

HA

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

BHL 1321'N, 863'W

For the attention of : Frank Chavez

Dear Sir,

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

Customer : Williams Production Company

Well : Rosa #129

Rig : Bearcat #2

Field : Mesa Verde

Legal : *D* Sec. 34 - T32N - R06W

County : Rio Arriba

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

Craig Davis

Directional Drilling Coordinator

7197 W. Derrick Drive

Casper, Wyoming 82604

(307) 472-5757

Customer : Williams Production Company

Well : Rosa #129

Rig : Bearcat #2

Field : Mesa Verde

Legal : Sec. 34 – T32N – R06W

County : Rio Arriba

State : New Mexico



Calculation Method :
Magnetic Declination Applied :
Vertical Section Direction :

Minimum Curvature
11.3° East
334.533° Azimuth

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

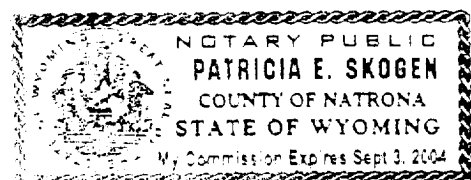
I, Craig Davis, having personal knowledge of all the facts, hereby certify that the above listed Directional Survey is true and correct as determined from all available Sperry-Sun Drilling Services records.

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 #129

Rig : Bearcat #2

Field : Mesa Verde

Legal : Sec. 34 – T32N – R06W

County : Rio Arriba

State : New Mexico

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

Sincerely,

A handwritten signature in cursive script that reads "Craig Davis".

Craig Davis
Directional Drilling Coordinator

SPERRY-SUN DRILLING SERVICES

CERTIFIED SURVEY WORK SHEET

OPERATOR:	Williams Production Co.
WELL:	Rosa #129
FIELD:	Mesa Verde
RIG:	Bearcat #2
LEGALS:	Sec. 34 - T32N - R06W
COUNTY:	Rio Arriba
STATE:	New Mexico
CAL. METHOD:	Minimum Curvature
MAG. DECL. APPLIED:	11.3
VERTICAL SEC. DIR. :	334.533

SSDS Job Number :	CAMJ-00132
Start Date of Job :	09/30/2000
End Date of Job :	10/14/2000
Lead Directional Driller:	Richard Oaks
Other SSDS DD's :	Larry Sledge
SSDS MWD Engineers :	Robert Scott

	Main Hole		1st Side Track		2nd Side Track		3rd Side Track		4th Side Track	
	Tie On		Tie On		Tie On		Tie On		Tie On	
Well Head	0.00									
Surface Casing	0.00									
KOP	520.00									
First Survey Depth	560.00									
Last Survey Depth	559.00	MWD			KOP-ST1		KOP-ST2		KOP-ST3	KOP-ST4
	4083.00	MWD								
First Survey Depth										
Last Survey Depth	4179.00	SS			MWD		MWD		MWD	MWD
Bit Extrapolation to TD	6740.00	SS			MWD		MWD		MWD	MWD
	6790.00	T.D.			T.D.		T.D.		T.D.	T.D.

Print Name :

Print Name :

Print Name :

Sign Name :

Sign Name :

Sign Name :

Print Name :

Print Name :

Print Name :

Sign Name :

Sign Name :

Sign Name :

Examples of
Survey Types:

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.

Tie On
MWD
ESS
Gyro
SS

Sperry-Sun Drilling Services

Survey Report for Rosa Unit # 129 - MWD Survey

Your Ref: Richard Oaks

Williams Production Company
Mesa Verde Field

Rio Arriba Co., NM
Sec.34-T32N-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	
502.00	0.000	0.000	502.00	0.00 N	0.00 E	0.00	0.00
559.00	0.500	173.500	559.00	0.25 S	0.03 E	-0.24	0.88
589.00	0.700	157.500	589.00	0.55 S	0.11 E	-0.54	0.86
619.00	0.400	42.400	619.00	0.64 S	0.25 E	-0.69	3.14
650.00	0.700	345.700	650.00	0.38 S	0.28 E	-0.46	1.89
680.00	2.200	13.400	679.99	0.36 N	0.37 E	0.17	5.38
711.00	3.300	344.800	710.95	1.80 N	0.27 E	1.51	5.57
741.00	5.400	344.400	740.86	4.00 N	0.33 W	3.75	7.00
772.00	7.600	346.100	771.66	7.39 N	1.22 W	7.20	7.12
801.00	8.400	343.300	800.38	11.28 N	2.29 W	11.17	3.07
832.00	9.600	338.200	831.00	15.85 N	3.90 W	15.99	4.64
862.00	10.500	335.500	860.54	20.66 N	5.96 W	21.22	3.39
893.00	11.200	335.000	890.98	25.96 N	8.41 W	27.05	2.28
923.00	12.500	336.200	920.34	31.57 N	10.95 W	33.21	4.41
953.00	13.800	332.700	949.56	37.72 N	13.90 W	40.03	5.08
984.00	15.000	330.600	979.58	44.50 N	17.56 W	47.73	4.22
1014.00	16.300	329.900	1008.47	51.53 N	21.58 W	55.80	4.38
1076.00	18.600	334.500	1067.61	67.98 N	30.20 W	74.36	4.32
1107.00	18.800	335.400	1096.98	76.99 N	34.41 W	84.30	1.13
1137.00	20.000	336.200	1125.27	86.08 N	38.49 W	94.26	4.10
1200.00	23.800	340.500	1183.72	107.93 N	47.09 W	117.69	6.54
1230.00	25.800	340.600	1210.95	119.79 N	51.28 W	130.20	6.67
1260.00	27.000	339.200	1237.82	132.31 N	55.86 W	143.48	4.51
1290.00	28.400	338.700	1264.39	145.33 N	60.87 W	157.38	4.73
1320.00	30.000	338.200	1290.57	158.94 N	66.25 W	171.98	5.39
1352.00	31.000	336.600	1318.14	173.93 N	72.50 W	188.20	4.03
1383.00	32.300	335.200	1344.53	188.78 N	79.14 W	204.46	4.82
1415.00	33.800	335.200	1371.35	204.62 N	86.46 W	221.91	4.69
1446.00	35.700	335.500	1396.82	220.68 N	93.83 W	239.58	6.15
1476.00	37.000	335.700	1420.99	236.87 N	101.17 W	257.36	4.35
1506.00	38.300	335.700	1444.74	253.57 N	108.71 W	275.68	4.33
1538.00	39.600	334.800	1469.62	271.84 N	117.14 W	295.79	4.43
1569.00	40.900	334.300	1493.28	289.92 N	125.75 W	315.82	4.32
1600.00	42.200	334.100	1516.48	308.44 N	134.70 W	336.38	4.22
1632.00	44.400	333.600	1539.77	328.13 N	144.37 W	358.33	6.96
1663.00	45.400	333.400	1561.73	347.72 N	154.13 W	380.21	3.26
1694.00	46.800	333.200	1583.22	367.67 N	164.17 W	402.54	4.54
1756.00	48.800	333.400	1624.87	408.70 N	184.80 W	448.45	3.23
1818.00	48.500	332.900	1665.83	450.23 N	205.82 W	494.98	0.78

Continued...

Sperry-Sun Drilling Services

Survey Report for Rosa Unit # 129 - MWD Survey

Your Ref: Richard Oaks

Williams Production Company
Mesa Verde Field

Rio Arriba Co., NM
Sec.34-T32N-R06W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
1912.00	47.500	330.800	1728.73	511.82 N	238.77 W	564.75	1.97
2007.00	48.800	332.600	1792.11	574.12 N	272.30 W	635.43	1.97
2098.00	48.200	332.000	1852.41	634.47 N	303.98 W	703.53	0.82
2193.00	48.100	332.000	1915.80	696.95 N	337.21 W	774.22	0.11
2286.00	47.500	331.000	1978.27	757.49 N	370.08 W	843.02	1.03
2378.00	47.700	333.100	2040.31	817.50 N	401.91 W	910.89	1.70
2472.00	48.500	333.800	2103.08	880.09 N	433.18 W	980.84	1.02
2564.00	48.900	333.800	2163.80	942.10 N	463.70 W	1049.95	0.43
2658.00	46.700	334.300	2226.94	1004.71 N	494.17 W	1119.58	2.37
2749.00	46.700	334.500	2289.35	1064.44 N	522.79 W	1185.80	0.16
2841.00	46.800	333.800	2352.39	1124.74 N	552.01 W	1252.81	0.56
2933.00	47.400	333.400	2415.01	1185.11 N	581.97 W	1320.20	0.73
3028.00	47.700	332.800	2479.13	1247.62 N	613.69 W	1390.27	0.56
3121.00	48.200	332.500	2541.42	1308.96 N	645.42 W	1459.29	0.59
3215.00	46.100	332.700	2605.35	1370.14 N	677.13 W	1528.16	2.24
3306.00	44.000	333.100	2669.63	1427.46 N	706.47 W	1592.54	2.33
3367.00	43.600	333.800	2713.66	1465.23 N	725.34 W	1634.75	1.03
3429.00	41.000	333.400	2759.51	1502.60 N	743.89 W	1676.47	4.22
3492.00	38.800	334.800	2807.84	1538.95 N	761.55 W	1716.87	3.77
3554.00	36.700	336.600	2856.87	1573.53 N	777.18 W	1754.82	3.82
3616.00	34.100	338.000	2907.40	1606.65 N	791.05 W	1790.69	4.39
3678.00	31.600	338.900	2959.48	1637.93 N	803.41 W	1824.24	4.11
3772.00	28.900	340.600	3040.68	1682.34 N	819.83 W	1871.39	3.01
3867.00	25.400	343.100	3125.20	1723.50 N	833.38 W	1914.38	3.87
3989.00	25.600	340.500	3235.32	1773.38 N	849.78 W	1966.47	0.93
4083.00	23.600	339.000	3320.78	1810.09 N	863.31 W	2005.43	2.23
4179.00	19.000	333.000	3410.21	1841.98 N	877.30 W	2040.23	5.30
4271.00	18.000	335.000	3497.46	1868.21 N	890.10 W	2069.42	1.29
4659.00	6.250	331.000	3876.14	1941.27 N	925.81 W	2150.73	3.03
5188.00	22.000	311.000	4387.75	2032.07 N	1015.15 W	2271.12	3.07
5540.00	13.000	334.000	4723.49	2111.16 N	1082.47 W	2371.48	3.18
5867.00	10.000	338.000	5043.89	2170.56 N	1109.24 W	2436.61	0.95
6282.00	5.000	339.000	5455.21	2220.88 N	1129.23 W	2490.64	1.21
6740.00	4.500	331.000	5911.64	2255.23 N	1145.09 W	2528.47	0.18
6790.00	4.500	331.000	5961.49	2258.66 N	1147.00 W	2532.39	0.00

Continued...

Sperry-Sun Drilling Services

Survey Report for Rosa Unit # 129 - MWD Survey

Your Ref: Richard Oaks

**Williams Production Company
Mesa Verde Field**

**Rio Arriba Co., NM
Sec.34-T32N-R06W**

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 Well Head.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Well Head and calculated along an Azimuth of 334.533° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 6790.00ft.,
The Bottom Hole Displacement is 2533.21ft., in the Direction of 333.078° (True).