

A Gyrodata Directional Survey

FIELD COPY, NOT DEFINITIVE

for

PARALLEL OPERATING

Location: JW #4, CHAVES COUNTY, NEW MEXICO
Lease: SMARTY JONES 1525-9 Well: #1, 4-1/2" DRILLPIPE

Job Number: MD1007GW339

Run Date: 10/17/2007 8:17:34 PM

Surveyor: AJ EATON

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 33.035080 deg. N Longitude: 104.456790 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

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MEASURED DEPTH feet	I N C L 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 3018 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4-1/2" DRILLPIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO JW #4 R.K.B.							

100.00	0.48	168.75	0.48	100.00	0.4	168.8	0.41 S 0.08 E
200.00	0.50	159.84	0.08	200.00	1.3	165.7	1.23 S 0.31 E
300.00	0.58	159.23	0.08	299.99	2.2	163.0	2.12 S 0.65 E
400.00	0.44	166.07	0.16	399.99	3.1	162.8	2.97 S 0.92 E
500.00	0.45	149.66	0.13	499.98	3.9	161.8	3.69 S 1.21 E
600.00	0.55	179.63	0.28	599.98	4.7	162.6	4.51 S 1.42 E
700.00	1.11	151.00	0.68	699.97	6.1	162.1	5.84 S 1.89 E
800.00	1.95	154.47	0.84	799.93	8.8	159.4	8.22 S 3.09 E
900.00	2.04	149.61	0.19	899.87	12.2	157.3	11.29 S 4.72 E
1000.00	1.92	148.63	0.12	999.81	15.7	155.5	14.26 S 6.50 E
1100.00	1.51	156.56	0.47	1099.77	18.7	155.0	16.90 S 7.90 E
1200.00	1.28	157.11	0.23	1199.74	21.1	155.2	19.14 S 8.85 E
1300.00	1.07	159.31	0.21	1299.72	23.1	155.4	21.04 S 9.62 E
1400.00	1.13	160.09	0.06	1399.70	25.1	155.8	22.84 S 10.28 E
1500.00	1.14	155.22	0.10	1499.68	27.0	155.9	24.67 S 11.04 E
1600.00	1.11	164.13	0.18	1599.66	29.0	156.1	26.51 S 11.72 E
1700.00	0.92	174.73	0.27	1699.64	30.7	156.9	28.25 S 12.06 E
1800.00	0.72	181.36	0.23	1799.63	32.1	157.8	29.68 S 12.12 E
1900.00	0.63	175.85	0.11	1899.63	33.2	158.5	30.85 S 12.14 E

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Lease: SMARTY JONES 1525-9 Well: #1, 4-1/2" DRILLPIPE

Job Number: MD1007GW339

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
2000.00	0.33	190.83	0.32	1999.62	33.9	159.1	31.68 S 12.13 E
2100.00	0.09	122.51	0.31	2099.62	34.2	159.2	32.01 S 12.14 E
2200.00	0.22	22.41	0.25	2199.62	34.2	158.9	31.88 S 12.28 E
2300.00	0.47	359.77	0.28	2299.62	33.6	158.5	31.30 S 12.35 E
2400.00	0.37	335.27	0.20	2399.62	32.9	158.2	30.59 S 12.22 E
2500.00	0.50	326.30	0.14	2499.61	32.2	158.4	29.94 S 11.84 E
2600.00	0.56	324.94	0.06	2599.61	31.3	158.8	29.18 S 11.32 E
2700.00	0.58	307.54	0.17	2699.61	30.4	159.5	28.48 S 10.64 E
2800.00	0.59	304.90	0.03	2799.60	29.6	160.6	27.87 S 9.82 E
2900.00	0.64	323.44	0.21	2899.59	28.6	161.5	27.13 S 9.06 E
3000.00	0.73	326.27	0.09	2999.59	27.5	162.2	26.15 S 8.38 E
3018.00	0.75	308.09	1.31	3017.59	27.2	162.4	25.98 S 8.22 E

Final Station Closure: Distance: 27.25 ft Az: 162.44 deg.



DIRECTIONAL SURVEY REPORT

PARALLEL PETROLEUM
SMARTY JONES 1525-9 #1
CHAVES COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

Pathfinder Energy Services, Inc.
6213 W. County Road 112 • Midland, TX • 79706
(432)681-6000

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 10/18/2007
Date Completed: 10/26/2007

PARALLEL PETROLEUM
SMARTY JONES 1525-9 #1
CHAVES COUNTY, NEW MEXICO
Rig:JW #4

PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:J. FALLIN
R. ROARK

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:33.25.8794 N LON:104.27.23.6766 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 462230.5000 Y: 740256.3000
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.55° EAST TO GRID
Vertical Section Plane: 90.31
Survey Vert. Reference: 16.00' Kelly Bushing To Ground
Altitude:3539.00' Ground To MSL

Measured Depth	9070.00	(feet)
Inclination	89.16	(deg)
Azimuth	92.34	(deg)
True Vertical Depth	4882.98	(feet)
Vertical Section	4652.12	(feet)
Survey X cord	466882.48	(feet)
Survey Y cord	740217.40	(feet)
Survey Lat	33.03487365 N	(deg)
Survey Lon	104.44139713 W	(deg)
Rectangular Corr. N/S	38.90 S	(feet)
Rectangular Corr. E/W	4651.98 E	(feet)
Closure Distance	4652.14	(feet)
Direction of Closure	90.48	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

PARALLEL PETROLEUM
SMARTY JONES 1525-9 #1
CHAVES COUNTY, NEW MEXICO

Rig:JW #4

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: J. FALLIN
R. ROARK

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:33.25.8794 N LON:104.27.23.6766 W

Reference:NAD27 new mexico east Transverse Mercator

Ref GRID Coord: X: 462230.5000 Y: 740256.3000

North Aligned To:GRID NORTH

Total Magnetic Correction: 8.55° EAST TO GRID

Vertical Section Plane: 90.31

Survey Vert. Reference: 16.00' Kelly Bushing To Ground

Altitude:3539.00' Ground To MSL

Survey Calculations by RX5 V5.11E using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIE-IN PROVIDED BY GYRO DATA @ 3018' MD.										
3018.00	0.75	308.09	3017.59	0.00	8.36	25.98 S	8.22 E	27.25@	162.44	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
3154.00	0.62	340.34	3153.58	136.00	7.41	24.74 S	7.27 E	25.78@	163.62	0.30
3344.00	0.44	352.03	3343.57	190.00	6.95	23.05 S	6.82 E	24.04@	163.50	0.11
3535.00	0.88	349.11	3534.56	191.00	6.56	20.88 S	6.45 E	21.85@	162.84	0.23
3726.00	0.97	24.05	3725.54	191.00	6.92	17.96 S	6.83 E	19.22@	159.19	0.29
3822.00	1.06	34.06	3821.52	96.00	7.75	16.49 S	7.66 E	18.18@	155.09	0.21
3853.00	1.06	46.40	3852.52	31.00	8.11	16.05 S	8.02 E	17.95@	153.44	0.74
3885.00	1.49	67.62	3884.51	32.00	8.71	15.69 S	8.62 E	17.90@	151.20	1.97
3917.00	2.99	81.47	3916.48	32.00	9.92	15.41 S	9.83 E	18.28@	147.45	4.95
3949.00	4.84	87.19	3948.41	32.00	12.09	15.22 S	12.01 E	19.38@	141.72	5.90
3981.00	6.77	89.40	3980.24	32.00	15.32	15.13 S	15.24 E	21.48@	134.79	6.07
4012.00	8.88	91.13	4010.95	31.00	19.54	15.16 S	19.46 E	24.67@	127.91	6.85
4044.00	9.94	95.26	4042.52	32.00	24.77	15.46 S	24.68 E	29.12@	122.06	3.93
4076.00	10.46	99.68	4074.02	32.00	30.38	16.20 S	30.30 E	34.36@	118.14	2.94
4108.00	12.22	98.64	4105.39	32.00	36.60	17.20 S	36.51 E	40.36@	115.23	5.54
4140.00	14.07	96.25	4136.55	32.00	43.82	18.13 S	43.72 E	47.33@	112.52	6.02
4172.00	15.48	95.18	4167.49	32.00	51.95	18.94 S	51.84 E	55.20@	110.07	4.49
4203.00	16.88	93.43	4197.26	31.00	60.56	19.58 S	60.46 E	63.55@	107.95	4.78
4235.00	18.47	92.10	4227.75	32.00	70.27	20.05 S	70.16 E	72.97@	105.95	5.13
4267.00	20.31	90.80	4257.93	32.00	80.89	20.31 S	80.78 E	83.29@	104.11	5.91
4298.00	22.34	90.35	4286.81	31.00	92.16	20.42 S	92.05 E	94.29@	102.51	6.57
4330.00	24.53	90.30	4316.17	32.00	104.89	20.49 S	104.78 E	106.76@	101.07	6.84

PathFinder Energy Services, Inc.

Survey Report

PARALLEL PETROLEUM
SMARTY JONES 1525-9 #1
CHAVES COUNTY, NEW MEXICO
RIG:JW #4

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
4362.00	26.64	88.19	4345.03	32.00	118.70	20.30 S	118.59 E	120.32@	99.71	7.18
4394.00	28.75	88.12	4373.36	32.00	133.56	19.82 S	133.46 E	134.92@	98.45	6.59
4426.00	30.78	89.40	4401.14	32.00	149.44	19.48 S	149.34 E	150.60@	97.43	6.65
4457.00	33.33	90.37	4427.41	31.00	165.89	19.46 S	165.79 E	166.93@	96.69	8.39
4489.00	35.96	91.03	4453.74	32.00	184.08	19.68 S	183.98 E	185.03@	96.11	8.30
4521.00	38.51	91.61	4479.21	32.00	203.44	20.13 S	203.33 E	204.33@	95.65	8.04
4553.00	41.06	92.39	4503.80	32.00	223.90	20.85 S	223.80 E	224.76@	95.32	8.12
4585.00	43.53	92.72	4527.47	32.00	245.42	21.81 S	245.31 E	246.27@	95.08	7.75
4617.00	45.73	93.10	4550.24	32.00	267.88	22.95 S	267.76 E	268.74@	94.90	6.93
4648.00	47.75	91.42	4571.48	31.00	290.44	23.84 S	290.31 E	291.29@	94.69	7.62
4680.00	50.03	91.06	4592.52	32.00	314.54	24.36 S	314.42 E	315.36@	94.43	7.18
4712.00	52.50	91.32	4612.54	32.00	339.50	24.88 S	339.37 E	340.28@	94.19	7.75
4744.00	54.26	91.53	4631.63	32.00	365.18	25.52 S	365.04 E	365.93@	94.00	5.53
4776.00	56.54	91.29	4649.80	32.00	391.51	26.16 S	391.37 E	392.25@	93.82	7.15
4808.00	58.39	91.16	4667.01	32.00	418.48	26.74 S	418.35 E	419.20@	93.66	5.79
4840.00	60.85	90.85	4683.19	32.00	446.09	27.22 S	445.94 E	446.78@	93.49	7.73
4871.00	62.43	90.44	4697.92	31.00	473.36	27.53 S	473.22 E	474.02@	93.33	5.23
4903.00	64.28	90.24	4712.27	32.00	501.96	27.70 S	501.82 E	502.59@	93.16	5.81
4935.00	65.95	90.13	4725.73	32.00	530.99	27.79 S	530.85 E	531.58@	93.00	5.23
4967.00	68.06	89.52	4738.23	32.00	560.45	27.70 S	560.30 E	560.99@	92.83	6.82
4999.00	70.08	89.32	4749.66	32.00	590.33	27.40 S	590.19 E	590.83@	92.66	6.34
5031.00	72.37	89.13	4759.96	32.00	620.62	26.99 S	620.48 E	621.07@	92.49	7.18
5062.00	74.39	89.38	4768.83	31.00	650.32	26.60 S	650.18 E	650.73@	92.34	6.56
5094.00	76.15	89.71	4776.96	32.00	681.26	26.36 S	681.13 E	681.64@	92.22	5.59
5126.00	76.85	89.74	4784.43	32.00	712.38	26.21 S	712.24 E	712.73@	92.11	2.19
5158.00	79.49	90.78	4790.99	32.00	743.69	26.35 S	743.56 E	744.03@	92.03	8.84
5190.00	81.60	91.46	4796.25	32.00	775.25	26.97 S	775.12 E	775.59@	91.99	6.92

PathFinder Energy Services, Inc.

Survey Report

PARALLEL PETROLEUM
SMARTY JONES 1525-9 #1
CHAVES COUNTY, NEW MEXICO
RIG:JW #4

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
5222.00	83.19	91.89	4800.49	32.00	806.96	27.90 S	806.82 E	807.30@	91.98	5.14
5253.00	84.24	91.51	4803.88	31.00	837.77	28.81 S	837.62 E	838.12@	91.97	3.60
5284.00	85.21	91.29	4806.73	31.00	868.63	29.56 S	868.48 E	868.98@	91.95	3.21
5315.00	86.26	90.29	4809.04	31.00	899.54	29.99 S	899.39 E	899.89@	91.91	4.67
5346.00	87.14	89.86	4810.82	31.00	930.49	30.03 S	930.34 E	930.82@	91.85	3.16
5377.00	87.93	89.18	4812.15	31.00	961.46	29.77 S	961.31 E	961.77@	91.77	3.36
5470.00	89.69	89.56	4814.08	93.00	1054.42	28.75 S	1054.28 E	1054.67@	91.56	1.94
5531.00	89.52	89.62	4814.50	61.00	1115.41	28.31 S	1115.28 E	1115.64@	91.45	0.30
5624.00	89.52	90.08	4815.28	93.00	1208.41	28.07 S	1208.27 E	1208.60@	91.33	0.49
5716.00	89.43	89.71	4816.13	92.00	1300.40	27.90 S	1300.27 E	1300.57@	91.23	0.41
5809.00	89.60	89.74	4816.91	93.00	1393.39	27.45 S	1393.26 E	1393.54@	91.13	0.19
5840.00	88.20	89.51	4817.51	31.00	1424.38	27.25 S	1424.26 E	1424.52@	91.10	4.58
5902.00	88.37	89.69	4819.36	62.00	1486.35	26.82 S	1486.23 E	1486.47@	91.03	0.40
5994.00	87.93	90.24	4822.33	92.00	1578.30	26.76 S	1578.18 E	1578.41@	90.97	0.76
6087.00	87.85	90.23	4825.76	93.00	1671.24	27.14 S	1671.12 E	1671.34@	90.93	0.09
6180.00	88.20	90.41	4828.96	93.00	1764.18	27.66 S	1764.06 E	1764.28@	90.90	0.42
6275.00	89.16	91.05	4831.15	95.00	1859.15	28.87 S	1859.02 E	1859.25@	90.89	1.21
6370.00	89.08	91.52	4832.61	95.00	1954.13	31.00 S	1953.99 E	1954.24@	90.91	0.50
6465.00	87.76	90.76	4835.23	95.00	2049.08	32.89 S	2048.93 E	2049.20@	90.92	1.60
6560.00	87.85	90.98	4838.87	95.00	2144.01	34.33 S	2143.85 E	2144.13@	90.92	0.25
6656.00	88.29	91.39	4842.10	96.00	2239.94	36.32 S	2239.78 E	2240.07@	90.93	0.63
6751.00	88.29	91.13	4844.94	95.00	2334.88	38.41 S	2334.71 E	2335.03@	90.94	0.27
6847.00	89.25	90.27	4847.00	96.00	2430.86	39.58 S	2430.68 E	2431.00@	90.93	1.34
6942.00	90.13	90.56	4847.51	95.00	2525.85	40.27 S	2525.67 E	2526.00@	90.91	0.97
7037.00	89.43	89.59	4847.88	95.00	2620.85	40.39 S	2620.67 E	2620.98@	90.88	1.26
7133.00	88.29	87.92	4849.79	96.00	2716.79	38.31 S	2716.62 E	2716.89@	90.81	2.11
7227.00	89.96	89.65	4851.22	94.00	2810.74	36.31 S	2810.59 E	2810.82@	90.74	2.56

PathFinder Energy Services, Inc.

Survey Report

PARALLEL PETROLEUM
SMARTY JONES 1525-9 #1
CHAVES COUNTY, NEW MEXICO
RIG:JW #4

Page 04/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Retangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
7322.00	89.34	89.68	4851.80	95.00	2905.73	35.76 S	2905.58 E	2905.80@	90.71	0.65
7418.00	89.43	90.52	4852.83	96.00	3001.73	35.93 S	3001.58 E	3001.79@	90.69	0.88
7514.00	89.87	90.91	4853.42	96.00	3097.72	37.12 S	3097.57 E	3097.79@	90.69	0.61
7609.00	89.25	92.02	4854.15	95.00	3192.70	39.55 S	3192.53 E	3192.77@	90.71	1.34
7705.00	88.64	92.30	4855.92	96.00	3288.63	43.17 S	3288.44 E	3288.73@	90.75	0.70
7800.00	86.61	90.39	4859.85	95.00	3383.52	45.40 S	3383.33 E	3383.63@	90.77	2.93
7896.00	86.61	89.95	4865.53	96.00	3479.35	45.68 S	3479.16 E	3479.46@	90.75	0.46
7991.00	88.64	89.72	4869.47	95.00	3574.27	45.41 S	3574.07 E	3574.36@	90.73	2.15
8087.00	90.92	88.17	4869.84	96.00	3670.23	43.64 S	3670.05 E	3670.30@	90.68	2.87
8182.00	89.60	87.16	4869.40	95.00	3765.12	39.77 S	3764.96 E	3765.17@	90.61	1.75
8278.00	90.04	86.93	4869.71	96.00	3860.97	34.82 S	3860.83 E	3860.99@	90.52	0.52
8373.00	90.22	86.85	4869.49	95.00	3955.80	29.67 S	3955.69 E	3955.81@	90.43	0.21
8468.00	89.16	86.79	4870.00	95.00	4050.62	24.40 S	4050.55 E	4050.62@	90.35	1.12
8596.00	88.90	90.38	4872.17	128.00	4178.52	21.24 S	4178.47 E	4178.52@	90.29	2.81
8691.00	89.60	92.23	4873.42	95.00	4273.49	23.40 S	4273.43 E	4273.49@	90.31	2.08
8787.00	87.76	92.51	4875.63	96.00	4369.40	27.37 S	4369.32 E	4369.40@	90.36	1.94
8882.00	88.64	92.40	4878.61	95.00	4464.29	31.44 S	4464.18 E	4464.29@	90.40	0.93
8977.00	88.02	92.09	4881.38	95.00	4559.19	35.16 S	4559.07 E	4559.20@	90.44	0.73
9001.00	89.16	92.34	4881.97	24.00	4583.17	36.09 S	4583.04 E	4583.19@	90.45	4.86
STRAIGHT LINE PROJECTION TO BIT @ 9070' MD.										
9070.00	89.16	92.34	4882.98	69.00	4652.12	38.90 S	4651.98 E	4652.14@	90.48	0.00