

Surf. G-16-31N-6W

New Mexico Oil Conservation
Oil & Gas Division
1000 Rio Brazos Road
Aztec New Mexico
87410

For the attention of : Frank Chavez

BHL 1510' ESL, 1238' FEL

Dear Sir,

Please find enclosed two (2) copies of our certified survey results on the well described below.

Customer : Williams Production Company
Well : Rosa #185
Rig : Aztec #124
Field : Mesa Verde
Legal : I Sec. 16 - T31N - R06W
County : San Juan
State : New Mexico

JA



Please feel free to call upon me at any time should you have any questions regarding the enclosed information.

Sincerely,

Craig Davis
Craig Davis
Directional Drilling Coordinator
7197 W. Derrick Drive
Casper, Wyoming 82604
(307) 472-5757

Customer : Williams Production Company

Well : Rosa #185

Rig : Aztec #124

Field : Mesa Verde

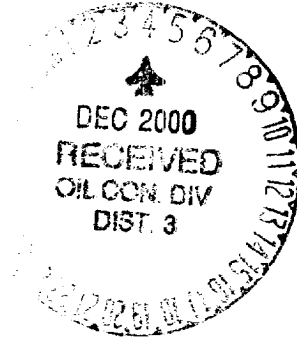
Legal : Sec. 16 – T31N – R06W

County : San Juan

State : New Mexico

Calculation Method :
Magnetic Declination Applied :
Vertical Section Direction :

Minimum Curvature
11.389° East
154.284° Azimuth



Note : See attached SSDS Certified Survey Worksheet for all survey information as recorded in the field.

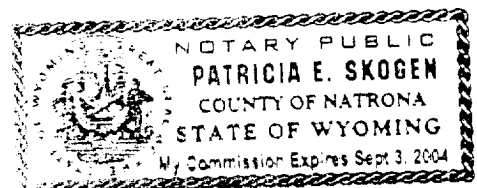
I, Craig Davis, having personal knowledge of all the facts, hereby certify that the above listed Directional Survey is true and correct as determined from all available Sperry-Sun Drilling Services records.

Craig Davis
Directional Drilling Coordinator

On this 21ST day of November, 2000, before me personally appeared Craig Davis to me known as the person described in and who executed the same as his/her free act and deed.

Patricia E. Skogen
Notary Public in and for the County of Natrona, State of Wyoming

Sept. 3, 2004
My Commission Expires



For the attention of : Mr. Gary Sizemore

Dear Sir,

Please find enclosed one (1) copy of our certified survey results on the well described below.

Customer : Williams Production Company

Well : Rosa #185

Rig : Aztec #124

Field : Mesa Verde

Legal : Sec. 16 – T31N – R06W

County : San Juan

State : New Mexico

Please feel free to call upon me at any time should you have any questions regarding the enclosed information.

Sincerely,



Craig Davis
Directional Drilling Coordinator

SPERRY-SUN DRILLING SERVICES

CERTIFIED SURVEY WORK SHEET

OPERATOR: Williams Production Co.	SSDS Job Number : CAMJ-00138
WELL: Rosa #186	Start Date of Job : 10/04/2000
FIELD: Mesa Verde	End Date of Job : 10/18/2000
RIG: Aztec #124	Lead Directional Driller: Justin Groom
LEGALS: Sec. 16 -T31N - R06W	Other SSDS DD's : Larry Sledge
COUNTY: San Juan	SSDS MWD Engineers : Carl Gerrard
STATE: New Mexico	SSDS MWD Engineers : Robert Scott
CAL. METHOD: Minimum Curvature	
MAG. DECL. APPLIED: 11.369	
VERTICAL SEC. DIR. : 154.284	

	Main Hole		1st Side Track		2nd Side Track		3rd Side Track		4th Side Track	
	Depth	Tie On	Depth	Tie On	Depth	Tie On	Depth	Tie On	Depth	Tie On
Well Head	0.00									
Surface Casing	0.00									
KOP	539.00									
First Survey Depth	650.00									
Last Survey Depth	590.00	MWD								
	4935.00	MWD								
First Survey Depth	5122.00	SS								
Last Survey Depth	8458.00	SS								
Bit Extrapolation to TD	8508.00	T.D.								

Print Name :	Print Name :
Sign Name :	Sign Name :
Print Name :	Print Name :
Sign Name :	Sign Name :

Examples of Survey Types:

- Tie-On
- MWD
- ESS
- Gyro
- SS

Tie On to Surface Casing (Assumed Vertical), Tie On to existing MWD Survey (prior drilled hole)
 Sperry Sun Drilling Services (SSDS) Measurement While Drilling (MWD) Survey's
 Sperry Sun Drilling Services (SSDS) Electronic Survey System (ESS) Survey's
 Gyro Survey's ; Provided by third party vendor, or by Sperry Sun Drilling Services (SSDS)
 Single Shot (SS) Survey's ; Provided by Sperry Sun Drilling Services (SSDS) or third party vendor.

Sperry-Sun Drilling Services

Survey Report for Rosa Unit 185 - MWD/SS Survey

Williams Production Company
New Mexico

San Juan County
Sec. 16-T31N-R06W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	0.00
539.00	0.000	0.000	539.00	0.00 N	0.00 E	0.00	0.00
590.00	1.600	149.400	589.99	0.61 S	0.36 E	0.71	3.14
621.00	2.100	142.600	620.98	1.44 S	0.93 E	1.70	1.76
681.00	3.600	141.600	680.90	3.79 S	2.77 E	4.61	2.50
742.00	3.200	138.300	741.79	6.56 S	5.09 E	8.12	0.73
772.00	4.000	137.000	771.73	7.95 S	6.36 E	9.92	2.68
802.00	4.300	144.000	801.66	9.62 S	7.73 E	12.03	1.96
862.00	7.000	143.200	861.36	14.37 S	11.25 E	17.83	4.50
892.00	7.200	139.600	891.13	17.27 S	13.56 E	21.44	1.63
953.00	8.600	138.300	951.55	23.58 S	19.07 E	29.52	2.31
1016.00	10.000	148.600	1013.72	31.77 S	25.06 E	39.50	3.44
1046.00	10.400	154.100	1043.25	36.43 S	27.60 E	44.80	3.51
1078.00	11.400	157.900	1074.67	41.96 S	30.05 E	50.84	3.85
1139.00	13.500	153.200	1134.24	53.90 S	35.53 E	63.98	3.82
1171.00	14.200	154.200	1165.31	60.77 S	38.92 E	71.64	2.31
1202.00	14.800	152.000	1195.32	67.69 S	42.43 E	79.40	2.63
1233.00	15.900	151.200	1225.21	74.91 S	46.34 E	87.59	3.61
1264.00	16.800	152.400	1254.96	82.60 S	50.46 E	96.31	3.10
1295.00	17.400	153.700	1284.59	90.72 S	54.59 E	105.42	2.29
1325.00	18.600	155.200	1313.12	99.09 S	58.58 E	114.69	4.29
1357.00	20.000	155.100	1343.32	108.68 S	63.03 E	125.27	4.38
1386.00	21.400	156.900	1370.45	118.05 S	67.19 E	135.51	5.30
1418.00	22.600	157.300	1400.12	129.09 S	71.85 E	147.49	3.78
1447.00	23.700	158.100	1426.78	139.64 S	76.18 E	158.87	3.95
1479.00	24.600	157.700	1455.98	151.77 S	81.10 E	171.93	2.86
1509.00	25.800	158.900	1483.12	163.64 S	85.82 E	184.67	4.35
1539.00	26.700	156.500	1510.03	175.91 S	90.86 E	197.91	4.64
1571.00	27.800	155.000	1538.48	189.27 S	96.88 E	212.56	4.05
1602.00	28.800	155.400	1565.77	202.61 S	103.05 E	227.26	3.28
1634.00	29.800	155.200	1593.68	216.84 S	109.59 E	242.91	3.14
1665.00	30.600	153.600	1620.47	230.90 S	116.33 E	258.51	3.66
1696.00	31.500	153.800	1647.03	245.23 S	123.41 E	274.49	2.92
1728.00	32.600	154.400	1674.15	260.51 S	130.83 E	291.47	3.58
1760.00	32.600	154.800	1701.11	276.08 S	138.23 E	308.71	0.67
1792.00	32.400	153.800	1728.10	291.57 S	145.68 E	325.91	1.79
1822.00	31.800	155.700	1753.51	305.99 S	152.48 E	341.85	3.91
1852.00	32.000	153.300	1778.99	320.30 S	159.31 E	357.70	4.28
1884.00	31.200	153.700	1806.24	335.30 S	166.79 E	374.46	2.58
1915.00	30.900	154.400	1832.80	349.68 S	173.79 E	390.45	1.51

Continued...

Sperry-Sun Drilling Services

Survey Report for Rosa Unit 185 - MWD/SS Survey

Williams Production Company
New Mexico

San Juan County
Sec. 16-T31N-R06W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
1947.00	30.200	154.100	1860.36	364.33 S	180.85 E	406.72	2.24
1978.00	30.700	154.600	1887.08	378.49 S	187.65 E	422.43	1.81
2008.00	31.000	153.000	1912.84	392.29 S	194.44 E	437.81	2.91
2038.00	31.200	153.100	1938.52	406.10 S	201.47 E	453.30	0.69
2069.00	30.300	153.100	1965.17	420.24 S	208.64 E	469.15	2.90
2131.00	30.300	155.000	2018.70	448.36 S	222.33 E	500.43	1.55
2162.00	30.900	155.200	2045.38	462.68 S	228.97 E	516.20	1.96
2192.00	30.900	154.500	2071.12	476.62 S	235.52 E	531.61	1.20
2224.00	30.900	154.900	2098.58	491.48 S	242.54 E	548.04	0.64
2256.00	30.000	155.200	2126.17	506.18 S	249.38 E	564.26	2.85
2287.00	30.400	154.800	2152.96	520.32 S	255.97 E	579.85	1.44
2319.00	30.500	154.900	2180.55	534.99 S	262.86 E	596.07	0.35
2350.00	30.800	155.800	2207.21	549.36 S	269.45 E	611.87	1.77
2381.00	30.300	154.400	2233.91	563.65 S	276.09 E	627.62	2.81
2411.00	30.100	152.800	2259.84	577.17 S	282.79 E	642.71	2.76
2443.00	30.300	152.300	2287.50	591.45 S	290.22 E	658.80	1.00
2473.00	30.400	152.200	2313.39	604.87 S	297.27 E	673.95	0.37
2505.00	30.000	153.500	2341.04	619.19 S	304.62 E	690.04	2.40
2567.00	30.400	156.100	2394.63	647.40 S	317.89 E	721.22	2.21
2599.00	31.100	154.600	2422.13	662.27 S	324.72 E	737.57	3.24
2630.00	31.400	154.000	2448.63	676.76 S	331.69 E	753.66	1.39
2662.00	31.300	155.200	2475.96	691.80 S	338.83 E	770.30	1.98
2725.00	31.600	153.900	2529.71	721.48 S	352.96 E	803.17	1.18
2787.00	31.000	153.200	2582.68	750.32 S	367.30 E	835.38	1.13
2850.00	30.800	154.000	2636.74	779.29 S	381.69 E	867.73	0.73
2911.00	31.500	152.900	2688.95	807.52 S	395.79 E	899.28	1.48
2973.00	31.100	153.400	2741.92	836.26 S	410.34 E	931.48	0.77
3036.00	30.900	154.500	2795.93	865.41 S	424.59 E	963.93	0.95
3128.00	31.600	154.800	2874.58	908.54 S	445.03 E	1011.65	0.78
3222.00	31.300	157.000	2954.77	953.30 S	465.05 E	1060.67	1.26
3316.00	29.500	158.100	3035.84	997.25 S	483.23 E	1108.16	2.00
3411.00	29.600	158.400	3118.49	1040.77 S	500.59 E	1154.90	0.19
3504.00	30.100	154.200	3199.16	1083.13 S	519.20 E	1201.13	2.31
3598.00	30.800	153.700	3280.19	1125.92 S	540.12 E	1248.77	0.79
3691.00	30.500	153.500	3360.20	1168.39 S	561.20 E	1296.18	0.34
3782.00	31.200	153.000	3438.32	1210.06 S	582.20 E	1342.83	0.82
3876.00	29.400	153.700	3519.48	1252.44 S	603.48 E	1390.25	1.95
3970.00	29.200	152.300	3601.46	1293.42 S	624.36 E	1436.24	0.76
4064.00	29.000	152.600	3683.59	1333.96 S	645.51 E	1481.93	0.26
4158.00	28.000	152.300	3766.20	1373.72 S	666.25 E	1526.76	1.07

Continued...

Sperry-Sun Drilling Services

Survey Report for Rosa Unit 185 - MWD/SS Survey

Williams Production Company
New Mexico

San Juan County
Sec. 16-T31N-R06W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
4251.00	27.400	154.000	3848.54	1412.29 S	685.78 E	1569.97	1.07
4346.00	27.300	154.000	3932.92	1451.51 S	704.91 E	1613.62	0.11
4440.00	26.900	154.200	4016.60	1490.03 S	723.62 E	1656.44	0.44
4503.00	26.200	155.300	4072.96	1515.50 S	735.63 E	1684.60	1.36
4564.00	25.200	156.600	4127.92	1539.65 S	746.42 E	1711.04	1.88
4625.00	23.800	158.800	4183.43	1563.05 S	756.03 E	1736.29	2.74
4687.00	22.200	160.800	4240.50	1585.78 S	764.40 E	1760.40	2.87
4748.00	20.600	159.900	4297.29	1606.74 S	771.88 E	1782.53	2.68
4810.00	18.600	159.900	4355.70	1626.27 S	779.03 E	1803.22	3.23
4873.00	16.900	157.800	4415.70	1644.18 S	785.94 E	1822.36	2.88
4935.00	15.900	158.900	4475.17	1660.45 S	792.40 E	1839.82	1.69
5122.00	11.200	160.000	4656.92	1701.44 S	807.85 E	1883.45	2.52
5470.00	6.200	172.000	5000.83	1751.84 S	822.03 E	1935.02	1.52
5974.00	4.500	182.000	5502.63	1798.56 S	825.13 E	1978.45	0.38
6472.00	5.200	194.000	5998.85	1839.98 S	818.99 E	2013.11	0.25
6971.00	7.200	229.000	6495.08	1882.45 S	789.90 E	2038.76	0.84
7127.00	6.000	221.000	6650.05	1895.02 S	777.17 E	2044.56	0.97
7283.00	6.000	220.000	6805.19	1907.42 S	766.58 E	2051.13	0.07
7444.00	5.200	225.000	6965.42	1919.03 S	756.02 E	2057.00	0.58
7601.00	5.000	216.000	7121.81	1929.59 S	746.96 E	2062.59	0.52
8111.00	4.500	228.000	7630.06	1960.96 S	719.03 E	2078.73	0.22
8458.00	5.500	243.000	7975.75	1977.62 S	694.10 E	2082.92	0.47
8508.00	5.500	243.000	8025.52	1979.80 S	689.83 E	2083.03	0.00

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to RKB. Northings and Eastings are relative to Wellhead.

Magnetic Declination at Surface is 11.389° (08-Oct-00)

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Wellhead and calculated along an Azimuth of 154.284° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 8508.00ft., The Bottom Hole Displacement is 2096.53ft., in the Direction of 160.790° (True).

Continued...

Sperry-Sun Drilling Services

Survey Report for Rosa Unit 185 - MWD/SS Survey

Williams Production Company
New Mexico

San Juan County
Sec. 16-T31N-R06W

Comments

Measured Depth (ft)	Station Coordinates			Comment
	TVD (ft)	Northings (ft)	Eastings (ft)	
5031.00	4568.03	1683.20 S	801.08 E	Run Casing
8508.00	8025.52	1979.80 S	689.83 E	Projected to the bit.