



An Operating Unit of Smith International, Inc.

DIRECTIONAL SURVEY REPORT

MARBOB ENERGY CORPORATION

NOOSE FEDERAL 7

EDDY COUNTY, NEW MEXICO

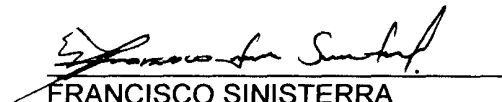
PREPARED BY: FRANCISCO SINISTERRA

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) NICHOLAS TVRDY
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 10/06/09 TO 10/10/09
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
NOOSE FEDERAL 7
EDDY COUNTY, NM
RIG: TEACO 1
9. SURVEY CERTIFIED FROM: 2221 TO 7054 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4607.32 FEET ON A BEARING OF 180.76 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 7100 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: 10/07/2009
Date Completed: 10/10/2009

MARBOB ENERGY
NOOSE FEDERAL #7
EDDY COUNTY, NEW MEXICO
Rig:TEACO #1
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:R. DONARUMMA
N. TVRDY

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.37.23.8988 N LON:104.27.8.8261 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 463325.9000 Y: 590490.4000
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.27° EAST TO GRID
Vertical Section Plane: 181.40
Survey Vert. Reference: 14.00' Kelly Bushing To Ground
Altitude:3476.00' Ground To MSL

Measured Depth	7100.00	(feet)
Inclination	90.66	(deg)
Azimuth	179.46	(deg)
True Vertical Depth	2699.63	(feet)
Vertical Section	4607.04	(feet)
Survey X cord	463264.72	(feet)
Survey Y cord	585883.48	(feet)
Survey Lat	32.61064148 N	(deg)
Survey Lon	104.45263363 W	(deg)
Rectangular Corr. N/S	4606.92 S	(feet)
Rectangular Corr. E/W	61.18 W	(feet)
Closure Distance	4607.32	(feet)
Direction of Closure	180.76	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
NOOSE FEDERAL #7
EDDY COUNTY, NEW MEXICO

Rig:TEACO #1

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: R. DONARUMMA
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Total Magnetic Correction: 8.27° EAST TO GRID
Vertical Section Plane: 181.40
Survey Vert. Reference: 14.00' Kelly Bushing To Ground
Altitude:3476.00' 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)
THE FOLLOWING ARE SCIENTIFIC GYRO SURVEYS.										
100.00	0.56	229.75	100.00	0.00	0.34	0.33 S	0.38 W	0.50@	229.41	0.00
200.00	0.37	215.14	200.00	100.00	0.93	0.91 S	0.94 W	1.31@	226.05	0.22
300.00	0.32	92.62	300.00	100.00	1.20	1.18 S	0.85 W	1.46@	215.61	0.61
400.00	0.43	76.90	400.00	100.00	1.12	1.11 S	0.20 W	1.13@	190.38	0.15
500.00	0.52	83.40	499.99	100.00	0.96	0.97 S	0.61 E	1.15@	147.85	0.10
600.00	0.55	92.03	599.99	100.00	0.90	0.94 S	1.54 E	1.81@	121.34	0.09
700.00	0.68	105.24	699.98	100.00	1.05	1.11 S	2.60 E	2.82@	113.20	0.19
800.00	0.71	101.24	799.98	100.00	1.30	1.39 S	3.78 E	4.02@	110.20	0.06
900.00	0.69	96.09	899.97	100.00	1.45	1.57 S	4.98 E	5.22@	107.53	0.07
1000.00	0.66	96.26	999.96	100.00	1.55	1.70 S	6.15 E	6.38@	105.45	0.03
1100.00	0.66	93.53	1099.96	100.00	1.62	1.80 S	7.30 E	7.52@	103.84	0.03
1200.00	0.62	91.91	1199.95	100.00	1.65	1.85 S	8.42 E	8.62@	102.41	0.04
1300.00	0.66	65.73	1299.94	100.00	1.40	1.63 S	9.48 E	9.62@	99.78	0.29
1400.00	0.74	62.15	1399.94	100.00	0.84	1.10 S	10.58 E	10.63@	95.91	0.09
1500.00	0.85	57.24	1499.93	100.00	0.10	0.39 S	11.77 E	11.78@	91.91	0.13
1600.00	0.96	59.08	1599.91	100.00	-0.76	0.44 N	13.11 E	13.12@	88.08	0.11
1700.00	1.12	61.74	1699.90	100.00	-1.69	1.33 N	14.69 E	14.75@	84.82	0.17
1800.00	1.21	65.80	1799.88	100.00	-2.63	2.23 N	16.52 E	16.67@	82.32	0.12
1900.00	1.11	57.23	1899.86	100.00	-3.63	3.19 N	18.30 E	18.57@	80.12	0.20
2000.00	0.67	62.92	1999.84	100.00	-4.45	3.98 N	19.63 E	20.03@	78.55	0.45
2100.00	0.37	17.49	2099.84	100.00	-5.04	4.55 N	20.25 E	20.75@	77.34	0.49
** TIED INTO SCIENTIFIC GYRO SURVEY @ 2121' MD.										
2121.00	0.30	34.47	2120.84	21.00	-5.15	4.66 N	20.30 E	20.83@	77.07	0.57

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
NOOSE FEDERAL #7
EDDY COUNTY, NEW MEXICO
RIG:TEACO #1

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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)
THE FOLLOWING ARE PATHFINDER SURVEYS.										
2221.00	1.93	185.02	2220.82	100.00	-3.69	3.20 N	20.30 E	20.55@	81.05	2.20
2252.00	5.63	183.88	2251.75	31.00	-1.65	1.16 N	20.15 E	20.19@	86.70	11.94
2283.00	9.15	184.40	2282.49	31.00	2.33	2.82 S	19.86 E	20.06@	98.07	11.36
2314.00	12.84	184.58	2312.91	31.00	8.23	8.71 S	19.40 E	21.26@	114.18	11.90
2345.00	16.53	184.40	2342.90	31.00	16.08	16.54 S	18.78 E	25.03@	131.37	11.90
2376.00	20.14	183.96	2372.32	31.00	25.82	26.27 S	18.08 E	31.88@	145.47	11.65
2407.00	23.65	183.88	2401.08	31.00	37.36	37.80 S	17.29 E	41.56@	155.42	11.32
2438.00	26.47	182.21	2429.16	31.00	50.49	50.91 S	16.60 E	53.55@	161.94	9.38
2469.00	30.42	182.29	2456.41	31.00	65.25	65.66 S	16.02 E	67.58@	166.29	12.74
2500.00	34.38	181.86	2482.58	31.00	81.85	82.26 S	15.42 E	83.69@	169.38	12.80
2531.00	37.99	182.21	2507.59	31.00	100.15	100.54 S	14.77 E	101.62@	171.64	11.66
2563.00	41.50	184.40	2532.20	32.00	120.59	120.96 S	13.57 E	121.72@	173.60	11.81
2594.00	45.02	186.07	2554.77	31.00	141.79	142.11 S	11.63 E	142.59@	175.32	11.94
2625.00	49.15	186.78	2575.87	31.00	164.40	164.67 S	9.08 E	164.92@	176.84	13.43
2656.00	52.85	186.34	2595.38	31.00	188.39	188.60 S	6.33 E	188.70@	178.08	11.99
2687.00	56.19	186.25	2613.37	31.00	213.53	213.69 S	3.57 E	213.72@	179.04	10.78
2718.00	59.18	185.55	2629.94	31.00	239.65	239.74 S	0.88 E	239.74@	179.79	9.83
2748.00	62.08	185.63	2644.65	30.00	265.72	265.76 S	1.67 W	265.76@	180.36	9.67
2780.00	66.30	186.43	2658.58	32.00	294.43	294.40 S	4.70 W	294.44@	180.91	13.38
2811.00	70.43	186.43	2670.01	31.00	323.13	323.03 S	7.93 W	323.13@	181.41	13.32
2842.00	74.22	185.63	2679.42	31.00	352.56	352.40 S	11.03 W	352.57@	181.79	12.47
2873.00	77.47	184.93	2687.00	31.00	382.55	382.32 S	13.79 W	382.57@	182.07	10.71
2905.00	80.02	184.23	2693.24	32.00	413.88	413.61 S	16.30 W	413.93@	182.26	8.25
2936.00	82.75	183.35	2697.89	31.00	444.50	444.19 S	18.32 W	444.56@	182.36	9.24
2967.00	85.30	182.21	2701.11	31.00	475.32	474.98 S	19.82 W	475.39@	182.39	9.00
2998.00	88.46	180.85	2702.80	31.00	506.27	505.92 S	20.64 W	506.34@	182.34	11.09

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
NOOSE FEDERAL #7
EDDY COUNTY, NEW MEXICO
RIG:TEACO #1

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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)
3029.00	90.13	180.90	2703.18	31.00	537.27	536.91 S	21.12 W	537.32@	182.25	5.39
3091.00	90.04	180.61	2703.09	62.00	599.26	598.90 S	21.93 W	599.31@	182.10	0.49
3152.00	89.78	180.44	2703.19	61.00	660.25	659.90 S	22.49 W	660.28@	181.95	0.51
3214.00	89.43	180.15	2703.61	62.00	722.24	721.90 S	22.81 W	722.26@	181.81	0.73
3276.00	89.08	179.92	2704.42	62.00	784.22	783.89 S	22.85 W	784.23@	181.67	0.68
3338.00	89.78	180.19	2705.04	62.00	846.20	845.89 S	22.91 W	846.20@	181.55	1.21
3401.00	89.78	180.12	2705.28	63.00	909.18	908.89 S	23.08 W	909.18@	181.45	0.11
3463.00	90.84	181.72	2704.94	62.00	971.18	970.88 S	24.07 W	971.18@	181.42	3.10
3524.00	90.84	182.00	2704.05	61.00	1032.17	1031.84 S	26.05 W	1032.17@	181.45	0.46
3586.00	90.66	181.83	2703.24	62.00	1094.16	1093.80 S	28.12 W	1094.16@	181.47	0.40
3679.00	90.66	181.72	2702.17	93.00	1187.15	1186.75 S	31.01 W	1187.15@	181.50	0.12
3772.00	90.66	181.68	2701.09	93.00	1280.14	1279.70 S	33.76 W	1280.15@	181.51	0.04
3865.00	90.40	181.28	2700.23	93.00	1373.14	1372.67 S	36.17 W	1373.14@	181.51	0.51
3958.00	90.04	180.78	2699.88	93.00	1466.14	1465.65 S	37.84 W	1466.14@	181.48	0.66
4050.00	89.69	180.27	2700.09	92.00	1558.12	1557.64 S	38.68 W	1558.12@	181.42	0.67
4143.00	89.43	180.20	2700.81	93.00	1651.10	1650.64 S	39.06 W	1651.10@	181.36	0.29
4236.00	89.52	180.07	2701.66	93.00	1744.08	1743.64 S	39.28 W	1744.08@	181.29	0.17
4329.00	89.43	179.71	2702.51	93.00	1837.04	1836.63 S	39.10 W	1837.05@	181.22	0.40
4423.00	89.96	181.05	2703.01	94.00	1931.02	1930.63 S	39.73 W	1931.04@	181.18	1.53
4516.00	89.96	180.77	2703.08	93.00	2024.02	2023.62 S	41.20 W	2024.03@	181.17	0.30
4578.00	90.31	180.82	2702.93	62.00	2086.01	2085.61 S	42.06 W	2086.03@	181.16	0.57
4671.00	90.75	180.58	2702.07	93.00	2179.00	2178.60 S	43.20 W	2179.03@	181.14	0.54
4764.00	91.28	180.84	2700.42	93.00	2271.98	2271.58 S	44.35 W	2272.01@	181.12	0.63
4857.00	89.78	180.49	2699.56	93.00	2364.97	2364.56 S	45.43 W	2365.00@	181.10	1.66
4950.00	90.22	180.14	2699.56	93.00	2457.95	2457.56 S	45.94 W	2457.99@	181.07	0.60
5042.00	88.37	180.31	2700.70	92.00	2549.92	2549.55 S	46.30 W	2549.97@	181.04	2.02
5134.00	88.46	180.26	2703.24	92.00	2641.87	2641.51 S	46.76 W	2641.93@	181.01	0.11

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY
NOOSE FEDERAL #7
EDDY COUNTY, NEW MEXICO
RIG:TEACO #1

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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)
5227.00	88.90	180.93	2705.38	93.00	2734.83	2734.48 S	47.73 W	2734.90@	181.00	0.86
5320.00	88.55	180.37	2707.45	93.00	2827.80	2827.45 S	48.78 W	2827.87@	180.99	0.71
5413.00	88.90	181.06	2709.52	93.00	2920.77	2920.42 S	49.94 W	2920.85@	180.98	0.83
5505.00	89.60	182.05	2710.73	92.00	3012.76	3012.38 S	52.44 W	3012.83@	181.00	1.32
5598.00	91.10	182.50	2710.16	93.00	3105.74	3105.30 S	56.13 W	3105.81@	181.04	1.68
5691.00	91.28	181.86	2708.23	93.00	3198.72	3198.21 S	59.67 W	3198.77@	181.07	0.71
5781.00	91.28	181.55	2706.22	90.00	3288.69	3288.15 S	62.34 W	3288.74@	181.09	0.34
5877.00	91.45	181.47	2703.93	96.00	3384.66	3384.09 S	64.87 W	3384.71@	181.10	0.20
5971.00	90.75	181.40	2702.12	94.00	3478.65	3478.04 S	67.23 W	3478.69@	181.11	0.75
6064.00	90.22	180.95	2701.34	93.00	3571.64	3571.02 S	69.13 W	3571.69@	181.11	0.75
6159.00	89.96	180.60	2701.19	95.00	3666.64	3666.01 S	70.42 W	3666.69@	181.10	0.46
6253.00	89.52	179.99	2701.61	94.00	3760.62	3760.01 S	70.90 W	3760.68@	181.08	0.80
6346.00	89.25	179.15	2702.61	93.00	3853.56	3853.00 S	70.20 W	3853.64@	181.04	0.95
6440.00	89.69	179.30	2703.48	94.00	3947.49	3946.98 S	68.93 W	3947.59@	181.00	0.49
6534.00	90.04	179.55	2703.70	94.00	4041.43	4040.98 S	67.99 W	4041.55@	180.96	0.46
6628.00	90.40	179.76	2703.34	94.00	4135.39	4134.98 S	67.42 W	4135.53@	180.93	0.44
6722.00	90.40	179.38	2702.69	94.00	4229.34	4228.97 S	66.72 W	4229.50@	180.90	0.40
6816.00	90.40	179.08	2702.03	94.00	4323.27	4322.96 S	65.45 W	4323.46@	180.87	0.32
6911.00	90.40	179.02	2701.37	95.00	4418.19	4417.95 S	63.88 W	4418.41@	180.83	0.06
7004.00	90.48	179.01	2700.65	93.00	4511.10	4510.93 S	62.28 W	4511.36@	180.79	0.09
7054.00	90.66	179.46	2700.15	50.00	4561.07	4560.92 S	61.61 W	4561.34@	180.77	0.97
STRAIGHT LINE PROJECTION TO BIT @ 7100'MD.										
7100.00	90.66	179.46	2699.63	46.00	4607.04	4606.92 S	61.18 W	4607.32@	180.76	0.00

** The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder Energy Services, Inc. and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.



ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	MARBOB ENERGY CORPORATION		
LEASE / WELL No.:	NOOSE FEDERAL	#7	
WELL LOCATION:	EDDY COUNTY		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	TEACO #1		
API WELL No:	30-015-37285		
JOB No:	101009054 WT-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER ENERGY SERVICES		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	8.27	LWD Calculated:	8.27166
Agreed Upon:		8.27	
X =	463325.900000	Feet	Y = 590490.400000
Feet			
SITE LATITUDE:	32.623305 N	SITE LONGITUDE:	104.452452 W
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	181.4		
KELLY BUSHING ELEVATION:	14		
ALTITUDE:	3476	Feet	WATER DEPTH:
		Feet	

TIE-IN SURVEY

MEASURED DEPTH:	2121		
DRIFT ANGLE:	0.3		
DRIFT DIRECTION:	34.47		
TRUE VERTICAL DEPTH:	2120.84		
VERTICAL SECTION:	-5.16		
RECTANGULAR COORDINATE (N / S) :	4.66		
RECTANGULAR COORDINATE (E / W) :	20.3		
CLOSURE DISTANCE / DIRECTION:	20.82	77.06	
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

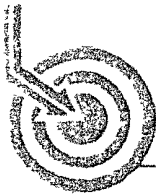
KICKOFF DEPTH:	2121	TOTAL DEPTH:	7100
KICKOFF ANGLE:	0.3	MAX ANGLE:	91.45

PES Engineers: H DONARUMMA
N TVRDY

**Signature of both field engineers required if applicable

Directional Driller: JESSE CALVERT / JOSHUA PHILIPS

DATE: 6-Oct-2009



Scientific Drilling

Gyroscopic Survey Report for MARBOB

Well Location	EDDY COUNTY, NEW MEXICO
Well Name	NOOSE FEDERAL NO.7
Rig Name	TEACO NO.1
Survey Date	10/7/2009
Latitude	32.62 deg
North Reference	Grid North
Grid Correction	0.07 deg
Depth Reference	RKB
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 181.40Azim (deg)
Definitive Survey	FINAL GYRO SURVEY
Operator	ANGEL GUEBARA

Comments



Survey Report

Well Name:		NOOSE FEDERAL NO 7							
Survey:		FINAL GYRO SURVEY							
Survey Date:		10/7/2009							
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	0.56	229.75	100.00	0.32	-0.32	-0.37	0.56	0.49	229.75
200.00	0.37	215.14	200.00	0.92	-0.90	-0.93	0.22	1.30	226.11
300.00	0.32	92.62	299.99	1.20	-1.18	-0.84	0.61	1.45	215.64
400.00	0.43	76.90	399.99	1.11	-1.11	-0.21	0.15	1.13	190.51
500.00	0.52	83.40	499.99	0.95	-0.97	0.61	0.11	1.15	147.82
600.00	0.55	92.03	599.98	0.90	-0.93	1.54	0.08	1.80	121.23
700.00	0.68	105.24	699.98	1.04	-1.11	2.59	0.19	2.81	113.15
800.00	0.71	101.24	799.97	1.29	-1.38	3.76	0.06	4.01	110.17
900.00	0.69	96.09	899.96	1.44	-1.57	4.97	0.06	5.21	107.49
1000.00	0.66	96.26	999.96	1.54	-1.69	6.14	0.03	6.37	105.41
1100.00	0.66	93.53	1099.95	1.61	-1.79	7.29	0.03	7.51	103.80
1200.00	0.62	91.91	1199.94	1.64	-1.84	8.41	0.04	8.61	102.38
1300.00	0.66	65.73	1299.94	1.40	-1.63	9.47	0.29	9.61	99.75
1400.00	0.74	62.15	1399.93	0.83	-1.09	10.56	0.09	10.62	95.91
1500.00	0.85	57.24	1499.92	0.11	-0.39	11.75	0.13	11.76	91.91
1600.00	0.96	59.08	1599.91	-0.76	0.44	13.09	0.12	13.10	88.08
1700.00	1.12	61.74	1699.89	-1.69	1.34	14.68	0.17	14.74	84.80
1800.00	1.21	65.80	1799.87	-2.64	2.23	16.51	0.12	16.66	82.29
1900.00	1.11	57.23	1899.85	-3.64	3.19	18.29	0.20	18.57	80.10
2000.00	0.67	62.92	1999.84	-4.46	3.98	19.63	0.44	20.03	78.53
2100.00	0.37	17.49	2099.83	-5.05	4.56	20.24	0.49	20.75	77.32
2121.00	0.30	34.47	2120.84	-5.16	4.66	20.30	0.56	20.82	77.06

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MARBOB ENERGY
NOOSE FEDERAL COM #7H
EDDY COUNTY, NEW MEXICO
Rig:TEACO 1

Mon Oct 05 17:33:37 2009

Coordinates

Latitude: 32.623305 N (32 deg. 37 min. 23.8988 sec.)
Longitude: 104.452452 W (-104 deg. 27 min. 8.8261 sec.)
Elevation: 3490.00 feet.
Calculation Date: Oct/05/2009

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.4597 degrees
Total Magnetic Field: 0.48955 gauss
Magnetic Declination: 8.207441 degrees
Horizontal Intensity: 0.241367 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.207441 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 463325.9000 feet
Y: 590490.4000 feet
True to Grid: (convergence) 0.064218 degrees
Magnetic to Grid: 8.271660 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 8.271660 Degr.

SEP 22 2009

OCD-ARTESIA

Form 3160-3
(February 2005)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. NMNM 113927-SHL

6 If Indian, Allottee or Tribe Name

7 If Unit or CA Agreement, Name and No

8 Lease Name and Well No.
Noose Federal Com #7H

9 API Well No.

10 Field and Pool, or Exploratory
North Seven Rivers; Glorieta-Yeso

11 Sec, T, R, M or Blk and Survey or Area

Section 35, T19S - R25E

12 County or Parish
Eddy County13 State
NM14 Distance in miles and direction from nearest town or post office*
About 5.5 miles from Lakewood, NM15 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
320.0017 Spacing Unit dedicated to this well
16018 Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft19 Proposed Depth
7143' MD
2700' TTD (OPINION)20 BLM/BIA Bond No. on file
NMB00041221 Elevations (Show whether DF, KDB, RT, GL, etc)
3476' GL22 Approximate date work will start*
07/10/200923 Estimated duration
20 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 | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2 A Drilling Plan | 5 Operator certification |
| 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) | 6 Such other site specific information and/or plans as may be required by the BLM. |

25 Signature
Nancy T. Agnew
Title
Land DepartmentName (Printed/Typed)
Nancy T. AgnewDate
06/10/2009Approved by (Signature)
/S/ DAVID D. EVANS
Title
FIELD MANAGERName (Printed/Typed)
/S/ DAVID D. EVANS
Office
CARLSBAD FIELD OFFICEDate
SEP 18 2009Application 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)

Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached