

District I
1625 N. French Dr., Hobbs, NM 87240
District II
1301 W. Grand Ave., 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

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505



WELL API NO. 30-005-63928
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name: OLD ROSEBUD 1524-36 A STATE
8. Well Number 1
9. OGRID Number 230387
10. Pool name or Wildcat COTTONWOOD CREEK WOLFCAWPEST

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other	AUG - 5 2008 OCD-ARTESIA OCD-ARTESIA
2. Name of Operator PARALLEL PETROLEUM CORPORATION	
3. Address of Operator 1004 N BIG SPRING, SUITE 400, MIDLAND, TX 79701	
4. Well Location Unit Letter <u>P</u> : <u>290</u> feet from the <u>SOUTH</u> line and <u>150</u> feet from the <u>EAST</u> line Section <u>36</u> Township <u>15S</u> Range <u>24E</u> NMPM County <u>CHAVES</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) GR: 3504	
Pit or Below-grade Tank Application ☐ or Closure ☐ Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____ Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☒
OTHER: PROD CSG & SURVEYS ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

07-18-2008: TD'D @ 1930 HR, 8753 MD, 4701 TVD
07-20-2008: SET 5.5 CSG, 7.875" HOLE, 17# @ 8949
CMT LEAD: 500 SX HALLIBURTON INTERFILL C + 1/4# POLY E FLAKE, 11.9 PPG, 2.47 YLD
CMT TAIL: 450 SX HALLIBURTON PREPIUM ASC + 0.7% HALAD 334 + 0.25 D-AIR 3000 + 0.7
HR601 + 10# SILICALITE 50/50 POZ MIX, 15.02 PPG, 2.62 YLD, 110 CENTRALIZERS
TOC @ 175 BY TEMP SURVEY, ATTACHED
WOC: 8 HR, TEST CSG TO 1500 PSI FOR 30 MINUTES.
ATTACHED: KELTIC TEMP SURVEY, PATHFINDER MWD SURVEY, HYRODATA GYRO SURVEY, LOG

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been well constructed or closed according to NM OCD guidelines ☐ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐

SIGNATURE Kaye McCormick TITLE SR PROD & REG TECH DATE 08-04-2008
E-mail address: kmccormick@plll.com
Type or print name KAYE MC CORMICK Telephone No. 432-685-6563

For State Use Only

APPROVED BY _____ TITLE Accepted for record
Conditions of Approval, if any: NMOCD DATE _____

Keltic Services, Inc

Box 1857
Artesia, NM
88211

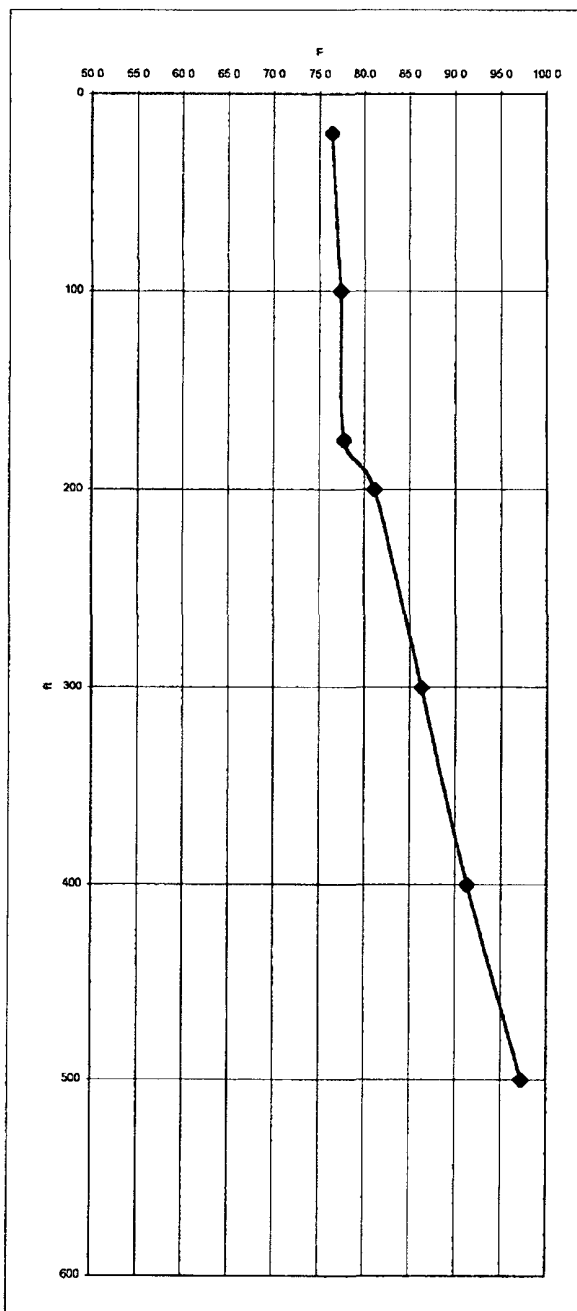
505 748 3759**Temperature Survey**

Company	PARALLEL PETROLEUM CORP.	Date	07/21/08
Well	OLDROSEBUD 1524-36 AST #1	Time Plug Down	1730 hrs
	#1	Time Start Survey	200 hrs
		Time End Survey	230 hrs
Casing String	PRODUCTION	Depth Reached	500 ft
Cement Top	175 ft.		
Gauge	205		
Operator:	Julian	Witness:	BENNY WILLIAMS

Keltic Services Inc
Temperature SurveyCompany PARALLEL PETROLEUM CORP.
Well OLDROSEBUD 1524-36 AST #1Date 7/21/08
Plug Down 1730 hrs
Survey Start 200 hrs
Operator Julian

Cement Top 175 ft

Depth ft	Temp. °F	Comments
20	76.4	
100	77.3	
175	77.8	CT
200	81.1	
300	86.3	
400	91.3	
500	97.3	



Parallel Petroleum Corp.

Chaves County

S/2 Sec., 36 T-15-S, R-24-E

Old Rosebud 1524-36 A State #1

Original Hole

Survey: MWD #1

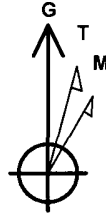
Pathfinder X & Y Survey Report

23 July, 2008

PATHFINDER
ENERGY SERVICES

PARALLEL

PETROLEUM CORPORATION



Azimuths to Grid North
 True North: 0.09°
 Magnetic North: 8.54°
 Magnetic Field
 Strength: 49342.5snT
 Dip Angle: 60.80°
 Date: 2008/01/30
 Model: IGRF200510

PATHFINDER

ENERGY SERVICES

EOW

WELL DETAILS: Old Rosebud 1524-36 A State #1

Ground Elevation : 3504.00
 RKB Elevation: EST RKB @ 3504.00ft
 Rig Name:

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	714792.000	451736.600	32° 57' 53.769 N	104° 29' 26.500 W	

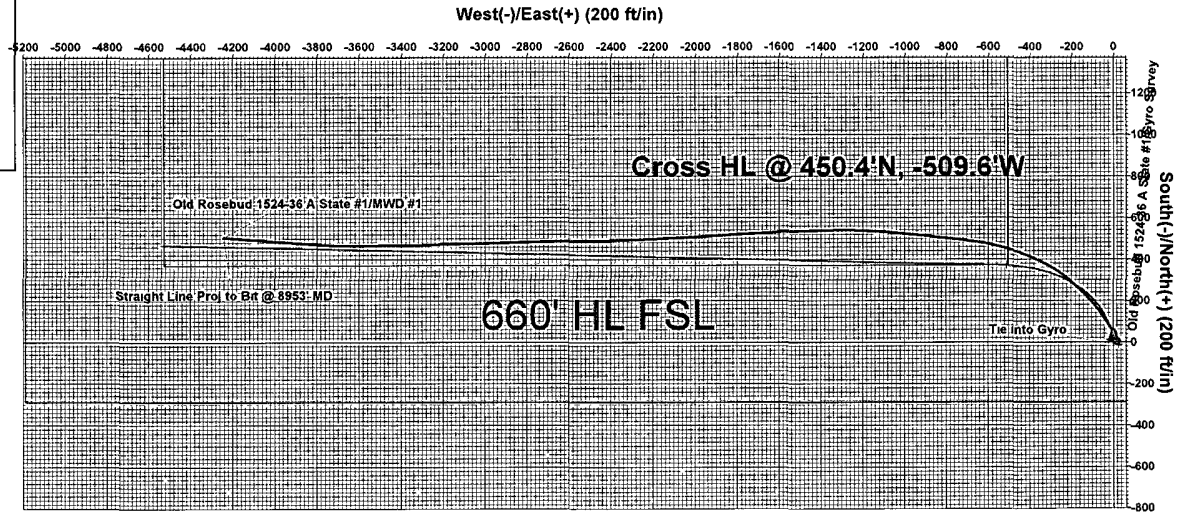
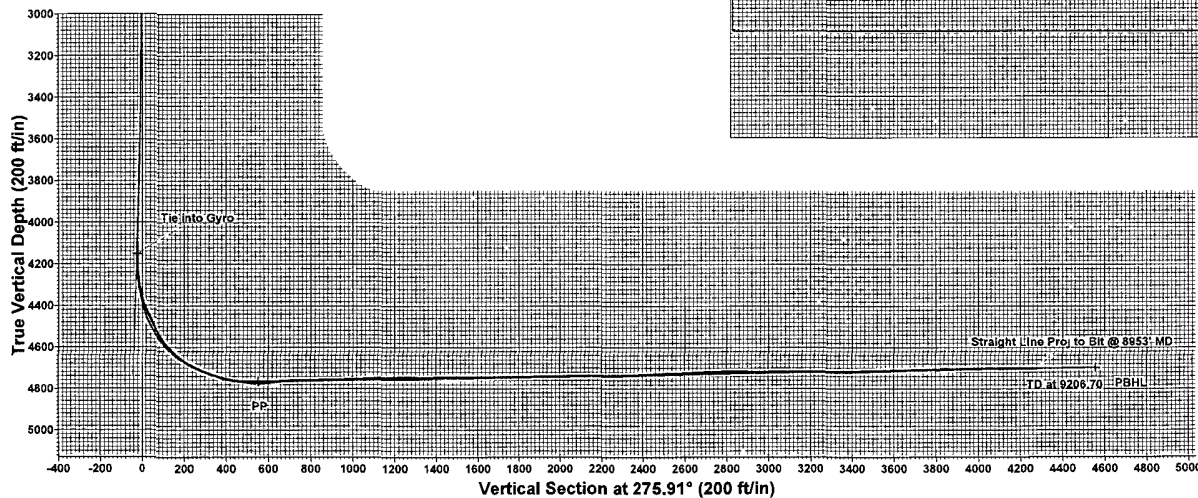
Project: Chaves County
 Site: S/2 Sec., 36 T-15-S, R-24-E
 Well: Old Rosebud 1524-36 A State #1
 Wellbore: Original Hole
 Plan: Plan #2 Post Gyro (Old Rosebud 1524-36 A State #1/Original Hole)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	4152.00	1.68	97.40	4151.54	-13.18	25.26	0.00	0.00	-26.49	
2	4571.10	46.62	333.03	4526.75	130.10	-41.63	11.35	-125.65	54.79	
3	5192.28	91.00	271.41	4765.60	370.00	-515.90	11.35	-68.92	551.24	PP
4	9206.70	91.00	271.41	4695.70	468.60	-4528.50	0.00	-134.09	4552.68	PBHL

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Tie into Gyro	4152.00	-13.18	25.26	714778.820	451761.860	Point
PBHL	4695.70	468.60	-4528.50	715260.600	447208.100	Point
PP	4765.60	370.00	-515.90	715162.000	451220.700	Point



PROJECT DETAILS. Chaves County
 Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001

System Datum: Mean Sea Level
 Local North: Grid

Plan: Plan #2 Post Gyro (Old Rosebud 1524-36 A State #1/Original Hole)

Created By: Nate Bingham Date: 10/24/2008

Checked: _____ Date: _____

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Old Rosebud 1524-36 A State #1
Project:	Chaves County	TVD Reference:	EST RKB @ 3504.00ft
Site:	S/2 Sec., 36 T-15-S, R-24-E	MD Reference:	EST RKB @ 3504.00ft
Well:	Old Rosebud 1524-36 A State #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Project	Chaves County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	S/2 Sec., 36 T-15-S, R-24-E		
Site Position:		Northing:	714,792.000 ft
From:	Map	Easting:	451,736.600 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 57' 53.769 N
		Longitude:	104° 29' 26.500 W
		Grid Convergence:	-0.09 °

Well	Old Rosebud 1524-36 A State #1		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty		0.00 ft	Wellhead Elevation:
			ft
			Latitude:
			32° 57' 53.769 N
			Longitude:
			104° 29' 26.500 W
			Ground Level:
			3,504.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2008/01/30	8.46	60.80	49,342

Design	Original Hole			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
				0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	276.79

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Old Rosebud 1524-36 A State #1
Project:	Chaves County	TVD Reference:	EST RKB @ 3504.00ft
Site:	S/2 Sec., 36 T-15-S, R-24-E	MD Reference:	EST RKB @ 3504.00ft
Well:	Old Rosebud 1524-36 A State #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey Program		Date 2008/07/23		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.20	4,100.00	Gyro Survey (Original Hole)	MWD	MWD - Standard
4,114.00	8,953.00	MWD #1 (Original Hole)	MWD	MWD - Standard

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
4,100.00	1.61	99.45	4,099.56	595.56	-12.96	23.79	-25.15	0.00	714,779.04	451,760.39	
4,114.00	1.41	65.52	4,113.56	609.56	-12.92	24.14	-25.50	6.44	714,779.08	451,760.74	
4,145.00	3.17	10.71	4,144.54	640.54	-11.92	24.64	-25.88	8.46	714,780.08	451,761.24	
4,177.00	6.24	357.01	4,176.43	672.43	-9.32	24.72	-25.65	10.15	714,782.68	451,761.32	
4,209.00	9.67	352.06	4,208.11	704.11	-4.92	24.26	-24.67	10.92	714,787.08	451,760.86	
4,240.00	12.93	348.15	4,238.51	734.51	1.06	23.18	-22.90	10.80	714,793.06	451,759.78	
4,272.00	16.09	342.23	4,269.49	765.49	8.79	21.09	-19.91	10.90	714,800.79	451,757.69	
4,304.00	19.17	336.53	4,299.98	795.98	17.83	17.65	-15.42	11.02	714,809.83	451,754.25	
4,336.00	22.16	332.62	4,329.92	825.92	28.01	12.78	-9.38	10.29	714,820.01	451,749.38	
4,367.00	25.32	330.27	4,358.29	854.29	38.97	6.80	-2.15	10.64	714,830.97	451,743.40	
4,399.00	28.31	326.51	4,386.85	882.85	51.24	-0.78	6.83	10.74	714,843.24	451,735.82	
4,431.00	31.22	323.28	4,414.63	910.63	64.22	-9.93	17.45	10.38	714,856.22	451,726.67	
4,463.00	33.94	322.69	4,441.59	937.59	77.97	-20.31	29.38	8.56	714,869.97	451,716.29	
4,495.00	35.35	326.08	4,467.92	963.92	92.76	-30.89	41.64	7.46	714,884.76	451,705.71	
4,527.00	37.46	327.64	4,493.67	989.67	108.67	-41.26	53.82	7.20	714,900.67	451,695.34	
4,558.00	39.92	327.98	4,517.87	1,013.87	125.07	-51.58	66.01	7.97	714,917.07	451,685.02	
4,590.00	42.65	325.39	4,541.91	1,037.91	142.70	-63.19	79.62	10.06	714,934.70	451,673.41	
4,622.00	45.29	323.01	4,564.94	1,060.94	160.71	-76.19	94.66	9.73	714,952.71	451,660.41	
4,654.00	48.36	320.34	4,586.84	1,082.84	179.00	-90.67	111.20	11.36	714,971.00	451,645.93	
4,686.00	51.35	317.65	4,607.47	1,103.47	197.45	-106.72	129.32	11.34	714,989.45	451,629.88	
4,717.00	54.69	315.63	4,626.12	1,122.12	215.44	-123.73	148.33	11.96	715,007.44	451,612.87	

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Old Rosebud 1524-36 A State #1
Project:	Chaves County	TVD Reference:	EST RKB @ 3504.00ft
Site:	S/2 Sec., 36 T-15-S, R-24-E	MD Reference:	EST RKB @ 3504.00ft
Well:	Old Rosebud 1524-36 A State #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
4,749.00	57.60	314.51	4,643.94	1,139.94	234.25	-142.50	169.19	9.55	715,026.25	451,594.10
4,781.00	60.23	313.67	4,660.46	1,156.46	253.31	-162.18	190.99	8.52	715,045.31	451,574.42
4,813.00	62.96	312.34	4,675.68	1,171.68	272.51	-182.76	213.70	9.28	715,064.51	451,553.84
4,845.00	65.69	310.55	4,689.55	1,185.55	291.59	-204.38	237.43	9.91	715,083.59	451,532.22
4,876.00	67.80	308.52	4,701.79	1,197.79	309.71	-226.35	261.38	9.08	715,101.71	451,510.25
4,908.00	70.00	305.76	4,713.31	1,209.31	327.73	-250.15	287.14	10.58	715,119.73	451,486.45
4,940.00	70.70	302.80	4,724.07	1,220.07	344.70	-275.05	313.87	8.98	715,136.70	451,461.55
4,972.00	72.02	300.83	4,734.30	1,230.30	360.68	-300.81	341.35	7.14	715,152.68	451,435.79
5,004.00	73.51	298.41	4,743.78	1,239.78	375.78	-327.38	369.51	8.59	715,167.78	451,409.22
5,036.00	76.50	296.52	4,752.06	1,248.06	390.04	-354.80	398.43	10.95	715,182.04	451,381.80
5,067.00	80.02	295.00	4,758.37	1,254.37	403.22	-382.13	427.13	12.33	715,195.22	451,354.47
5,099.00	82.57	293.28	4,763.21	1,259.21	416.15	-411.00	457.32	9.58	715,208.15	451,325.60
5,131.00	84.42	290.56	4,766.84	1,262.84	428.02	-440.49	488.00	10.23	715,220.02	451,296.11
5,162.00	86.00	287.79	4,769.43	1,265.43	438.17	-469.66	518.17	10.26	715,230.17	451,266.94
5,194.00	89.43	286.41	4,770.70	1,266.70	447.56	-500.22	549.63	11.55	715,239.56	451,236.38
5,203.77	90.50	286.23	4,770.71	1,266.71	450.31	-509.59	559.26	11.16	715,242.31	451,227.01
Cross HL @ 5203.77'MD, 450.4'N, -509.6'W										
5,226.00	92.95	285.81	4,770.04	1,266.04	456.44	-530.95	581.19	11.16	715,248.44	451,205.65
5,257.00	93.91	284.58	4,768.18	1,264.18	464.55	-560.81	611.80	5.03	715,256.55	451,175.79
5,289.00	94.44	282.53	4,765.85	1,261.85	472.03	-591.84	643.49	6.60	715,264.03	451,144.76
5,321.00	94.70	280.31	4,763.30	1,259.30	478.35	-623.10	675.29	6.96	715,270.35	451,113.50
5,353.00	93.91	278.57	4,760.90	1,256.90	483.58	-654.58	707.16	5.96	715,275.58	451,082.02
5,446.00	90.40	276.02	4,757.40	1,253.40	495.38	-746.74	800.07	4.66	715,287.38	450,989.86
5,539.00	91.28	276.33	4,756.04	1,252.04	505.38	-839.19	893.05	1.00	715,297.38	450,897.41
5,632.00	91.98	276.94	4,753.39	1,249.39	516.12	-931.52	986.01	1.00	715,308.12	450,805.08
5,724.00	91.71	275.48	4,750.43	1,246.43	526.07	-1,022.93	1,077.96	1.61	715,318.07	450,713.67
5,817.00	90.48	273.98	4,748.66	1,244.66	533.73	-1,115.60	1,170.88	2.09	715,325.73	450,621.00

Pathfinder Energy Services
Pathfinder X & Y Survey Report



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Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,910.00	90.04	272.34	4,748.23	1,244.23	538.86	-1,208.45	1,263.69	1.83	715,330.86	450,528.15
6,002.00	89.69	269.36	4,748.45	1,244.45	540.22	-1,300.43	1,355.18	3.26	715,332.22	450,436.17
6,095.00	90.48	268.75	4,748.31	1,244.31	538.69	-1,393.42	1,447.33	1.07	715,330.69	450,343.18
6,188.00	91.10	267.97	4,747.03	1,243.03	536.03	-1,486.37	1,539.32	1.07	715,328.03	450,250.23
6,280.00	90.92	267.49	4,745.41	1,241.41	532.38	-1,578.28	1,630.16	0.56	715,324.38	450,158.32
6,375.00	90.48	266.91	4,744.25	1,240.25	527.74	-1,673.16	1,723.82	0.77	715,319.74	450,063.44
6,470.00	91.10	266.70	4,742.94	1,238.94	522.45	-1,768.00	1,817.37	0.69	715,314.45	449,968.60
6,565.00	90.48	265.84	4,741.63	1,237.63	516.27	-1,862.79	1,910.77	1.12	715,308.27	449,873.81
6,662.00	91.01	267.13	4,740.37	1,236.37	510.32	-1,959.60	2,006.19	1.44	715,302.32	449,777.00
6,756.00	91.54	267.91	4,738.27	1,234.27	506.26	-2,053.49	2,098.94	1.00	715,298.26	449,683.11
6,852.00	89.34	266.25	4,737.54	1,233.54	501.37	-2,149.35	2,193.55	2.87	715,293.37	449,587.25
6,947.00	91.89	267.89	4,736.52	1,232.52	496.51	-2,244.21	2,287.17	3.19	715,288.51	449,492.39
7,043.00	92.51	267.36	4,732.83	1,228.83	492.54	-2,340.05	2,381.88	0.85	715,284.54	449,396.55
7,138.00	91.71	268.95	4,729.33	1,225.33	489.48	-2,434.94	2,475.73	1.87	715,281.48	449,301.66
7,233.00	92.51	269.54	4,725.84	1,221.84	488.23	-2,529.86	2,569.84	1.05	715,280.23	449,206.74
7,329.00	92.86	269.63	4,721.34	1,217.34	487.54	-2,625.76	2,664.98	0.38	715,279.54	449,110.84
7,424.00	92.15	268.80	4,717.19	1,213.19	486.23	-2,720.65	2,759.06	1.15	715,278.23	449,015.95
7,519.00	89.43	267.98	4,715.88	1,211.88	483.57	-2,815.60	2,853.02	2.99	715,275.57	448,921.00
7,615.00	89.25	268.43	4,716.98	1,212.98	480.56	-2,911.54	2,947.94	0.50	715,272.56	448,825.06
7,710.00	89.52	268.34	4,718.00	1,214.00	477.88	-3,006.50	3,041.91	0.30	715,269.88	448,730.10
7,805.00	90.31	268.79	4,718.14	1,214.14	475.50	-3,101.47	3,135.94	0.96	715,267.50	448,635.13
7,900.00	89.60	268.04	4,718.22	1,214.22	472.88	-3,196.43	3,229.92	1.09	715,264.88	448,540.17
7,995.00	89.52	268.34	4,718.95	1,214.95	469.87	-3,291.38	3,323.85	0.33	715,261.87	448,445.22
8,091.00	91.80	270.15	4,717.84	1,213.84	468.61	-3,387.36	3,419.00	3.03	715,260.61	448,349.24
8,186.00	91.63	268.89	4,715.00	1,211.00	467.81	-3,482.31	3,513.19	1.34	715,259.81	448,254.29
8,281.00	91.63	269.17	4,712.30	1,208.30	466.21	-3,577.26	3,607.29	0.29	715,258.21	448,159.34
8,377.00	90.75	271.19	4,710.30	1,206.30	466.51	-3,673.23	3,702.62	2.29	715,258.51	448,063.37

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Old Rosebud 1524-36 A State #1
Project:	Chaves County	TVD Reference:	EST RKB @ 3504.00ft
Site:	S/2 Sec., 36 T-15-S, R-24-E	MD Reference:	EST RKB @ 3504.00ft
Well:	Old Rosebud 1524-36 A State #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
8,472.00	91.80	273.10	4,708.19	1,204.19	470.06	-3,768.13	3,797.28	2.29	715,262.06	447,968.47	
8,568.00	92.07	275.01	4,704.95	1,200.95	476.85	-3,863.83	3,893.11	2.01	715,268.85	447,872.77	
8,663.00	90.04	273.29	4,703.20	1,199.20	483.72	-3,958.56	3,987.99	2.80	715,275.72	447,778.04	
8,758.00	90.48	274.57	4,702.77	1,198.77	490.23	-4,053.33	4,082.87	1.42	715,282.23	447,683.27	
8,953.00	90.48	274.57	4,701.13	1,197.13	505.77	-4,247.71	4,277.71	0.00	715,297.77	447,488.89	

Straight Line Proj to Bit @ 8953' MD

Targets											
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude		
PBHL - survey misses by 283.29ft at 8953.00ft MD (4701.13 TVD, 505.77 N, -4247.71 E) - Point	0.00	0.00	4,695.70	468.60	-4,528.50	715,260.600	447,208.100	32° 57' 58.336 N	104° 30' 19.663 W		
PP - survey misses by 78.98ft at 5185.98ft MD (4770.56 TVD, 445.28 N, -492.54 E) - Point	0.00	360.00	4,765.60	370.00	-515.90	715,162.000	451,220.700	32° 57' 57.422 N	104° 29' 32.562 W		
Tie into Gyro - survey misses by 1.80ft at 4152.34ft MD (4151.86 TVD, -11.48 N, 24.71 E) - Point	0.00	0.00	4,152.00	-13.18	25.26	714,778.820	451,761.860	32° 57' 53.639 N	104° 29' 26.203 W		

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,203.77	4,770.71	450.31	-509.59	Cross HL @ 5203.77' MD, 450.4'N, -509.6'W	
8,953.00	4,701.13	505.77	-4,247.71	Straight Line Proj to Bit @ 8953' MD	

Checked By: _____ Approved By: _____ Date: _____

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

PARALLEL

Location: PATRIOT RIG # 1, CHAVES COUNTY, NEW MEXICO
Lease: OLD ROSEBUD 1524-36A STATE Well: #1, 4-1/2 DRILLPIPE

Job Number: MD0708GW284

Run Date: 7/8/2008 11:54:35 PM

Surveyor: JAMES KING
JUNIOR PENA

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.966225 deg. N Longitude: -104.492383 deg. E

Azimuth Correction:
Gyro: -0.46000 deg West to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT RIG # 1, CHAVES COUNTY, NEW MEXICO

Lease: OLD ROSEBUD 1524-36A STATE Well: #1, 4-1/2 DRILLPIPE

Job Number: MD0708GW284

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.0	0.00	0.00	0.0 0.0	0.00 N 0.00 E

0 - 4735 FT RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4-1/2 DRILLPIPE							
ALL MEASURED DEPTH AND COORDINATE REFERENCED TO PATRIOT RIG 1 RKB(12 FT)							

100.16	0.60	300.48	0.3	0.60	100.16	0.5 300.5	0.27 N 0.45 W
150.16	0.72	287.87	0.5	0.38	150.15	1.1 296.9	0.49 N 0.98 W
200.16	0.65	295.26	0.7	0.23	200.15	1.7 294.9	0.71 N 1.53 W
250.16	0.72	289.14	0.9	0.21	250.15	2.3 294.2	0.94 N 2.08 W
300.16	0.86	284.20	1.1	0.31	300.14	3.0 292.4	1.13 N 2.75 W
350.16	0.92	285.95	1.3	0.12	350.14	3.7 290.9	1.33 N 3.50 W
400.16	0.82	284.03	1.5	0.21	400.13	4.5 289.9	1.53 N 4.23 W
450.16	0.55	298.67	1.7	0.63	450.13	5.1 289.9	1.73 N 4.79 W
500.16	0.45	303.59	2.0	0.23	500.13	5.5 290.8	1.96 N 5.16 W
550.16	0.60	301.40	2.2	0.30	550.12	6.0 291.6	2.20 N 5.54 W
600.16	0.59	2.74	2.6	1.21	600.12	6.3 294.2	2.59 N 5.75 W
650.16	0.68	10.09	3.1	0.25	650.12	6.5 298.9	3.14 N 5.69 W
700.16	0.47	8.53	3.6	0.43	700.12	6.7 302.9	3.63 N 5.61 W
750.16	0.40	32.59	4.0	0.39	750.11	6.8 306.0	3.98 N 5.48 W
800.16	0.64	55.43	4.3	0.64	800.11	6.7 309.7	4.29 N 5.16 W
850.16	0.62	67.73	4.5	0.27	850.11	6.5 314.2	4.55 N 4.68 W
900.16	0.68	72.44	4.7	0.16	900.11	6.3 318.9	4.74 N 4.14 W
950.16	0.63	73.80	4.9	0.11	950.10	6.1 323.8	4.91 N 3.59 W
1000.16	0.63	82.31	5.0	0.19	1000.10	5.9 328.7	5.02 N 3.06 W
1050.16	0.68	81.28	5.1	0.11	1050.10	5.7 333.9	5.10 N 2.49 W

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT RIG # 1, CHAVES COUNTY, NEW MEXICO

Lease: OLD ROSEBUD 1524-36A STATE Well: #1, 4-1/2 DRILLPIPE

Job Number: MD0708GW284

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1100.16	0.74	78.81	5.2	0.14	1100.09	5.5 340.1	5.21 N 1.88 W
1150.16	0.76	81.39	5.3	0.07	1150.09	5.5 346.9	5.32 N 1.24 W
1200.16	0.64	85.18	5.4	0.25	1200.08	5.4 353.3	5.40 N 0.63 W
1250.16	0.76	85.54	5.4	0.22	1250.08	5.4 359.8	5.44 N 0.02 W
1300.16	0.75	72.69	5.6	0.34	1300.08	5.6 6.3	5.57 N 0.62 E
1350.16	0.28	9.05	5.8	1.34	1350.07	5.9 9.3	5.78 N 0.95 E
1400.16	0.48	290.20	6.0	1.01	1400.07	6.0 7.3	5.98 N 0.77 E
1450.16	0.44	289.77	6.1	0.08	1450.07	6.1 3.7	6.11 N 0.39 E
1500.16	0.38	277.75	6.2	0.21	1500.07	6.2 0.5	6.20 N 0.05 E
1550.16	0.36	330.56	6.4	0.66	1550.07	6.4 358.3	6.36 N 0.19 W
1600.16	0.43	317.25	6.6	0.23	1600.07	6.6 356.6	6.64 N 0.40 W
1650.16	0.30	307.28	6.8	0.29	1650.07	6.9 354.7	6.85 N 0.63 W
1700.16	0.32	309.57	7.0	0.05	1700.07	7.1 353.1	7.03 N 0.84 W
1750.16	0.36	306.47	7.2	0.08	1750.07	7.3 351.5	7.21 N 1.08 W
1800.16	0.22	331.30	7.4	0.37	1800.07	7.5 350.4	7.39 N 1.25 W
1850.16	0.27	52.33	7.5	0.64	1850.07	7.6 350.9	7.54 N 1.21 W
1900.16	0.36	50.86	7.7	0.17	1900.06	7.8 352.7	7.71 N 0.99 W
1950.16	0.50	99.76	7.8	0.75	1950.06	7.8 355.2	7.77 N 0.66 W
2000.16	0.57	108.93	7.7	0.22	2000.06	7.7 358.4	7.66 N 0.21 W
2050.16	0.84	129.60	7.3	0.74	2050.06	7.3 2.4	7.34 N 0.31 E
2100.16	0.90	130.28	6.8	0.11	2100.05	6.9 7.4	6.85 N 0.89 E
2150.16	0.86	157.73	6.3	0.84	2150.05	6.4 12.0	6.25 N 1.33 E
2200.16	0.97	159.23	5.5	0.22	2200.04	5.7 16.4	5.51 N 1.62 E
2250.16	0.94	164.59	4.7	0.18	2250.03	5.1 21.7	4.72 N 1.88 E

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT RIG # 1, CHAVES COUNTY, NEW MEXICO

Lease: OLD ROSEBUD 1524-36A STATE Well: #1, 4-1/2 DRILLPIPE

Job Number: MD0708GW284

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
2300.16	0.77	172.38	4.0	0.41	2300.03	4.5 27.0	4.00 N 2.04 E
2350.16	0.80	176.32	3.3	0.12	2350.02	3.9 32.4	3.32 N 2.10 E
2400.16	0.80	177.95	2.6	0.05	2400.02	3.4 39.2	2.62 N 2.14 E
2450.16	0.80	175.62	1.9	0.06	2450.01	2.9 48.5	1.93 N 2.18 E
2500.16	0.82	175.82	1.2	0.05	2500.01	2.5 61.3	1.22 N 2.23 E
2550.16	0.79	168.84	0.5	0.21	2550.00	2.4 77.2	0.53 N 2.32 E
2600.16	0.79	162.75	-0.1	0.17	2600.00	2.5 93.2	0.14 S 2.49 E
2650.16	0.63	161.61	-0.7	0.33	2649.99	2.8 105.2	0.73 S 2.68 E
2700.16	0.72	158.83	-1.3	0.20	2699.99	3.1 113.9	1.28 S 2.88 E
2750.16	0.64	154.62	-1.8	0.19	2749.99	3.6 120.3	1.82 S 3.11 E
2800.16	0.59	152.16	-2.3	0.11	2799.98	4.1 124.5	2.30 S 3.35 E
2850.16	0.63	152.67	-2.8	0.09	2849.98	4.5 127.6	2.77 S 3.60 E
2900.16	0.67	151.49	-3.3	0.08	2899.98	5.1 130.3	3.27 S 3.86 E
2950.16	0.71	151.14	-3.8	0.08	2949.97	5.6 132.5	3.80 S 4.15 E
3000.16	0.81	149.15	-4.4	0.20	2999.97	6.3 134.3	4.38 S 4.48 E
3050.16	0.70	143.06	-4.9	0.27	3049.97	6.9 135.5	4.93 S 4.85 E
3100.16	0.72	141.82	-5.4	0.04	3099.96	7.5 136.0	5.42 S 5.23 E
3150.16	0.73	144.42	-5.9	0.07	3149.96	8.2 136.6	5.93 S 5.61 E
3200.16	0.72	146.16	-6.5	0.05	3199.95	8.8 137.2	6.45 S 5.97 E
3250.16	0.77	138.57	-7.0	0.23	3249.95	9.4 137.5	6.96 S 6.36 E
3300.16	0.70	139.31	-7.4	0.14	3299.95	10.1 137.6	7.44 S 6.79 E
3350.16	0.77	134.57	-7.9	0.18	3349.94	10.7 137.6	7.91 S 7.23 E
3400.16	0.75	128.69	-8.3	0.16	3399.94	11.4 137.2	8.35 S 7.72 E
3450.16	0.86	123.30	-8.8	0.27	3449.93	12.1 136.6	8.77 S 8.29 E

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT RIG # 1, CHAVES COUNTY, NEW MEXICO

Lease: OLD ROSEBUD 1524-36A STATE Well: #1, 4-1/2 DRILLPIPE

Job Number: MD0708GW284

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
3500.16	0.88	114.01	-9.1	0.29	3499.93	12.8 135.5	9.13 S 8.96 E
3550.16	1.02	112.28	-9.4	0.28	3549.92	13.6 134.2	9.45 S 9.72 E
3600.16	1.14	110.49	-9.8	0.25	3599.91	14.4 132.7	9.80 S 10.60 E
3650.16	1.22	108.74	-10.1	0.19	3649.90	15.4 131.2	10.14 S 11.57 E
3700.16	1.39	108.12	-10.5	0.34	3699.89	16.4 129.7	10.50 S 12.66 E
3750.16	1.72	109.09	-10.9	0.65	3749.87	17.7 128.1	10.94 S 13.94 E
3800.16	1.66	105.00	-11.4	0.26	3799.85	19.1 126.5	11.37 S 15.35 E
3850.16	1.69	103.15	-11.7	0.12	3849.83	20.5 125.0	11.72 S 16.76 E
3900.16	1.63	100.59	-12.0	0.19	3899.80	21.8 123.5	12.02 S 18.18 E
3950.16	1.63	102.69	-12.3	0.12	3949.78	23.1 122.2	12.31 S 19.57 E
4000.16	1.67	98.31	-12.6	0.26	3999.76	24.5 120.9	12.57 S 20.98 E
4050.16	1.61	97.01	-12.8	0.13	4049.74	25.8 119.7	12.76 S 22.40 E
4100.16	1.61	99.46	-13.0	0.14	4099.72	27.1 118.6	12.96 S 23.79 E
4150.16	1.68	97.40	-13.2	0.18	4149.70	28.4 117.6	13.17 S 25.21 E
4200.16	1.71	98.21	-13.4	0.09	4199.68	29.8 116.6	13.37 S 26.68 E
4250.16	1.71	91.85	-13.5	0.38	4249.66	31.2 115.6	13.50 S 28.16 E
4300.16	1.71	94.73	-13.6	0.17	4299.64	32.6 114.6	13.59 S 29.65 E
4350.16	1.69	91.95	-13.7	0.17	4349.61	34.0 113.7	13.68 S 31.14 E
4400.16	1.75	91.91	-13.7	0.12	4399.59	35.4 112.8	13.73 S 32.64 E
4450.16	1.61	89.98	-13.8	0.31	4449.57	36.8 112.0	13.75 S 34.10 E
4500.16	1.63	94.58	-13.8	0.26	4499.55	38.1 111.2	13.81 S 35.52 E
4550.16	1.61	90.56	-13.9	0.23	4549.53	39.4 110.6	13.87 S 36.93 E
4600.16	1.52	91.53	-13.9	0.19	4599.51	40.7 109.9	13.90 S 38.30 E
4650.16	1.62	93.09	-13.9	0.21	4649.49	42.0 109.4	13.95 S 39.66 E

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT RIG # 1, CHAVES COUNTY, NEW MEXICO

Lease: OLD ROSEBUD 1524-36A STATE Well: #1, 4-1/2 DRILLPIPE

Job Number: MD0708GW284

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4700.16	1.50	95.81	-14.1	0.27	4699.47	43.4 108.9	14.06 S 41.02 E
4735.92	1.49	94.11	-14.1	0.13	4735.22	44.3 108.6	14.14 S 41.95 E

Final Station Closure: Distance: 44.27 ft Az: 108.63 deg.