 104.022188 W (-104 deg. 1 min. 19.8780 sec.)
Elevation: 2924.60 feet.
Calculation Date: Nov/26/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.0565 degrees
Total Magnetic Field: 0.48708 gauss
Magnetic Declination: 7.957681 degrees
Horizontal Intensity: 0.243123 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.957681 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 596338.2000 feet
Y: 403871.4000 feet
True to Grid: (convergence) -0.165389 degrees
Magnetic to Grid: 7.792291 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.792291 Degr.

RECEIVED

NOV - 2 2009

OCD-ARTESIA

ATS-09-600

PM

Form 3160-3
(February 2005)

NM OCD ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

5 Lease Serial No.
SHL NM-055929, BHL NM-117121

6 If Indian, Allottee or Tribe Name
N/A

7 If Unit or CA Agreement, Name and No.
N/A

8 Lease Name and Well No.
Showstopper 19 Federal #4

9 API Well No.
30-015-37374

10 Field and Pool, or Exploratory
Willow Lake, Bone Spring SE

11 Sec, T R M. or Blk and Survey or Area
Section 19, T25S-R29E

12 County or Parish
Eddy County

13 State
NM

1a. Type of work. ☒ DRILL ☐ REENTER

1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2 Name of Operator
Marbob Energy Corporation

3a Address P.O. Box 227, Artesia, NM 88211-0228

3b Phone No. (include area code)
575-748-3303

4. Location of Well (Report location clearly and in accordance with any State requirements *)

At surface 660' FSL & 2310' FEL

At proposed prod zone 350' FSL + 1990' FEL

14 Distance in miles and direction from nearest town or post office*
About 10 Miles South East of Malaga

15 Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drg unit line, if any) 330'

16 No of acres in lease
SHL 639.330

17 Spacing Unit dedicated to this well
160

18 Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft N/A

19 Proposed Depth
6250' TVD 1034' MD
2140' hole 8200'

20 BLM/BIA Bond No. on file
NMB000412

21 Elevations (Show whether DF, KDB, RT, GL, etc)
2909' GL

22 Approximate date work will start*
10/18/2009

23 Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must be attached to this form

- 1 Well plat certified by a registered surveyor
- 2 A Drilling Plan
- 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)

- 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 5 Operator certification
- 6 Such other site specific information and/or plans as may be required by the BLM.

25 Signature *Marissa Villa*

Name (Printed/Typed)
Marissa Villa

Date
09/18/2009

Title
Land Department

Approved by (Signature) *Owen Lofton*

Name (Printed/Typed)
OWEN LOFTON

Date
OCT 30 2009

Title
Supervisor Multi-Resource

Office
CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 USC Section 1001 and Title 43 USC Section 1212, make 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

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I

1625 N. FRENCH DR., BOHRIS, NM 88240

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State EDDYse - 4 Copies

Fee EDDYse - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30015-37374	Pool Code 96217	Pool Name WILLOW LAKE, BONE SPRING SE
Property Code 37899	Property Name SHOWSTOPPER 19 FEDERAL	Well Number 4
OCRID No. 14049	Operator Name MARBOB ENERGY CORPORATION	Elevation 2909'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	19	25-S	29-E		660	SOUTH	2310	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	19	25-S	29-E		330	NORTH	1980	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
-------------------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

LOT 1 LOT 2 GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=403871.4 N X=596338.2 E LOT 3 LAT.=32.109977° N LONG.=104.022188° W BOTTOM HOLE LOCATION Y=408177.1 N X=596674.4 E LOT 4 DETAIL 2904.1' 2909.8' 2909.4' 2910.3' 600' 660' 2310' B.H. 1980' B.H. NM-117121 GRID AZ.=04°27'50" HORIZ. DIST.=4319.9' SHL NM-055922-05 SEE DETAIL	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>[Signature]</i> 9/18/09 Signature Date MARISSA VILLA Printed Name SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date Surveyed 9/14/09 Signature & Seal of Professional Surveyor <i>[Signature]</i> 9/15/09 Certificate No. GARY G. EIDSON 12641 RONALD J. EIDSON 3239
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DISTRICT I

1626 N. FRENCH DR., HOBBES, NM 88240

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505Revised October 12, 2005
Submit to Appropriate District Office

State EDDYse - 4 Copies

Fee EDDYse - 3 Copies

DISTRICT III

1000 Rio Brazos Rd., Artec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name SHOWSTOPPER 19 FEDERAL	Well Number 4
OGRID No.	Operator Name MARBOB ENERGY CORPORATION	Elevation 2909'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	19	25-S	29-E		660	SOUTH	2310	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	19	25-S	29-E		330	NORTH	1980	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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