

OK
BLACKWOOD & NICHOLS CO.
A LIMITED PARTNERSHIP
P.O. BOX 1237
DURANGO, COLORADO 81302-1237
(303) 247-0728

RECEIVED
APR 05 1991
OIL CON. DIV.
DIST. 3

April 4, 1991

New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Northeast Blanco Unit #475
Surface: Unit K, Sec. 20, T30N, R7W
Bottom Hole: Unit H Sec. 19, T30N, R7W
San Juan County, New Mexico

Gentlemen:

This is to certify the following deviation tests were run while
drilling the above well:

148' - 1/2°
300' - 3/4°

Very truly yours,

R. W. Williams

Roy W. Williams
Administrative Manager

RWW:avd

County of: La Plata
State of: Colorado

Signature: *Elizabeth Boyd*

Elizabeth Boyd
Notary Public
Commission Expires 8-10-91

4-4-91

Date
484 Turner Drive
Durango, Colorado 81301

DATADRIL
 BLACKWOOD & NICHOLS
 N.E. BLANCO UNIT #475
 SEC 20-T30N-R07W
 RIO ARriba COUNTY, NEW MEXICO

COMPLETE SURVEY (MULTI-SHOT)
 SURVEY TO 2627' MD & TELECO
 M.W.D. SURVEY TO TOTAL DEPTH

RECEIVED
 APR 05 1991
 OIL CON. DIV.
 DIST. 3

File Name: BLW475SF

*** RECORD OF SURVEY ***

Calculated by DATADRIL's CADDs System

Radius of Curvature Method

All Angles are Decimal

Vertical Section Plane: N 61.00 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N 0.00 E	0.00	
365.00	1.00	N 3.40 W	365.00	364.98	3.18 N	.19 W	1.71	3.19 N 3.40 W	.27	
460.00	4.41	N 61.09 W	95.00	459.86	6.81 N	2.48 W	5.47	7.25 N 20.01 W	4.18	
519.00	7.47	N 61.22 W	59.00	518.54	9.76 N	7.83 W	11.58	12.51 N 38.74 W	5.19	
578.00	10.50	N 64.76 W	59.00	576.81	13.94 N	16.04 W	20.78	21.25 N 49.00 W	5.22	
637.00	15.32	N 63.36 W	59.00	634.30	19.71 N	27.89 W	33.94	34.15 N 54.75 W	8.19	
732.00	19.98	N 63.15 W	95.00	724.80	32.66 N	53.60 W	62.72	62.77 N 58.64 W	4.91	
792.00	24.97	N 65.19 W	60.00	780.23	42.65 N	74.24 W	85.61	85.62 N 60.12 W	8.42	
852.00	29.23	N 65.23 W	60.00	833.63	54.11 N	99.05 W	112.86	112.86 N 61.35 W	7.10	
912.00	33.96	N 67.19 W	60.00	884.72	66.79 N	127.80 W	144.16	144.20 N 62.41 W	8.07	
971.00	39.27	N 64.16 W	59.00	932.06	81.28 N	159.85 W	179.21	179.33 N 63.05 W	9.50	
1030.00	42.88	N 64.25 W	59.00	976.53	98.14 N	194.75 W	217.91	218.08 N 63.25 W	6.12	
1090.00	46.74	N 65.82 W	60.00	1019.09	115.99 N	233.07 W	260.08	260.34 N 63.54 W	6.69	
1150.00	52.03	N 61.35 W	60.00	1058.13	136.24 N	273.84 W	305.56	305.86 N 63.55 W	10.47	
1210.00	53.40	N 60.91 W	60.00	1094.48	159.28 N	315.64 W	353.29	353.56 N 63.22 W	2.36	
1269.00	53.37	N 60.93 W	59.00	1129.67	182.30 N	357.03 W	400.65	400.88 N 62.95 W	.06	
1331.00	53.51	N 61.40 W	62.00	1166.60	206.32 N	400.66 W	450.45	450.66 N 62.75 W	.65	
1392.00	53.70	N 60.63 W	61.00	1202.79	230.11 N	443.61 W	499.55	499.74 N 62.58 W	1.06	
1455.00	54.04	N 60.47 W	63.00	1239.94	255.13 N	487.92 W	550.43	550.60 N 62.40 W	.58	
1518.00	53.68	N 60.60 W	63.00	1277.09	280.16 N	532.21 W	601.31	601.45 N 62.24 W	.60	
1579.00	52.98	N 60.16 W	61.00	1313.52	304.34 N	574.75 W	650.23	650.35 N 62.10 W	1.29	

DATADRIL

BLACKWOOD & NICHOLS
N.E. BLANCO UNIT #475

SEC 20-T30N-R07W
RIO ARriba COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
1643.00	52.36	N 60.01 W	64.00	1352.33	329.72 N	618.86 W	701.12	701.21 N 61.95 W		.99
1705.00	51.96	N 60.21 W	62.00	1390.37	354.12 N	661.31 W	750.07	750.15 N 61.83 W		.69
1767.00	52.36	N 60.39 W	62.00	1428.40	378.38 N	703.84 W	799.03	799.10 N 61.74 W		.68
1829.00	51.38	N 60.08 W	62.00	1466.68	402.59 N	746.17 W	847.80	847.85 N 61.65 W		1.63
1892.00	51.61	N 60.65 W	63.00	1505.91	426.97 N	789.02 W	897.09	897.14 N 61.58 W		.80
1954.00	51.93	N 60.11 W	62.00	1544.27	451.04 N	831.36 W	945.79	945.83 N 61.52 W		.86
2017.00	51.76	N 59.94 W	63.00	1583.19	475.79 N	874.28 W	995.33	995.36 N 61.44 W		.34
2080.00	51.78	N 59.92 W	63.00	1622.18	500.59 N	917.10 W	1044.81	1044.83 N 61.37 W		.04
2143.00	52.33	N 59.11 W	63.00	1660.92	525.79 N	959.92 W	1094.47	1094.48 N 61.29 W		1.34
2206.00	52.04	N 58.50 W	63.00	1699.54	551.57 N	1002.49 W	1144.20	1144.21 N 61.18 W		.89
2269.00	52.88	N 56.52 W	63.00	1737.93	578.40 N	1044.62 W	1194.06	1194.06 N 61.03 W		2.83
2332.00	52.20	N 57.86 W	63.00	1776.25	605.50 N	1086.65 W	1243.96	1243.96 N 60.87 W		2.00
2394.00	51.36	N 56.91 W	62.00	1814.61	631.75 N	1127.68 W	1292.57	1292.58 N 60.74 W		1.81
2457.00	52.22	N 56.72 W	63.00	1853.57	658.84 N	1169.11 W	1341.94	1341.97 N 60.60 W		1.39
2520.00	52.96	N 58.18 W	63.00	1891.85	685.77 N	1211.29 W	1391.88	1391.94 N 60.48 W		2.18
2581.00	52.83	N 55.47 W	61.00	1928.65	712.38 N	1252.01 W	1440.40	1440.49 N 60.36 W		3.55
2627.00	52.89	N 55.45 W	46.00	1956.42	733.18 N	1282.21 W	1476.90	1477.03 N 60.24 W		.13
2675.00	53.00	N 53.90 W	48.00	1985.34	755.32 N	1313.46 W	1514.97	1515.16 N 60.10 W		2.59
2732.00	52.60	N 54.30 W	57.00	2019.81	781.95 N	1350.24 W	1560.04	1560.32 N 59.92 W		.90
2795.00	49.40	N 55.00 W	63.00	2059.45	810.27 N	1390.17 W	1608.70	1609.07 N 59.76 W		5.15
2858.00	45.80	N 57.80 W	63.00	2101.92	836.01 N	1428.91 W	1655.06	1655.50 N 59.67 W		6.59
2920.00	43.00	N 58.20 W	62.00	2146.21	858.99 N	1465.69 W	1698.37	1698.86 N 59.63 W		4.54
2982.00	41.00	N 57.80 W	62.00	2192.29	880.98 N	1500.87 W	1739.80	1740.33 N 59.59 W		3.25
3043.00	38.20	N 58.90 W	61.00	2239.28	901.38 N	1533.97 W	1778.64	1779.20 N 59.56 W		4.73
3101.00	35.50	N 60.60 W	58.00	2285.69	918.90 N	1564.01 W	1813.41	1813.98 N 59.56 W		4.98
3164.00	33.20	N 60.60 W	63.00	2337.70	936.35 N	1594.98 W	1848.95	1849.52 N 59.58 W		3.65
3227.00	31.10	N 62.00 W	63.00	2391.04	952.45 N	1624.38 W	1882.47	1883.02 N 59.62 W		3.54
3290.00	27.60	N 63.10 W	63.00	2445.94	966.68 N	1651.78 W	1913.34	1913.86 N 59.66 W		5.62
3353.00	23.60	N 64.80 W	63.00	2502.75	978.63 N	1676.23 W	1940.51	1941.00 N 59.72 W		6.45
3414.00	20.30	N 66.20 W	61.00	2559.32	988.08 N	1696.98 W	1963.24	1963.68 N 59.79 W		5.48
3474.00	17.20	N 68.70 W	60.00	2616.13	995.48 N	1714.79 W	1982.40	1982.79 N 59.86 W		5.34
3537.00	14.20	N 69.10 W	63.00	2676.77	1001.61 N	1730.69 W	1999.29	1999.63 N 59.94 W		4.76
3598.00	11.80	N 69.10 W	61.00	2736.20	1006.51 N	1743.51 W	2012.87	2013.18 N 60.00 W		3.93

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SEC 20-T30N-R07W
RIO ARriba COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)	VERTICAL SECTION (FT)	C L O S U R E DISTANCE (FT)	DIRECTION (DEG)	DOGLEG SEVERITY (DEG/100')
3660.00	9.20	N 69.80 W	62.00	2797.16	1010.47 N 1754.09 W	2024.05	2024.32	N 60.06 W	4.20
3722.00	7.20	N 69.80 W	62.00	2858.52	1013.53 N 1762.38 W	2032.78	2033.04	N 60.10 W	3.23
3785.00	5.60	N 69.80 W	63.00	2921.13	1015.95 N 1768.97 W	2039.72	2039.96	N 60.13 W	2.54
3833.00	4.50	N 71.20 W	48.00	2968.94	1017.36 N 1772.96 W	2043.89	2044.12	N 60.15 W	2.31
3884.00	3.33	N 72.69 W	51.00	3019.82	1018.44 N 1776.27 W	2047.31	2047.52	N 60.17 W	2.30
4029.00	0.00	N 0.00 E	145.00	3164.74	1019.70 N 1780.29 W	2051.43	2051.64	N 60.20 W	2.30
4179.00	0.00	N 0.00 E	150.00	3314.74	1019.70 N 1780.29 W	2051.43	2051.64	N 60.20 W	0.00

BOTTOM HOLE CLOSURE: 2051.64 Feet at N 60.20 Degrees W

County of: Lalata
State of: Colorado

Signature: Elizabeth Boyd

Elizabeth Boyd
Notary Public
Commission Expires 8-10-91

4-4-91
Date
484 Turner Drive
Durango, Colorado 81301