

CAZA PETROLEUM, LLC
LENNOX 32 STATE #10H
LEA COUNTY, NM
Rig:NABORS M51

PathFinder Office Supervisor: ERIC STAMPLEY
PathFinder Field Engineers: MAGID IBRAHIM
KHALID ISSA
JARED CHANDLER

Survey Calculations by RX4 using Minimum Curvature

HOBBS OCD
MAY 03 2019
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PathFinder Energy Services, Inc. Survey Report

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Tie-In Date: 01/27/2019
Date Completed: 03/30/2019

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.21.18.7347 N LON:103.23.5.3322 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 834233.5950 Y: 494252.6000
North Aligned To:GRID NORTH
Total Magnetic Correction: 6.20° EAST TO GRID
Vertical Section Plane: 179.45
Survey Vert. Reference: 22.00' Rotary Table To Ground
Altitude:3539.00' Ground To MSL

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/30M)	TEMP (F)
ORIGIN OF WELL AT SURFACE.											
0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00@	0.00	0.00	0.00
THE FOLLOWING ARE SCHLUMBERGER MWD SURVEYS.											
192.00	0.28	216.55	192.00	192.00	0.37	0.38 S	0.28 W	0.47@	216.55	0.14	50.43
223.00	0.25	234.09	223.00	31.00	0.47	0.48 S	0.38 W	0.61@	218.47	0.27	50.43
316.00	0.28	243.49	316.00	93.00	0.69	0.70 S	0.75 W	1.02@	226.95	0.06	54.04
407.00	0.06	291.95	407.00	91.00	0.77	0.78 S	0.99 W	1.26@	231.80	0.26	57.65
499.00	0.16	315.91	499.00	92.00	0.66	0.67 S	1.12 W	1.31@	239.24	0.12	61.27
592.00	0.16	201.05	592.00	93.00	0.68	0.70 S	1.26 W	1.44@	241.08	0.29	61.27
758.00	0.17	208.12	758.00	166.00	1.12	1.13 S	1.46 W	1.85@	232.26	0.01	61.27
851.00	0.17	304.29	851.00	93.00	1.16	1.17 S	1.64 W	2.02@	234.39	0.27	68.50
942.00	0.13	336.67	942.00	91.00	0.99	1.00 S	1.79 W	2.05@	240.75	0.10	68.50
1035.00	0.23	90.81	1035.00	93.00	0.89	0.91 S	1.65 W	1.88@	241.10	0.32	75.72
1128.00	0.28	74.43	1127.99	93.00	0.84	0.85 S	1.24 W	1.51@	235.57	0.09	75.72
1221.00	0.33	37.73	1220.99	93.00	0.57	0.58 S	0.86 W	1.04@	236.05	0.21	79.34
1317.00	0.38	26.58	1316.99	96.00	0.07	0.07 S	0.55 W	0.55@	262.22	0.09	79.34
1410.00	0.40	36.44	1409.99	93.00	-0.46	0.46 N	0.22 W	0.51@	334.92	0.07	79.34
1504.00	0.53	45.61	1503.99	94.00	-1.03	1.03 N	0.29 E	1.07@	15.68	0.16	86.57
1599.00	0.48	44.94	1598.98	95.00	-1.61	1.62 N	0.88 E	1.85@	28.64	0.05	75.72
1693.00	0.40	48.99	1692.98	94.00	-2.10	2.11 N	1.41 E	2.54@	33.71	0.09	75.72
1788.00	0.50	55.27	1787.98	95.00	-2.55	2.57 N	2.00 E	3.25@	37.94	0.12	79.34
1882.00	0.50	57.89	1881.97	94.00	-2.99	3.02 N	2.69 E	4.04@	41.66	0.02	75.72
2012.00	0.68	60.48	2011.97	130.00	-3.66	3.70 N	3.84 E	5.33@	46.04	0.14	79.34
2072.00	0.94	64.97	2071.96	60.00	-4.04	4.08 N	4.59 E	6.15@	48.36	0.44	82.95
2167.00	2.20	74.08	2166.92	95.00	-4.85	4.91 N	7.05 E	8.60@	55.13	1.33	86.57
2261.00	3.55	80.11	2260.80	94.00	-5.80	5.91 N	11.65 E	13.07@	63.12	1.45	90.18

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2355.00	5.00	82.69	2354.54	94.00	-6.75	6.93 N	18.59 E	19.84@ 69.55	1.53	86.57
2450.00	5.40	86.18	2449.15	95.00	-7.49	7.75 N	27.15 E	28.24@ 74.06	0.53	93.80
2544.00	6.13	87.35	2542.67	94.00	-7.93	8.28 N	36.58 E	37.50@ 77.24	0.77	97.41
2638.00	6.34	86.94	2636.12	94.00	-8.34	8.79 N	46.77 E	47.59@ 79.36	0.23	101.02
2732.00	6.54	88.61	2729.52	94.00	-8.65	9.20 N	57.31 E	58.04@ 80.88	0.29	101.02
2826.00	6.10	88.01	2822.95	94.00	-8.85	9.50 N	67.65 E	68.32@ 82.01	0.47	104.64
2921.00	5.90	82.58	2917.43	95.00	-9.56	10.31 N	77.54 E	78.22@ 82.43	0.62	108.25
3015.00	5.79	81.64	3010.94	94.00	-10.78	11.62 N	87.02 E	87.79@ 82.39	0.15	108.25
3109.00	5.65	81.58	3104.47	94.00	-12.06	12.99 N	96.29 E	97.16@ 82.32	0.15	101.02
3203.00	5.49	78.41	3198.03	94.00	-13.56	14.57 N	105.27 E	106.27@ 82.12	0.36	104.64
3298.00	5.22	77.74	3292.62	95.00	-15.30	16.40 N	113.95 E	115.12@ 81.81	0.29	108.25
3393.00	5.68	82.54	3387.19	95.00	-16.75	17.93 N	122.83 E	124.13@ 81.70	0.67	111.87
3487.00	5.80	82.75	3480.72	94.00	-17.86	19.13 N	132.15 E	133.53@ 81.76	0.13	115.48
3581.00	5.88	81.30	3574.23	94.00	-19.10	20.46 N	141.63 E	143.10@ 81.78	0.18	111.87
3676.00	6.04	81.26	3668.71	95.00	-20.50	21.95 N	151.38 E	152.96@ 81.75	0.17	119.09
3771.00	6.41	82.23	3763.15	95.00	-21.88	23.43 N	161.57 E	163.26@ 81.75	0.40	119.09
3865.00	6.07	80.17	3856.60	94.00	-23.34	24.99 N	171.67 E	173.48@ 81.72	0.43	115.48
3960.00	5.98	81.09	3951.07	95.00	-24.87	26.61 N	181.50 E	183.44@ 81.66	0.14	115.48
4054.00	6.09	83.33	4044.55	94.00	-26.11	27.95 N	191.29 E	193.33@ 81.69	0.27	108.25
4149.00	5.68	82.69	4139.05	95.00	-27.20	29.13 N	200.96 E	203.06@ 81.75	0.43	108.25
4243.00	5.29	80.53	4232.62	94.00	-28.42	30.44 N	209.85 E	212.05@ 81.75	0.46	108.25
4338.00	5.58	77.80	4327.19	95.00	-30.03	32.13 N	218.68 E	221.03@ 81.64	0.40	111.87
4432.00	6.02	78.05	4420.71	94.00	-31.93	34.12 N	227.97 E	230.51@ 81.49	0.46	108.25
4527.00	5.52	81.08	4515.23	95.00	-33.58	35.86 N	237.36 E	240.06@ 81.41	0.61	108.25
4622.00	5.61	87.85	4609.78	95.00	-34.37	36.74 N	246.52 E	249.24@ 81.52	0.69	90.18
4716.00	4.92	86.55	4703.39	94.00	-34.71	37.16 N	255.13 E	257.82@ 81.71	0.73	79.34
4810.00	4.17	79.90	4797.09	94.00	-35.48	38.00 N	262.52 E	265.26@ 81.76	0.96	75.72
4904.00	4.94	74.05	4890.79	94.00	-37.12	39.71 N	269.78 E	272.68@ 81.63	0.94	68.50

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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/30M)	TEMP (F)
4997.00	5.13	73.48	4983.43	93.00	-39.33	41.99 N	277.61 E	280.77@	81.40	0.21	72.11
5091.00	5.30	75.32	5077.05	94.00	-41.54	44.29 N	285.84 E	289.25@	81.19	0.25	72.11
5185.00	6.07	79.73	5170.58	94.00	-43.44	46.28 N	294.93 E	298.54@	81.08	0.93	72.11
5278.00	7.00	84.86	5262.98	93.00	-44.73	47.66 N	305.41 E	309.11@	81.13	1.16	68.50
5372.00	6.60	85.25	5356.32	94.00	-45.58	48.62 N	316.50 E	320.21@	81.27	0.42	68.50
5466.00	6.25	85.76	5449.73	94.00	-46.30	49.45 N	326.99 E	330.71@	81.40	0.37	68.50
5560.00	5.98	83.82	5543.19	94.00	-47.11	50.35 N	336.96 E	340.70@	81.50	0.36	68.50
5641.00	5.42	84.22	5623.79	81.00	-47.88	51.19 N	344.96 E	348.74@	81.56	0.68	68.50
5754.00	5.33	85.41	5736.29	113.00	-48.73	52.15 N	355.50 E	359.31@	81.65	0.13	97.41
5848.00	5.32	85.35	5829.89	94.00	-49.35	52.85 N	364.20 E	368.01@	81.74	0.01	108.25
5942.00	5.20	86.95	5923.49	94.00	-49.85	53.43 N	372.79 E	376.60@	81.84	0.20	119.09
6036.00	5.54	85.68	6017.08	94.00	-50.33	54.00 N	381.57 E	385.37@	81.95	0.38	122.71
6130.00	5.81	84.02	6110.62	94.00	-51.08	54.84 N	390.83 E	394.66@	82.01	0.33	126.32
6223.00	5.38	86.06	6203.18	93.00	-51.79	55.63 N	399.86 E	403.71@	82.08	0.50	129.94
6317.00	5.88	81.53	6296.72	94.00	-52.71	56.64 N	409.02 E	412.92@	82.12	0.70	129.94
6412.00	5.77	80.78	6391.23	95.00	-54.10	58.12 N	418.55 E	422.56@	82.09	0.14	129.94
6506.00	6.12	81.43	6484.73	94.00	-55.51	59.62 N	428.16 E	432.30@	82.07	0.37	133.55
6600.00	6.32	80.98	6578.17	94.00	-56.97	61.18 N	438.23 E	442.48@	82.05	0.21	133.55
6694.00	6.36	81.59	6671.60	94.00	-58.45	62.75 N	448.49 E	452.86@	82.03	0.08	133.55
6789.00	6.33	82.15	6766.02	95.00	-59.83	64.24 N	458.88 E	463.36@	82.03	0.07	133.55
6884.00	6.07	83.69	6860.46	95.00	-61.00	65.51 N	469.06 E	473.61@	82.05	0.32	137.17
6978.00	6.36	79.26	6953.91	94.00	-62.42	67.02 N	479.12 E	483.78@	82.04	0.59	137.17
7073.00	6.32	77.69	7048.33	95.00	-64.42	69.12 N	489.40 E	494.25@	81.96	0.18	137.17
7167.00	6.24	78.54	7141.76	94.00	-66.44	71.24 N	499.46 E	504.51@	81.88	0.13	137.17
7261.00	5.98	79.76	7235.23	94.00	-68.23	73.12 N	509.28 E	514.51@	81.83	0.30	140.78
7356.00	5.93	80.36	7329.72	95.00	-69.84	74.82 N	518.99 E	524.36@	81.80	0.08	137.17
7450.00	6.55	80.71	7423.16	94.00	-71.42	76.50 N	529.07 E	534.57@	81.77	0.65	140.78
7544.00	6.02	80.37	7516.59	94.00	-73.01	78.19 N	539.22 E	544.86@	81.75	0.56	140.78

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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/30M)	TEMP (F)
7639.00	5.53	79.79	7611.11	95.00	-74.57	79.84 N	548.64 E	554.41@	81.72	0.51	144.39
7733.00	5.59	81.31	7704.67	94.00	-75.98	81.33 N	557.62 E	563.52@	81.70	0.17	144.39
7827.00	5.57	82.56	7798.23	94.00	-77.17	82.61 N	566.67 E	572.66@	81.71	0.13	144.39
7921.00	5.31	84.07	7891.80	94.00	-78.13	83.65 N	575.52 E	581.57@	81.73	0.31	144.39
8014.00	5.40	82.58	7984.40	93.00	-79.05	84.66 N	584.14 E	590.24@	81.75	0.18	144.39
8108.00	5.22	84.39	8077.99	94.00	-79.96	85.65 N	592.78 E	598.94@	81.78	0.26	148.01
8202.00	5.45	83.97	8171.58	94.00	-80.76	86.54 N	601.47 E	607.67@	81.81	0.24	148.01
8296.00	5.46	83.39	8265.16	94.00	-81.66	87.52 N	610.36 E	616.60@	81.84	0.06	151.62
8391.00	4.93	84.13	8359.77	95.00	-82.52	88.46 N	618.91 E	625.20@	81.87	0.55	151.62
8485.00	5.53	81.49	8453.38	94.00	-83.52	89.54 N	627.40 E	633.76@	81.88	0.68	148.01
8580.00	5.48	80.80	8547.94	95.00	-84.83	90.95 N	636.41 E	642.87@	81.87	0.09	151.62
8674.00	5.07	81.69	8641.54	94.00	-86.07	92.27 N	644.95 E	651.52@	81.86	0.44	151.62
8769.00	5.90	80.50	8736.10	95.00	-87.40	93.68 N	653.92 E	660.59@	81.85	0.87	151.62
8864.00	5.97	78.79	8830.60	95.00	-89.07	95.44 N	663.58 E	670.41@	81.82	0.20	151.62
8959.00	5.62	78.01	8925.11	95.00	-90.91	97.37 N	672.98 E	679.98@	81.77	0.37	151.62
9054.00	3.35	92.53	9019.82	95.00	-91.68	98.22 N	680.30 E	687.35@	81.78	2.61	155.24
9158.00	1.89	103.38	9123.71	104.00	-91.10	97.68 N	685.01 E	691.94@	81.88	1.45	119.09
9190.00	1.43	121.22	9155.69	32.00	-90.77	97.36 N	685.86 E	692.74@	81.92	2.11	122.71
9222.00	2.00	153.68	9187.68	32.00	-90.05	96.65 N	686.45 E	693.22@	81.99	3.39	126.32
9253.00	3.26	170.50	9218.65	31.00	-88.70	95.29 N	686.84 E	693.41@	82.10	4.65	129.94
9348.00	11.24	182.44	9312.81	95.00	-76.76	83.36 N	686.89 E	691.93@	83.08	8.37	137.17
9380.00	15.42	183.04	9343.94	32.00	-69.40	75.99 N	686.53 E	690.72@	83.68	12.86	137.17
9443.00	22.70	182.45	9403.45	63.00	-48.87	55.46 N	685.56 E	687.80@	85.38	11.38	137.17
9538.00	31.02	181.76	9488.13	95.00	-6.03	12.60 N	684.03 E	684.14@	88.94	8.63	137.17
9585.00	35.57	182.15	9527.40	47.00	19.74	13.18 S	683.14 E	683.27@	91.11	9.54	133.55
9633.00	39.42	181.61	9565.48	48.00	48.92	42.38 S	682.19 E	683.50@	93.55	7.92	137.17
9680.00	42.98	179.08	9600.84	47.00	79.87	73.32 S	682.03 E	685.96@	96.14	8.23	140.78
9727.00	46.46	176.26	9634.23	47.00	112.91	106.35 S	683.39 E	691.62@	98.85	8.39	137.17

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9774.00	51.84	175.58	9664.96	47.00	148.38	141.80 S	685.93 E	700.44@ 101.68	11.32	137.17
9822.00	56.13	175.75	9693.18	48.00	187.11	180.51 S	688.86 E	712.12@ 104.68	8.80	133.55
9853.00	58.98	176.49	9709.81	31.00	213.23	206.61 S	690.63 E	720.87@ 106.65	9.26	137.17
9884.00	61.56	176.86	9725.18	31.00	240.11	233.48 S	692.19 E	730.51@ 108.64	8.25	137.17
9915.00	64.93	177.13	9739.14	31.00	267.76	261.12 S	693.64 E	741.16@ 110.63	10.73	137.17
9954.00	69.21	177.21	9754.33	39.00	303.65	296.98 S	695.41 E	756.17@ 113.13	10.80	140.78
10030.00	77.59	176.35	9776.02	76.00	376.33	369.63 S	699.51 E	791.17@ 117.85	10.90	137.17
10079.00	82.53	175.69	9784.48	49.00	424.49	417.77 S	702.86 E	817.65@ 120.73	10.01	140.78
10125.00	86.53	175.39	9788.86	46.00	470.17	463.41 S	706.42 E	844.86@ 123.26	8.58	140.78
10219.00	91.51	175.81	9790.47	94.00	563.91	557.09 S	713.63 E	905.33@ 127.98	5.23	144.39
10313.00	89.72	175.59	9789.46	94.00	657.70	650.82 S	720.68 E	971.05@ 132.08	1.89	148.01
10407.00	88.66	175.03	9790.79	94.00	751.45	744.49 S	728.36 E	1041.53@ 135.63	1.25	151.62
10501.00	89.55	175.70	9792.26	94.00	845.20	838.17 S	735.96 E	1115.42@ 138.72	1.17	151.62
10595.00	89.66	176.54	9792.90	94.00	939.03	931.95 S	742.32 E	1191.46@ 141.46	0.89	155.24
10689.00	91.74	178.30	9791.76	94.00	1032.96	1025.84 S	746.55 E	1268.73@ 143.95	2.85	155.24
10784.00	91.79	178.24	9788.83	95.00	1127.89	1120.75 S	749.42 E	1348.22@ 146.23	0.08	155.24
10878.00	91.68	177.94	9785.98	94.00	1221.82	1214.66 S	752.55 E	1428.89@ 148.22	0.34	155.24
10973.00	91.01	178.97	9783.75	95.00	1316.78	1309.59 S	755.11 E	1511.70@ 150.03	1.27	155.24
11067.00	90.78	179.42	9782.29	94.00	1410.77	1403.57 S	756.43 E	1594.43@ 151.68	0.53	158.85
11159.00	89.61	179.08	9781.97	92.00	1502.77	1495.56 S	757.63 E	1676.52@ 153.13	1.30	158.85
11253.00	89.55	178.84	9782.66	94.00	1596.76	1589.54 S	759.34 E	1761.60@ 154.47	0.26	158.85
11347.00	86.47	177.82	9785.92	94.00	1690.67	1683.44 S	762.08 E	1847.89@ 155.64	3.40	158.85
11440.00	88.26	178.69	9790.20	93.00	1783.55	1776.29 S	764.91 E	1933.98@ 156.70	2.11	158.85
11534.00	88.65	180.03	9792.73	94.00	1877.51	1870.25 S	765.96 E	2021.02@ 157.73	1.46	158.85
11627.00	89.66	180.17	9794.11	93.00	1970.50	1963.24 S	765.79 E	2107.30@ 158.69	1.08	162.46
11722.00	89.33	180.01	9794.94	95.00	2065.49	2058.23 S	765.64 E	2196.02@ 159.60	0.38	162.46
11817.00	88.94	181.84	9796.38	95.00	2160.44	2153.20 S	764.11 E	2284.76@ 160.46	1.94	162.46
11912.00	89.33	182.32	9797.81	95.00	2255.33	2248.13 S	760.66 E	2373.33@ 161.31	0.64	158.85

PathFinder Energy Services, Inc.

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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/30M)	TEMP (F)
12006.00	88.94	182.50	9799.23	94.00	2349.19	2342.04 S	756.71 E	2461.25@	162.09	0.45	158.85
12101.00	89.05	182.52	9800.90	95.00	2444.04	2436.93 S	752.55 E	2550.48@	162.84	0.12	162.46
12196.00	88.54	183.16	9802.90	95.00	2538.85	2531.79 S	747.84 E	2639.93@	163.54	0.85	162.46
12291.00	88.37	182.88	9805.46	95.00	2633.64	2626.63 S	742.84 E	2729.65@	164.21	0.34	162.46
12384.00	88.77	182.49	9807.78	93.00	2726.46	2719.49 S	738.49 E	2817.98@	164.81	0.59	162.46
12478.00	87.53	181.45	9810.81	94.00	2820.31	2813.39 S	735.26 E	2907.88@	165.35	1.69	162.46
12572.00	87.20	180.63	9815.13	94.00	2914.18	2907.27 S	733.55 E	2998.39@	165.84	0.92	158.85
12666.00	88.94	179.57	9818.30	94.00	3008.11	3001.21 S	733.39 E	3089.52@	166.27	2.13	162.46
12760.00	90.06	179.61	9819.12	94.00	3102.11	3095.20 S	734.06 E	3181.06@	166.66	1.17	162.46
12854.00	91.23	179.35	9818.06	94.00	3196.10	3189.19 S	734.91 E	3272.77@	167.02	1.25	169.69
12949.00	89.94	178.58	9817.09	95.00	3291.09	3284.17 S	736.63 E	3365.77@	167.36	1.56	166.08
13043.00	89.22	178.28	9817.78	94.00	3385.07	3378.13 S	739.21 E	3458.06@	167.66	0.82	169.69
13137.00	88.82	178.13	9819.39	94.00	3479.03	3472.07 S	742.15 E	3550.50@	167.93	0.45	169.69
13231.00	88.77	178.16	9821.37	94.00	3572.99	3566.00 S	745.19 E	3643.03@	168.20	0.06	166.08
13324.00	88.94	178.28	9823.22	93.00	3665.95	3658.94 S	748.08 E	3734.63@	168.44	0.22	173.31
13418.00	89.10	178.29	9824.83	94.00	3759.92	3752.88 S	750.89 E	3827.27@	168.69	0.17	173.31
13512.00	88.10	178.69	9827.13	94.00	3853.87	3846.82 S	753.37 E	3919.90@	168.92	1.13	173.31
13606.00	89.44	178.64	9829.15	94.00	3947.84	3940.77 S	755.56 E	4012.55@	169.15	1.40	173.31
13700.00	88.26	178.61	9831.03	94.00	4041.81	4034.72 S	757.81 E	4105.27@	169.36	1.24	169.69
13793.00	86.86	178.20	9834.99	93.00	4134.71	4127.60 S	760.40 E	4197.06@	169.56	1.54	169.69
13887.00	87.14	177.87	9839.91	94.00	4228.55	4221.41 S	763.62 E	4289.92@	169.75	0.45	169.69
13981.00	88.32	178.10	9843.63	94.00	4322.44	4315.28 S	766.92 E	4382.90@	169.92	1.26	166.08
14075.00	88.66	178.96	9846.11	94.00	4416.40	4409.22 S	769.33 E	4475.83@	170.10	0.97	169.69
14168.00	90.06	179.57	9847.15	93.00	4509.39	4502.20 S	770.52 E	4567.66@	170.29	1.62	173.31
14262.00	89.61	178.96	9847.42	94.00	4603.39	4596.19 S	771.73 E	4660.53@	170.47	0.79	173.31
14357.00	89.16	178.61	9848.44	95.00	4698.38	4691.17 S	773.74 E	4754.55@	170.63	0.59	173.31
14451.00	89.38	178.79	9849.64	94.00	4792.36	4785.13 S	775.88 E	4847.63@	170.79	0.30	173.31
14546.00	90.50	179.03	9849.74	95.00	4887.35	4880.11 S	777.68 E	4941.69@	170.95	1.19	173.31

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir (ft) (deg)		DLS (dg/30M)	TEMP (F)
14640.00	89.22	178.79	9849.97	94.00	4981.35	4974.09 S	779.47 E	5034.80@	171.09	1.36	173.31
14734.00	90.34	179.13	9850.33	94.00	5075.34	5068.08 S	781.18 E	5127.93@	171.24	1.23	173.31
14751.00	90.34	179.17	9850.23	17.00	5092.34	5085.08 S	781.43 E	5144.77@	171.26	0.23	173.31
STRAIGHT PROJECTION TO BIT AT 14830'MD.											
14830.00	90.34	179.17	9849.76	79.00	5171.34	5164.07 S	782.57 E	5223.03@	171.38	0.00	0.00

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

