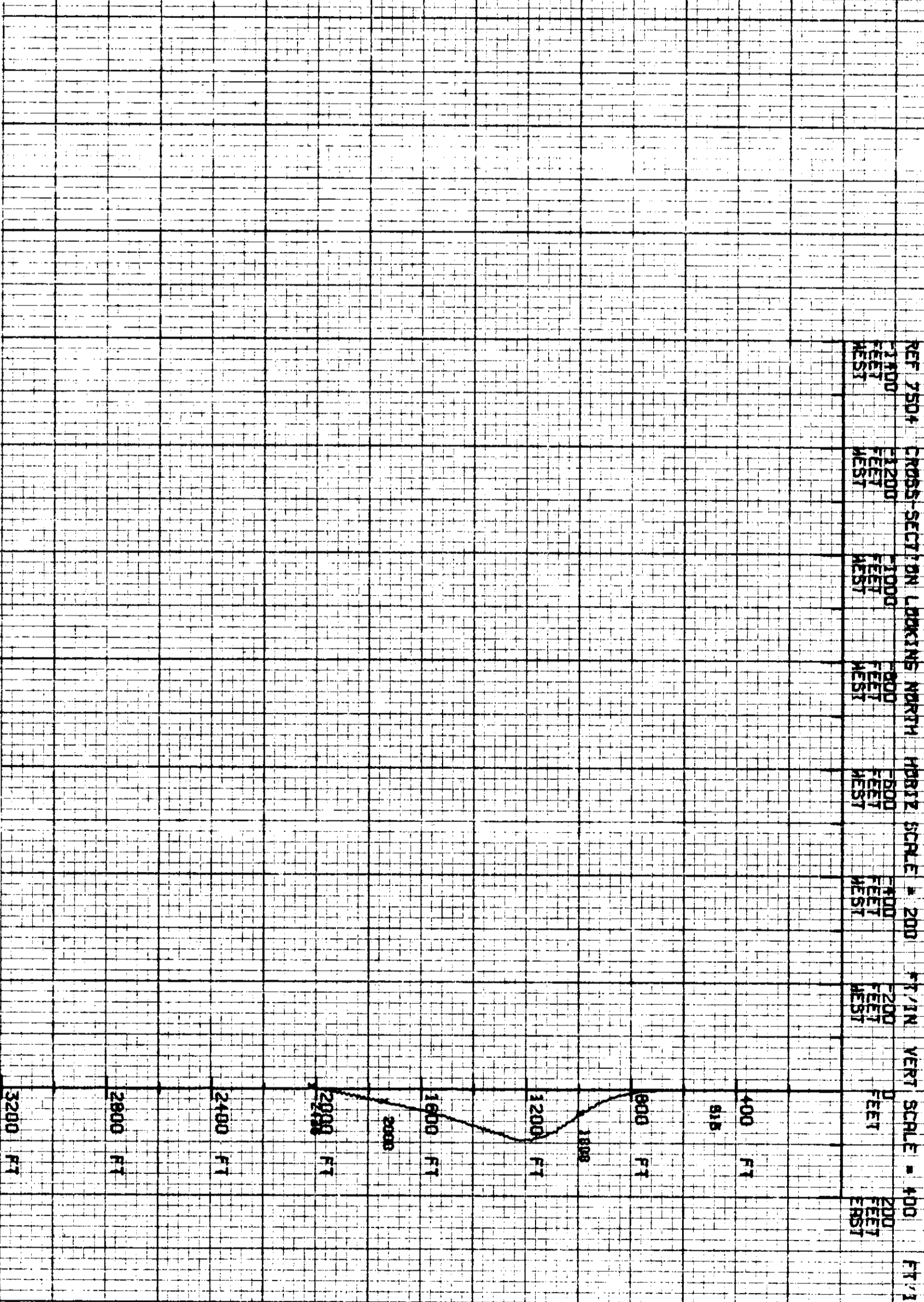
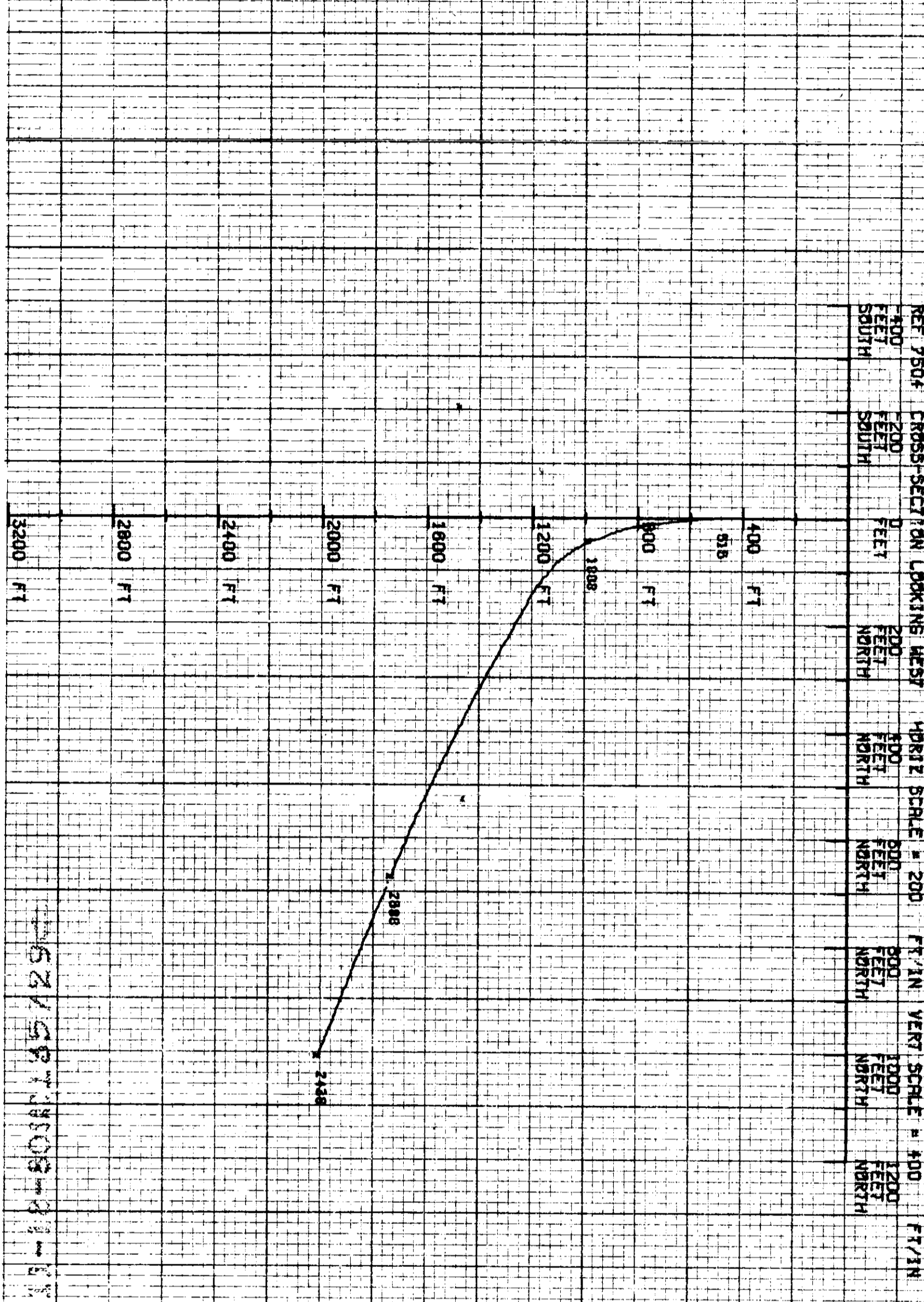
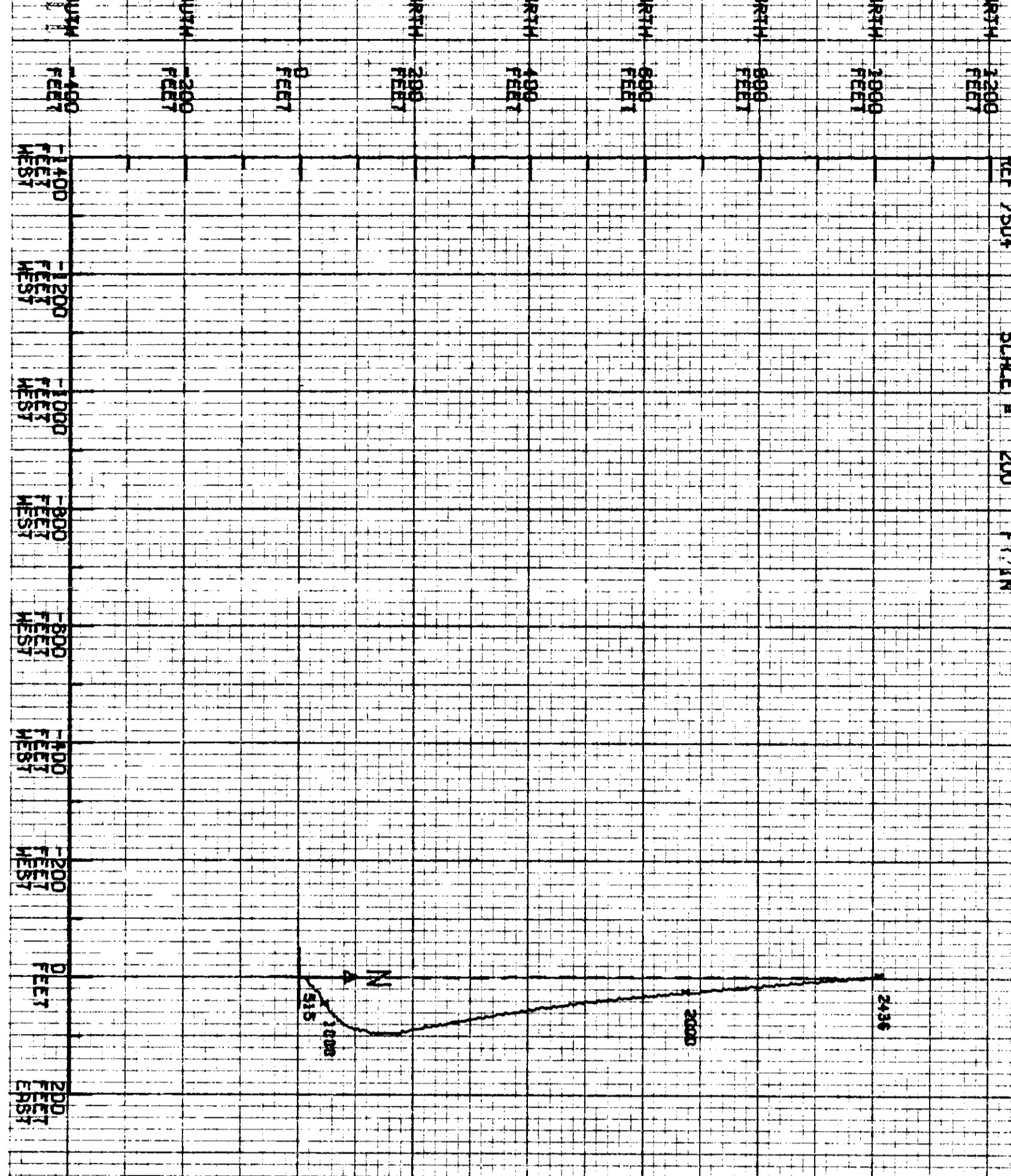


DIRECTIONAL LOG

COMPANY AMERICAN QUASAR PETROLEUM COMPANY  
 WELL RAU 18-14 RD  
 FIELD MIST  
 COUNTY COLUMBIA STATE OREGON  
 LOCATION 900' FTL, 1099, 41' FTL FROM SW CORNER  
 DATE 9-15-80  
 PERMANENT DATUM: KB 10.5 Ft. Above Perm. Datum  
 LOG MEASURED FROM: KB  
 DRILLING MEASURED FROM: KB  
 ELEVATION: KB 593.5, DF 583, GL 583

REMARKS: The well name, location and borehole reference data were furnished by the customer.



EXACT RADIUS OF CURVATURE METHOD

BOTTOM HOLE LOCATION

COURSE LENGTH 1009.3 FEET

COURSE AZIMUTH 359.8 DEG.

MEASURED DEPTH 2438.0 FEET

TRUE VERTICAL DEPTH 2016.7 FEET

DISTANCE NORTH 1009.3 FEET

DISTANCE WEST 2.9 FEET

NET 2504

COMPANY AMERICAN QUASAR PETROLEUM COMPANY  
 WELL RAU 18-14 RD  
 FIELD MIST  
 COUNTY COLUMBIA STATE OREGON  
 SCHL FR 2439  
 SCHL TD 2440  
 DRLR TD 2440  
 Elev: KB 593.5  
 DF 583  
 GL 583