

### HISTORY OF COUNTY LINE

THE ELKO COUNTY - EUREKA COUNTY LINE IS DEFINED BY THE CHAPTER 243 OF THE NEVADA REVISED STATUTES. ELKO COUNTY WAS CREATED IN 1869 FROM THE WESTERLY PORTION OF LANDER COUNTY (NRS 243.055). THE BOUNDARIES OF ELKO COUNTY WERE DEFINED IN 1871 IN N.R.S. 243.060. IN THIS STATUTE THE BOUNDARY LINE BETWEEN ELKO AND LANDER COUNTIES WAS DESCRIBED AS "THE 41ST PARALLEL OF NORTH LATITUDE; THENCE WEST WITH THE PARALLEL TO THE EAST BOUNDARY OF HUMBOLDT COUNTY"; EUREKA COUNTY WAS CREATED IN 1873 BY N.R.S. 243.110 FROM ANOTHER PORTION OF LANDER COUNTY. THE NORTH BOUNDARY OF EUREKA COUNTY REMAINED IDENTICAL WITH THE NORTH LINE OF LANDER COUNTY AS DESCRIBED IN THE CREATION OF ELKO COUNTY (N.R.S. 243.055). UNDER N.R.S. 243.390, ALL NEVADA COUNTIES WERE DIRECTED TO SURVEY THEIR BOUNDARIES AND FILE A REPORT (DESCRIBED IN N.R.S. 243.400) WITH EACH COUNTY CLERK, OF THE ADJOINING LINE, WITH A COPY OF THE REPORT TO BE TRANSMITTED TO THE DIVISION OF STATE LANDS AND THE STATE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES. IN COURT CASES N.R.S. 243.390 WAS HELD TO BE "DIRECTORY" AND N.R.S. 243.415 WAS ADDED TO RELEASE THE COUNTIES FROM SURVEYING ANY OF THEIR LINES "EXCEPT WHERE SUCH COUNTY LINE OR LINES ARE NOW OR MAY HEREAFTER BE IN DISPUTE BY REASON OF THE SETTLEMENT OF PERSONS AND THE OWNERSHIP OF PROPERTY ALONG SUCH COUNTY LINE OR LINES". IN RESEARCH WITH ELKO AND EUREKA COUNTY CLERKS AND RECORDERS OFFICE REVEALED NO EVIDENCE THAT THE 41ST PARALLEL HAD EVER BEEN SURVEYED TO SEPARATE ELKO AND EUREKA COUNTIES. AN EXAMINATION OF STATE AGENCIES RECORDS CONFIRMED THAT THIS LINE HAS NO RECORD OF EVER HAVING BEEN SURVEYED.

# SURVEY CRITERIA OF COUNTY LINE

DURING THE RESEARCH OF THE RECORDS, OR LACK OF THEM, FOR SURVEYING THE ELKO-EUREKA COUNTY LINE, IT BECAME APPARENT THAT THERE WAS ALSO A LACK OF ESTABLISHED PROCEDURE ON HOW THE LINE SHOULD BE SURVEYED. WITH THE LACK OF ANY FORMAL GUIDE LINES, THIS SURVEY WAS CONDUCTED USING THE FOLLOWING ASSUMPTIONS AND

- 1. THE 41ST PARALLEL OF NORTH LATITUDE WILL BE ESTABLISHED USING THE ACCEPTED GEOID REFERENCE IN EXISTENCE IN 1871 WHEN THE BOUNDARIES WERE DEFINED (N.R.S. 243.060). THIS REFERENCE SPHERE IS THE "CLARKE SPHEROID OF 1866".
- 2. THE COUNTY LINE WILL BE ESTABLISHED FROM FIRST ORDER GEODETIC STATIONS WITH KNOWN POSITIONS OF AN ACCURACY OF ONE PART IN FIFTY-THOUSAND.
- 3. THE DATUM USED FOR THE SURVEY WILL BE THE "1927 NORTH AMERICAN DATUM". THIS DATUM USES THE REQUIRED CLARKE
- 4. THE SURVEY MEASUREMENTS AND COMPUTATIONS WILL BE CONDUCTED IN COMPLIANCE WITH ESTABLISHED NATIONAL GEODETIC SURVEY PRACTICES FOR FIRST ORDER ACCURACY.
- 5. PERMANENT MONUMENTS WILL BE ESTABLISHED ON THE GROUND TO PERPETUATE THE SURVEY.

# SURVEY EQUIPMENT, METHODS, AND ACCURACY

THIS SURVEY WAS CONDUCTED USING U.S.C. & G.S. FIRST ORDER STATIONS BEAVER - 1940 AND LYNN - 1940. THE PUBLISHED INFORMATION SHOWN IN THE GEODETIC CONTROL DIAGRAM IS DATED JULY 1966. THE SURVEY WAS EXTENDED TO POINTS COYOTE AND HILL BY A COMBINATION OF TRIANGULATION AND TRILATERATION. THE EQUIPMENT USED IN THE SURVEYING MEASUREMENTS WERE THE HEWLETT PACKARD ELECTRONIC TOTAL STATION MODEL HB 3820A, DESCRIBED ON SHEET ONE OF THIS SURVEY. THIS INSTRUMENT WAS USED TO MEASURE ANGLES AND DISTANCES FROM STATION BEAVER - 1940 TO STATION COYOTE. A WILD ELECTRONIC TOTAL STATION MODEL TO 2000 WITH ANGLE MEASURING CAPABILITY OF 1/10 OF A SECOND OF ARC WAS USED TO MEASURE ANGLES AT STATION HILL. SIXTEEN SETS OF DIRECT AND REVERSE POSITION ANGLES WERE USED TO DETERMINE THE ANGLE MEASUREMENTS AT THAT STATION. ALL REMAINING DISTANCE MEASUREMENTS WERE MADE WITH TWO TELLUROMETER MODEL MRA 101 INSTRUMENTS WITH SERIAL NUMBERS OF 616 AND 617. THESE INSTRUMENTS UTILIZE MULTIPLE FREQUENCY MICROWAVES TO MEASURE FORWARD AND REVERSE BETWEEN EACH STATION. THE SURVEY MEASUREMENTS WERE MADE ON DECEMBER 27, 1990 UNDER VERY CLEAR BUT WNDY CONDITIONS. THE WND VELOCITY PREVENTED ACCURATE HORIZONTAL ANGLES FROM BEING MADE AT STATIONS BEAVER - 1940, LYNN - 1940 AND COYOTE. HOWEVER, THIS WIND PROVIDED FOR A GOOD MIXING OF THE ATMOSPHERE THAT IS IDEAL FOR MICROWAVE DISTANCE MEASUREMENTS. TRANSPORTATION TO THE ABOVE STATIONS WAS BY HELICOPTER. THE FIELD NOTE REDUCTIONS WERE MADE AND ALL DISTANCES WERE REDUCED TO GRID DISTANCES AT SEA LEVEL. THESE GRID DISTANCE AND ANGLES WERE ADJUSTED BY LEAST SQUARES METHODS THAT PROVIDED EXCELLENT CONSISTENCY BETWEEN THE FIELD MEASUREMENTS AND THE RECORD POSITION OF STATIONS BEAVER - 1940 AND LYNN - 1940. NEW STATIONS COYOTE AND HILL MEET FIRST ORDER (ONE PART IN FIFTY-THOUSAND) ACCURACY STANDARDS. FROM STATION HILL THE SURVEY WAS EXTENDED TO THE FOUR INTERVISABLE COUNTY LINE STATIONS COMPUTED TO BE ON THE FORTY FIRST NORTH LATITUDE. THIS SURVEY WAS CONDUCTED, AND PERMANENT MONUMENTS SET, USING CLOSED TRAVERSES FROM STATION HILL. ALL COMPUTATIONS WERE MADE ON THE NEVADA STATE PLANE COORDINATE SYSTEM -EAST ZONE- THE 1927 NORTH

AMERICAN DATUM. THIS ELKO-EUREKA COUNTY LINE LIES ON AN ARC OF

LATITUDE RATHER THAN A STRAIGHT LINE.

#### POINTS ESTABLISHED ON THE ELKO-EUREKA COUNTY LINE

(49) POINT OF ELKO-EUREKA (50) POINT OF ELKO-EUREKA COUNTY LINE COUNTY LINE SET 2" DIA. I.P. WITH A SET 2" DIA. I.P. WITH A 3 1/4" DIA. A.C. 3 1/4" DIA. A.C. LAT. 41'00'00.0000 LAT. 41°00'00.0000" LONG. 116°24'57.848" LONG. 116'24'22.403" NEVADA EAST ZONE NEVADA EAST ZONE Y=2,276,781.920 Y=2,276,756.157 X = 270,152.731X = 272,870.368EL.=5540± EL.=5279±  $\Delta \alpha = -0.32'46.80''$  $\Delta \alpha = -0.32'23.55''$ GRID TO GROUND FACTOR GRID TO GROUND FACTOR 1.000305011 1.000293975 52) POINT OF ELKO-EUREKA COUNTY LINE (51) POINT OF ELKO-EUREKA COUNTY LINE SET 2" DIA. I.P. WITH A SET 2" DIA. I.P. WITH A 3 1/4" DIA. A.C. 3 1/4" DIA. A.C. LAT. 41°00'00.0000" LAT. 41"00"00.0000" LONG. 116'23'59.646" LONG. 116'23'37.481" **NEVADA EAST ZONE** NEVADA EAST ZONE Y=2,276,739.782Y=2,276,723.946 X=274,615.158X = 276,314.596EL.=5513± EL.=5682±  $\Delta \alpha = -0.32'08.62''$  $\Delta \alpha = -0.31'54.08''$ GRID TO GROUND FACTOR GRID TO GROUND FACTOR 1.000306039 1.000315008

## FILED AT THE REQUEST OF Neumant Gold Campany on May 23 19 91 , at 55 mins, past 10. M. RECORDS of EUREKA COUNTY, NEVADA M. N. REBALEATI, Recorder File No. 135734 Fee \$ 500

#### **LEGEND**

- FOUND SECTION CORNER MONUMENT AS NOTED SET SEC. COR., 1/4 OR 1/16 SEC. COR. MONUMENT AS NOTED
- SET ELKO-EURÉKA COUNTY LINE MONUMENT AS NOTED SET FIRST ORDER GEODETIC CONTROL POINT AS NOTED
- FOUND FIRST ORDER U.S.C. & G.S. GEODETIC STATION AS NOTED FOUND OR SET ALUMINUM CAP MONUMENT IRON PIPE

GROUND BOOTSTRAP COORDINATE GRID N.S.P. NEVADA STATE PLAIN COORDINATE SYSTEM 1927 N.A. DATUM

---- NEWMONT GOLD COMPANY BOUNDARY LINE

# RECORD OF SURVEY

SECTIONS 11, 12, AND 14 T.36N., R.49E., M.D.M. ELKO AND EUREKA COUNTIES, NEVADA

NEWMONT GOLD COMPANY

CHILTON Engineering and Surveying, LTD 421 Court Street Elko, Nevada 89801 (702) 738-2121



