

**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

BLACKWOOD AND NICHOLS
COMPANY

NORTHEAST BLANCO UNIT 32-A
WELL NAME

H-7-30N-7w

SAN JUAN COUNTY, NEW MEXICO
LOCATION

JOB NUMBER

RM681-D1118

TYPE OF SURVEY

MAGNETIC SINGLE SHOT

DATE

JUNE 1981

SURVEY BY
BILL LAYHE



OFFICE
ROCKY MOUNTAIN

(COMPLETION REPORT)

BLACKWOOD AND NICHOLS
WELL NAME: NORTHEAST BLANCO UNIT 92-A
LOCATION: SAN JUAN COUNTY, NEW MEXICO
FILE NO.: A1-220
DATE: 9 JUNE 1981
JOB NO.: RM681-D1118
TYPE: MAGNETIC SINGLE SHOT
SURVEYOR: BILL LAYHE
COMPUTER OPERATOR: STEVE THURSTON

VERTICAL SECTION CALCULATED IN PLANE OF PROPOSAL
DIRECTION: S 0 DEG. 0 MIN. E

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

ACKWOOD AN NICHOLS

(COMPLETION RE. RT)

COMPUTATION

P. E NO. 1

LL NAME: NORTHEAST BLANCO UNIT 32-A
 CATION: SAN JUAN COUNTY, NEW MEXICO

TIME
 16:48:51 26-JUN-81

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOGLEG SEVERITY DG/100FT
900.00	0 0	0 0	0.0	900.00	0.00	0.00	0.00
SUMED VERTICAL TO 900 FEET							
945.00	1 30	S 54 O W	45.0	944.99	0.35	0.35 S	3.33
976.00	1 30	S 25 O W	31.0	975.98	0.97	0.97 S	2.42
1007.00	2 30	S 32 O W	31.0	1006.96	1.92	1.92 S	3.31
1039.00	4 0	S 29 O W	32.0	1038.91	3.48	3.48 S	4.72
1071.00	5 0	S 26 O W	32.0	1070.81	5.71	5.71 S	3.21
1102.00	6 0	S 22 O W	31.0	1101.67	8.42	8.42 S	3.45
1133.00	7 15	S 18 O W	31.0	1132.46	11.78	11.78 S	4.30
1166.00	8 0	S 11 O W	33.0	1165.17	16.02	16.02 S	3.61
1229.00	9 15	S 4 O W	63.0	1227.46	25.38	25.38 S	2.59
1292.00	10 15	S 6 O W	63.0	1289.55	36.00	36.00 S	1.63
1355.00	11 30	S 2 O W	63.0	1351.41	47.86	47.86 S	2.32
1447.00	13 30	S 5 O W	92.0	1441.23	67.73	67.73 S	2.28
1541.00	14 0	S 0 O E	94.0	1532.53	90.05	90.05 S	1.37
1632.00	15 30	S 1 O E	91.0	1620.53	113.21	113.21 S	1.67
1724.00	17 0	S 0 O E	92.0	1708.86	138.95	138.95 S	1.66
1817.00	18 30	S 3 O E	93.0	1797.43	167.29	167.29 S	1.89
1911.00	19 0	S 3 O E	94.0	1886.44	197.47	197.47 S	0.53
2005.00	20 0	S 3 O E	94.0	1975.04	228.80	228.80 S	1.06
2098.00	21 15	S 5 O E	93.0	2062.08	261.48	261.48 S	1.54
2190.00	22 15	S 5 O E	92.0	2147.53	295.44	295.44 S	1.09
2286.00	23 0	S 7 O E	96.0	2236.14	332.17	332.17 S	1.12
2378.00	24 0	S 8 O E	92.0	2320.51	368.54	368.54 S	1.17
2471.00	25 0	S 8 O E	93.0	2405.14	406.73	406.73 S	1.08
2564.00	25 30	S 8 O E	93.0	2489.25	446.01	446.01 S	0.54
2657.00	26 0	S 8 O E	93.0	2573.01	486.02	486.02 S	0.54
2750.00	26 30	S 8 O E	93.0	2656.42	526.76	526.76 S	0.54
2845.00	26 30	S 7 O E	95.0	2741.44	568.78	568.78 S	0.47

ACKWOOD AN NICHOLS

 LL NAME: NORTHEAST BLANCO UNIT 32-A
 LOCATION: SAN JUAN COUNTY, NEW MEXICO

(COMPLETION RE RT)

COMPUTATION

F E NO. 2

TIME DATE

16:48:51 26-JUN-81

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH FEET	TRUE		VERTICAL SECTION FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOUBLE SEVERITY DG/100FT
				VERTICAL DEPTH FEET	VERTICAL SECTION FEET			
2938.00	26 0	S 4 0 E	93.0	2824.85	609.72	609.72 S	37.72 E	1.52
3030.00	25 30	S 0 0 E	92.0	2907.71	649.66	649.66 S	39.11 E	1.97
3123.00	25 0	S 3 0 W	93.0	2991.83	689.31	689.31 S	38.07 E	1.48
3216.00	25 15	S 6 0 W	93.0	3076.03	728.67	728.67 S	34.93 E	1.40
3307.00	25 30	S 5 0 W	91.0	3158.25	767.49	767.49 S	31.24 E	0.55
3333.00	25 30	S 4 0 W	26.0	3181.72	778.65	778.65 S	30.36 E	1.66
3370.00	24 15	S 0 0 E	37.0	3215.28	794.20	794.20 S	29.82 E	5.66
3463.00	25 15	S 3 0 E	93.0	3299.74	833.12	833.12 S	30.84 E	1.73
3525.00	26 30	S 4 0 E	62.0	3355.52	860.12	860.12 S	32.49 E	2.14
3616.00	25 0	S 5 0 E	91.0	3437.48	899.53	899.53 S	35.59 E	1.72
3707.00	23 0	S 4 0 E	91.0	3520.61	936.43	936.43 S	38.49 E	2.24
3754.00	22 30	S 3 0 E	47.0	3563.96	954.57	954.57 S	39.60 E	1.34
3825.00	22 0	S 3 0 E	71.0	3629.67	981.42	981.42 S	41.01 E	0.70
3887.00	22 0	S 3 0 E	62.0	3687.15	1004.61	1004.61 S	42.23 E	0.00
3980.00	20 0	S 6 0 E	93.0	3773.97	1037.83	1037.83 S	44.84 E	2.44
4009.00	19 45	S 7 0 E	29.0	3801.25	1047.63	1047.63 S	45.96 E	1.46
4041.00	19 30	S 6 0 E	32.0	3831.39	1058.31	1058.31 S	47.17 E	1.31
4073.00	20 0	S 8 0 E	32.0	3861.50	1069.04	1069.04 S	48.49 E	2.63
4137.00	21 0	S 0 0 E	64.0	3921.45	1091.38	1091.38 S	50.05 E	4.64
4200.00	21 0	S 0 0 E	63.0	3980.27	1113.96	1113.96 S	50.05 E	0.00
4294.00	19 0	S 2 0 E	94.0	4068.59	1146.10	1146.10 S	50.61 E	2.25
4388.00	18 0	S 3 0 E	94.0	4157.73	1175.90	1175.90 S	51.92 E	1.12
4481.00	16 30	S 6 0 E	93.0	4246.55	1203.38	1203.38 S	54.08 E	1.87
4574.00	16 15	S 8 0 E	93.0	4335.78	1229.41	1229.41 S	57.27 E	0.66
4668.00	15 0	S 12 0 E	94.0	4426.30	1254.34	1254.34 S	61.67 E	1.75
4762.00	15 0	S 12 0 E	94.0	4517.10	1278.13	1278.13 S	66.73 E	0.00
4857.00	14 0	S 15 0 E	95.0	4609.07	1301.26	1301.26 S	72.28 E	1.32
4917.00	14 30	S 5 0 E	60.0	4667.22	1315.78	1315.78 S	74.84 E	4.18
4947.00	16 30	S 3 0 E	30.0	4696.13	1323.78	1323.78 S	75.40 E	6.90
4978.00	18 30	S 7 0 E	31.0	4725.70	1333.07	1333.07 S	76.21 E	7.52

ACKWOOD AN NICHOLS

(COMPLETION RE RT)

COMPUTATION

F E NO. 3

ILL NAME: NORTHEAST BLANCO UNIT 32-A
 LOCATION: SAN JUAN COUNTY, NEW MEXICO

TIME DATE

16:48:51 26-JUN-81

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH FEET	TRUE		VERTICAL SECTION FEET	R E C T A N G U L A R C O O R D I N A T E S		DOBLEG SEVERITY DG/100FT
				VERTICAL DEPTH FEET	VERTICAL SECTION FEET				
5010.00	19 0	S 15 0 E	32.0	4756.00	1343.15	1343.15 S	73.17 E		8.13
5069.00	14 0	S 20 0 E	59.0	4812.55	1359.13	1359.13 S	83.21 E		8.80
5133.00	13 0	S 18 0 E	64.0	4874.78	1373.25	1373.25 S	83.07 E		1.72
5197.00	14 0	S 17 0 E	64.0	4937.01	1387.50	1387.50 S	92.57 E		1.60
5291.00	15 0	S 23 0 E	94.0	5028.02	1409.61	1409.61 S	100.61 E		1.92
5385.00	17 0	S 28 0 E	94.0	5118.37	1432.98	1432.98 S	111.76 E		2.58
5416.00	17 0	S 31 0 E	31.0	5148.02	1440.37	1440.37 S	116.22 E		2.83
5506.00	17 30	S 32 0 E	90.0	5233.97	1463.63	1463.63 S	130.17 E		0.65
5694.00	12 0	S 32 0 E	188.0	5415.70	1504.20	1504.20 S	155.52 E		2.93
5882.00	6 30	S 35 0 E	188.0	5601.19	1529.39	1529.39 S	172.19 E		2.94
5906.00	6 30	S 35 0 E	24.0	5625.03	1531.61	1531.61 S	173.75 E		0.00

THE NEXT STATION IS A PROJECTION.

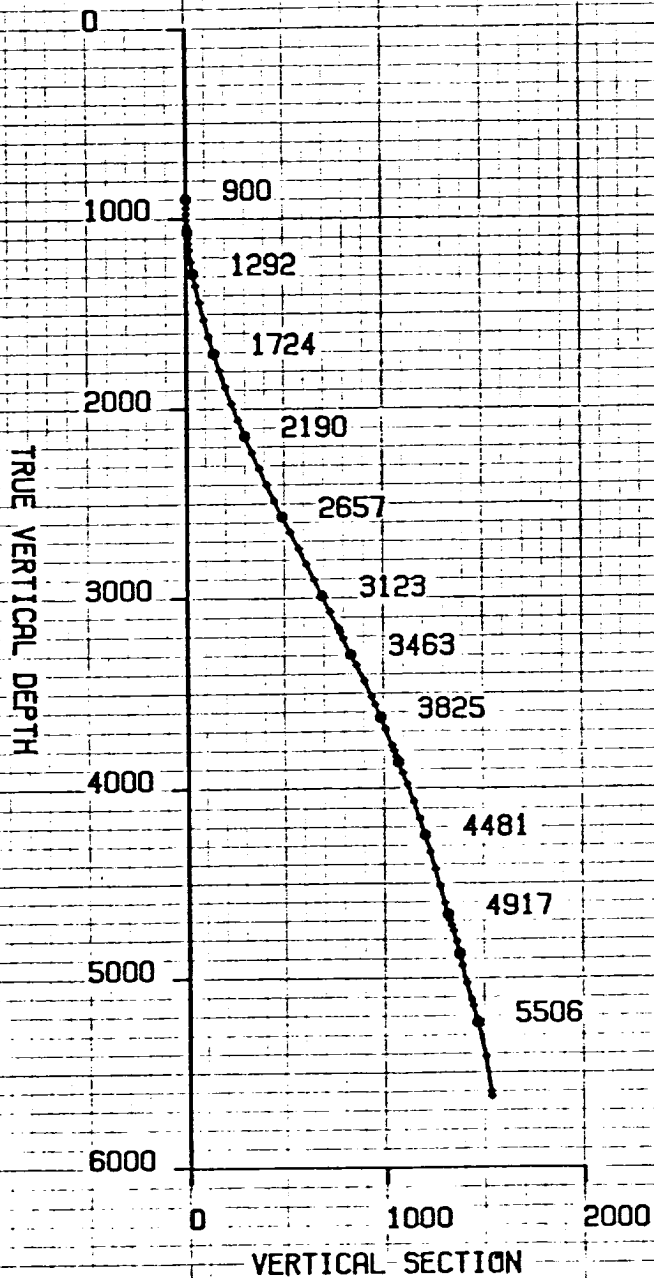
FINAL CLOSURE - DIRECTION: S 6 DEGS 28 MINS 20 SECS E
 DISTANCE: 1541.44 FEET

BLACKWOOD AND NICHOLS
WELL NAME: NORTHEAST BLANCO UNIT 32-A
LOCATION: SAN JUAN COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

VERTICAL PROJECTION

SCALE 1 IN. = 1000 FEET



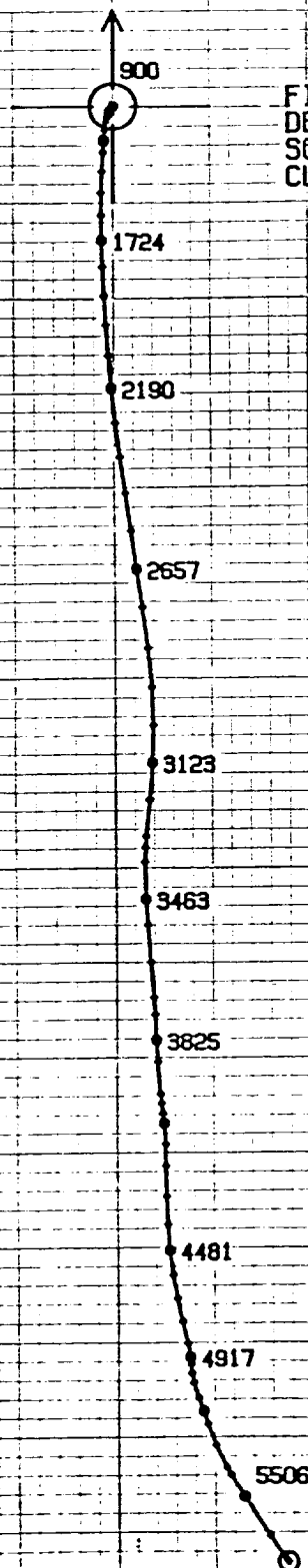
CLOSURE 1541.43 S 6 28 20 E

BLACKWOOD AND NICHOLS
WELL NAME: NORTHEAST BLANCO UNIT 32-A
LOCATION: SAN JUAN COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 200 FEET
DEPTH INDICATOR: MD



FINAL STATION:
DEPTH 5906 MD. 5625.03 TVD
SOUTH 1531.61 EAST 173.75
CLOSURE 1541.43 S 6 28 20 E