

Parallel Petroleum Corp.

John Town 1525-29 #2

John Town 1525-29 #2

John Town 1525-29 #2

OH

Survey: MWD #1

Pathfinder X & Y Survey Report

15 October, 2008

PATHFINDER
ENERGY SERVICES

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Mar 17 09 09:06a

Parallel Petroleum Corp

432-685-6580

p.4

Company: Parallel Petroleum Corp.
Project: John Town 1525-29 #2
Site: John Town 1525-29 #2
Well: John Town 1525-29 #2
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well John Town 1525-29 #2
TVD Reference: WELL @ 3494.00ft (Patriot 1 KB= 18')
MD Reference: WELL @ 3494.00ft (Patriot 1 KB= 18')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Project	John Town 1525-29 #2		
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	John Town 1525-29 #2		
Site Position:		Northing:	720,552.100 ft
From: Map		Easting:	462,633.000 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 58' 50.909 N
		Longitude:	104° 27' 18.680 W
		Grid Convergence:	-0.07 "

Well:	John Town 1525-29 #2		
Well Position	+N-S 0.00 ft	Northing:	720,552.100 ft
	+E-W 0.00 ft	Easting:	462,633.000 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	32° 58' 50.909 N
		Longitude:	104° 27' 18.680 W
		Ground Level:	3,476.00 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	2008/10/06	(°) 8.36
			Dip Angle (°) 60.81
			Field Strength (nT) 49,264

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	Tie On Depth: 0.00
	0.00	0.00	+E-W (ft) 0.00
			Direction (°) 270.00

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Survey Program		Date 2008/10/15		Tool Name	Description
From (ft)	To (ft)	Survey (Wellbore)			
100.00	3,743.00	GYRO (OH)		NS-GYRO-MS	North sensing gyrocompassing m
3,897.00	9,340.00	MWD #1 (OH)		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)	
3,743.00	0.40	67.60	3,742.60	248.60	-8.57	41.54	-41.54	0.00	720,543.53	462,674.54	
Tie Into Gyro @ 3743'MD											
3,897.00	0.97	81.30	3,896.59	402.59	-8.16	43.32	-43.32	0.38	720,543.94	462,676.32	
3,960.00	0.26	32.51	3,959.58	465.58	-7.96	43.93	-43.93	1.31	720,544.14	462,676.93	
3,992.00	2.99	289.56	3,991.57	497.57	-7.62	43.18	-43.18	9.56	720,544.48	462,676.18	
4,024.00	6.60	284.86	4,023.45	529.45	-6.67	40.62	-40.62	11.34	720,545.23	462,673.62	
4,056.00	10.02	279.07	4,055.11	561.11	-5.96	36.09	-36.09	10.99	720,546.14	462,669.09	
4,087.00	12.40	277.71	4,085.52	591.52	-5.09	30.13	-30.13	7.72	720,547.01	462,663.13	
4,119.00	13.98	273.55	4,116.68	622.68	-4.39	22.86	-22.86	5.76	720,547.71	462,655.86	
4,151.00	15.83	272.50	4,147.80	653.60	-3.96	14.64	-14.64	5.84	720,548.14	462,647.64	
4,183.00	17.50	272.35	4,178.25	684.25	-3.57	5.47	-5.47	5.22	720,548.53	462,638.47	
4,215.00	19.43	274.17	4,208.60	714.60	-2.99	-4.64	4.64	6.29	720,549.11	462,628.36	
4,247.00	21.46	275.39	4,238.59	744.59	-2.05	-15.78	15.78	6.48	720,550.05	462,617.22	
4,278.00	23.21	276.61	4,267.26	773.26	-0.92	-27.50	27.50	5.65	720,551.18	462,605.50	
4,310.00	24.53	274.64	4,296.52	802.52	0.24	-40.40	40.40	4.30	720,552.34	462,592.60	
4,342.00	25.59	272.55	4,325.61	831.51	1.08	-53.93	53.93	4.32	720,553.18	462,579.07	
4,373.00	27.17	272.05	4,353.28	859.28	1.63	-67.69	67.69	5.15	720,553.73	462,565.31	
4,405.00	29.19	271.85	4,381.49	887.49	2.14	-82.79	82.79	6.32	720,554.24	462,550.21	
4,437.00	31.57	271.37	4,409.09	915.09	2.60	-98.97	98.97	7.48	720,554.70	462,534.03	
4,468.00	33.50	271.13	4,435.22	941.22	2.96	-115.64	115.64	6.24	720,555.06	462,517.36	
4,500.00	35.26	271.12	4,461.63	967.63	3.31	-133.70	133.70	5.50	720,555.41	462,499.30	

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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 (ft/100ft)	Northing (ft)	Easting (ft)
4,532.00	37.20	270.37	4,487.44	993.44	3.56	-152.61	152.61	6.22	720,555.66	462,480.39
4,564.00	38.78	269.32	4,512.66	1,018.66	3.50	-172.31	172.31	5.33	720,555.60	462,460.69
4,595.00	40.19	270.02	4,536.59	1,042.59	3.39	-192.02	192.02	4.77	720,555.49	462,440.98
4,627.00	40.89	270.59	4,560.91	1,066.91	3.50	-212.82	212.82	2.47	720,555.60	462,420.18
4,659.00	42.74	271.04	4,584.76	1,090.76	3.81	-234.15	234.15	5.86	720,555.91	462,398.85
4,691.00	45.02	271.13	4,607.82	1,113.82	4.23	-256.32	256.32	7.13	720,556.33	462,376.68
4,723.00	47.13	271.19	4,630.02	1,136.02	4.69	-279.37	279.37	6.60	720,556.79	462,353.63
4,754.00	49.68	271.09	4,650.60	1,156.60	5.16	-302.54	302.54	8.23	720,557.25	462,330.46
4,786.00	51.44	271.15	4,670.92	1,176.92	5.64	-327.25	327.25	5.50	720,557.74	462,305.75
4,818.00	54.08	270.98	4,690.29	1,198.29	6.11	-352.72	352.72	8.26	720,558.21	462,280.28
4,850.00	55.75	270.56	4,708.68	1,214.68	6.46	-378.90	378.90	5.33	720,558.56	462,254.10
4,882.00	57.95	270.27	4,726.18	1,232.18	6.65	-405.69	405.69	6.92	720,558.75	462,227.31
4,913.00	59.71	270.02	4,742.22	1,248.22	6.72	-432.21	432.21	5.72	720,558.82	462,200.79
4,945.00	62.08	269.88	4,757.79	1,263.79	6.69	-460.17	460.17	7.42	720,558.79	462,172.83
4,977.00	64.02	269.95	4,772.29	1,278.29	6.64	-488.70	488.70	6.07	720,558.74	462,144.30
5,009.00	65.86	270.17	4,785.84	1,291.84	6.67	-517.68	517.68	5.78	720,558.77	462,115.32
5,041.00	67.53	270.20	4,798.50	1,304.50	6.77	-547.07	547.07	5.22	720,558.87	462,085.93
5,072.00	68.94	269.75	4,810.00	1,316.00	6.76	-575.86	575.86	4.74	720,558.86	462,057.14
5,104.00	70.26	270.65	4,821.15	1,327.15	6.86	-605.85	605.85	4.90	720,558.96	462,027.15
5,136.00	70.52	271.07	4,831.89	1,337.89	7.31	-635.99	635.99	1.48	720,559.41	461,997.01
5,168.00	72.90	271.63	4,841.93	1,347.93	8.03	-666.36	666.36	7.62	720,560.13	461,966.64
5,199.00	74.74	271.44	4,850.57	1,356.57	8.83	-696.12	696.12	5.96	720,560.93	461,936.88
5,231.00	76.85	271.83	4,858.42	1,364.42	9.71	-727.13	727.13	6.70	720,561.81	461,905.87
5,263.00	78.88	270.88	4,865.15	1,371.15	10.45	-758.41	758.41	6.98	720,562.55	461,874.59
5,294.00	80.55	271.02	4,870.68	1,376.68	10.96	-788.90	788.90	5.41	720,563.06	461,844.10
5,326.00	82.57	270.27	4,875.38	1,381.38	11.31	-820.55	820.55	6.72	720,563.41	461,812.45
5,358.00	85.38	269.70	4,878.74	1,384.74	11.31	-852.37	852.37	6.96	720,563.41	461,780.63

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Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,390.00	88.46	268.93	4,880.46	1,386.46	10.92	-884.32	884.32	9.92	720,563.02	461,748.68
5,420.00	91.36	268.38	4,880.50	1,386.50	10.22	-914.31	914.31	9.84	720,562.32	461,718.69
5,481.00	92.24	268.68	4,878.59	1,384.59	8.60	-975.25	975.25	1.48	720,560.70	461,657.75
5,572.00	90.57	268.30	4,876.36	1,382.36	6.13	-1,066.19	1,066.19	1.86	720,558.23	461,568.81
5,660.00	89.69	269.17	4,876.16	1,382.16	4.18	-1,154.17	1,154.17	1.41	720,556.28	461,478.83
5,753.00	89.60	268.49	4,876.73	1,382.73	2.28	-1,247.15	1,247.15	0.74	720,554.38	461,385.85
5,846.00	90.22	268.42	4,876.88	1,382.88	-0.22	-1,340.11	1,340.11	0.67	720,551.88	461,292.89
5,938.00	93.65	270.98	4,873.77	1,379.77	-0.71	-1,432.04	1,432.04	4.65	720,551.39	461,200.96
6,031.00	90.48	269.28	4,870.42	1,376.42	-0.50	-1,524.96	1,524.96	3.87	720,551.60	461,108.04
6,124.00	90.92	270.43	4,869.29	1,375.29	-0.73	-1,617.95	1,617.95	1.32	720,551.37	461,015.05
6,216.00	90.84	269.42	4,867.87	1,373.87	-0.85	-1,709.94	1,709.94	1.10	720,551.25	460,923.06
6,309.00	92.07	269.11	4,865.51	1,371.51	-2.05	-1,802.90	1,802.90	1.36	720,550.05	460,830.10
6,402.00	92.07	268.97	4,862.15	1,368.15	-3.60	-1,895.83	1,895.83	0.15	720,548.50	460,737.17
6,494.00	92.86	269.69	4,858.20	1,364.20	-4.68	-1,987.73	1,987.73	1.16	720,547.42	460,645.27
6,587.00	91.45	268.46	4,854.70	1,360.70	-6.18	-2,080.65	2,080.65	2.01	720,545.92	460,552.35
6,683.00	91.89	271.28	4,851.90	1,357.90	-6.39	-2,176.60	2,176.60	2.98	720,545.71	460,456.40
6,778.00	90.92	271.87	4,849.57	1,355.57	-3.77	-2,271.53	2,271.53	1.19	720,548.33	460,361.47
6,873.00	90.48	271.77	4,848.41	1,354.41	-0.75	-2,366.48	2,366.48	0.47	720,551.35	460,266.52
6,969.00	90.48	271.99	4,847.61	1,353.61	2.40	-2,462.42	2,462.42	0.23	720,554.50	460,170.58
7,064.00	90.31	272.16	4,846.95	1,352.95	5.84	-2,557.36	2,557.36	0.25	720,557.94	460,075.64
7,160.00	90.40	273.48	4,846.36	1,352.36	10.56	-2,653.24	2,653.24	1.38	720,562.66	459,979.76
7,255.00	90.31	272.64	4,845.77	1,351.77	15.63	-2,748.10	2,748.10	0.89	720,567.73	459,884.90
7,350.00	91.28	272.22	4,844.45	1,350.45	19.66	-2,843.00	2,843.00	1.11	720,571.76	459,790.00
7,446.00	90.84	270.44	4,842.67	1,348.67	21.89	-2,938.96	2,938.96	1.91	720,573.99	459,694.04
7,541.00	89.69	269.04	4,842.23	1,348.23	21.45	-3,033.95	3,033.95	1.91	720,573.55	459,599.05
7,636.00	91.10	269.10	4,841.58	1,347.58	19.91	-3,128.93	3,128.93	1.49	720,572.01	459,504.07
7,731.00	91.98	269.49	4,839.03	1,345.03	18.74	-3,223.89	3,223.89	1.01	720,570.84	459,409.11

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North Reference: Gnd
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Database: EDM 2003.18 Single User Db

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	DLog (°/100ft)	Northing (ft)	Easting (ft)
7,827.00	90.66	267.31	4,836.81	1,342.81	16.06	-3,319.82	3,319.82	2.65	720,588.16	459,313.18
7,923.00	91.36	268.27	4,835.12	1,341.12	12.36	-3,415.73	3,415.73	1.24	720,564.46	459,217.27
8,018.00	90.92	267.48	4,833.23	1,339.23	8.84	-3,510.65	3,510.65	0.95	720,560.94	459,122.35
8,113.00	91.28	267.91	4,831.41	1,337.41	5.02	-3,605.55	3,605.55	0.59	720,557.12	459,027.45
8,209.00	91.01	268.51	4,829.49	1,335.49	2.02	-3,701.49	3,701.49	0.69	720,554.12	458,931.51
8,304.00	92.07	269.22	4,826.94	1,332.94	0.14	-3,796.43	3,796.43	1.34	720,552.24	458,836.57
8,399.00	91.98	270.45	4,823.58	1,329.58	-0.13	-3,891.37	3,891.37	1.30	720,551.97	458,741.63
8,494.00	91.63	271.28	4,820.59	1,326.59	1.30	-3,986.31	3,986.31	0.95	720,553.40	458,646.69
8,589.00	90.40	272.05	4,818.90	1,324.90	4.06	-4,081.25	4,081.25	1.53	720,556.16	458,551.75
8,684.00	91.01	272.32	4,817.74	1,323.74	7.68	-4,176.18	4,176.18	0.70	720,559.78	458,456.82
8,780.00	90.57	273.03	4,816.41	1,322.41	12.16	-4,272.06	4,272.06	0.87	720,564.26	458,360.94
8,875.00	90.04	272.61	4,815.91	1,321.91	16.84	-4,366.95	4,366.95	0.71	720,568.94	458,266.05
8,971.00	89.69	271.21	4,816.13	1,322.13	20.04	-4,462.89	4,462.89	1.50	720,572.14	458,170.11
9,066.00	90.13	271.29	4,816.28	1,322.28	22.11	-4,557.87	4,557.87	0.47	720,574.21	458,075.13
9,161.00	89.16	270.78	4,816.87	1,322.87	23.82	-4,652.85	4,652.85	1.15	720,575.92	457,980.15
9,257.00	89.18	270.30	4,818.28	1,324.28	24.73	-4,748.83	4,748.83	0.50	720,576.83	457,884.17
9,270.00	89.11	270.22	4,818.47	1,324.47	24.79	-4,761.83	4,761.83	0.73	720,576.89	457,871.17
9,340.00	89.11	270.22	4,819.56	1,325.56	25.06	-4,831.82	4,831.82	0.00	720,577.16	457,801.16

Proj To Bit @ 9340' MD

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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(John Town #2) - survey misses by 25.42ft at 9340.00ft MD (4819.56 TVD, 25.06 N, -4831.82 E) - Point	0.00	360.00	4,815.30	0.00	-4,832.30	720,552.100	457,800.700	32° 58' 50.850 N	104° 28' 15.410 W

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
3,743.00	3,742.60	-8.57	41.54	Tie into Gyro @ 3743'MD
9,340.00	4,819.56	25.06	-4,831.82	Proj To Bit @ 9340' MD

Checked By: _____ Approved By: _____ Date: _____

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO
Lease: JOHN TOWN 1525-29 Well: #2, 4 1/2 " DRILLPIPE

Job Number: MD1008G398

Run Date: 10/7/2008 5:42:20 PM

Surveyor: CHAS FARRELL

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.981000 deg. N Longitude: 104.455417 deg. W

Azimuth Correction:

Gyro: 0.07000 deg East 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 #1, CHAVES COUNTY, NEW MEXICO

Lease: JOHN TOWN 1525-29 Well: #2, 4 1/2 " DRILLPIPE

Job Number: MD1008G398

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 TO 3743 FT GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4 1/2" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PATRIOT #1							
100.00	0.70	97.07	0.70	100.00	0.6	97.1	0.07 S 0.60 E
200.00	0.69	86.05	0.13	199.99	1.8	93.4	0.11 S 1.81 E
300.00	0.64	92.73	0.09	299.98	3.0	91.8	0.09 S 2.96 E
400.00	0.24	97.07	0.40	399.98	3.7	92.2	0.15 S 3.72 E
500.00	0.04	190.39	0.24	499.98	3.9	92.9	0.20 S 3.92 E
600.00	0.04	141.60	0.03	599.98	4.0	93.8	0.26 S 3.94 E
700.00	0.58	76.09	0.56	699.98	4.5	92.2	0.17 S 4.46 E
800.00	1.11	92.27	0.58	799.97	5.9	90.9	0.09 S 5.92 E
900.00	1.25	87.24	0.17	899.95	8.0	90.5	0.07 S 7.98 E
1000.00	1.31	89.10	0.07	999.92	10.2	90.0	0.00 S 10.21 E
1100.00	1.35	85.29	0.10	1099.89	12.5	89.5	0.11 N 12.53 E
1200.00	1.35	86.37	0.03	1199.87	14.9	88.9	0.28 N 14.88 E
1300.00	1.37	89.18	0.07	1299.84	17.3	88.8	0.37 N 17.25 E
1400.00	1.54	93.87	0.20	1399.81	19.8	89.1	0.30 N 19.79 E
1500.00	1.21	94.44	0.33	1499.78	22.2	89.7	0.13 N 22.18 E
1600.00	1.20	89.75	0.10	1599.75	24.3	89.9	0.05 N 24.28 E
1700.00	1.22	103.80	0.30	1699.73	26.4	90.4	0.20 S 26.36 E

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: JOHN TOWN 1525-29 Well: #2, 4 1/2 " DRILLPIPE

Job Number: MD1008G398

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg/ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
1800.00	0.99	111.59	0.27	1799.71	28.2	91.6	0.77 S 28.19 E
1900.00	1.10	119.60	0.18	1899.70	29.9	93.0	1.56 S 29.82 E
2000.00	1.35	130.75	0.35	1999.68	31.7	95.1	2.80 S 31.54 E
2100.00	1.05	122.06	0.35	2099.65	33.5	97.0	4.05 S 33.22 E
2200.00	0.83	126.43	0.24	2199.64	34.9	98.2	4.97 S 34.57 E
2300.00	0.88	118.70	0.13	2299.63	36.3	99.1	5.77 S 35.83 E
2400.00	0.74	125.20	0.17	2399.62	37.6	100.0	6.51 S 37.03 E
2500.00	0.50	114.34	0.27	2499.61	38.6	100.5	7.06 S 37.96 E
2600.00	0.51	119.70	0.05	2599.61	39.5	100.9	7.47 S 38.75 E
2700.00	0.41	108.59	0.14	2699.61	40.2	101.2	7.80 S 39.47 E
2800.00	0.22	117.37	0.19	2799.60	40.8	101.3	8.00 S 39.98 E
2900.00	0.02	142.21	0.20	2899.60	41.0	101.4	8.10 S 40.16 E
3000.00	0.05	63.68	0.05	2999.60	41.0	101.4	8.10 S 40.21 E
3100.00	0.13	184.76	0.16	3099.60	41.1	101.5	8.19 S 40.24 E
3200.00	0.07	90.12	0.15	3199.60	41.1	101.6	8.30 S 40.29 E
3300.00	0.05	320.13	0.11	3299.60	41.2	101.6	8.27 S 40.32 E
3400.00	0.07	140.84	0.13	3399.60	41.2	101.6	8.28 S 40.33 E
3500.00	0.15	132.60	0.07	3499.60	41.3	101.8	8.42 S 40.46 E
3600.00	0.19	106.69	0.09	3599.60	41.6	101.9	8.55 S 40.72 E
3700.00	0.40	91.26	0.22	3699.60	42.1	101.8	8.61 S 41.22 E
3743.00	0.40	67.50	0.38	3742.60	42.4	101.6	8.55 S 41.51 E

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: JOHN TOWN 1525-29 Well: #2, 4 1/2 " DRILLPIPE

Job Number: MD1008G398

MEASURED DEPTH	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
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Final Station Closure: Distance: 42.38 ft Az: 101.64 deg.