

# Earl Dudley Associates, Inc.

P.O. Box 320185 • Birmingham, Alabama 35232 205/595-3796  
5352 First Avenue North • Birmingham, Alabama 35212

CERTIFICATION (Level Rods)

DATE 16 May 1997

To John E. Chance & Associates

Purchase Order Number \_\_\_\_\_

Part Name Kern 3m <sup>HC</sup> 5mm Invar level rod

Part Number \_\_\_\_\_

Serial Number(s) A. 34476

B. 34477

EDA Job# S3954

We hereby certify that the above referenced equipment has been inspected and calibrated by instruments whose basic accuracy is traceable to the National Institute of Standards and Technology (NIST). The serial numbers of Earl Dudley Associates, Inc. scales NIST # 15276 with National Institute of Standards and Technology, formerly National Bureau of Standards (NBS), Test # 738/234253/85.

The above Level Rods were checked from the steel base to the (1) meter mark, (2) meter mark, and (3) meter mark only. All marks were found to be not more than  $\pm .002$  inch of their true position.

This level rod was calibrated while supported on a horizontal flat surface. The distance between the terminal points of the indicated intervals have the following lengths at 20 degrees Celsius (68 degrees Fahrenheit)

INTERVAL(meters)	LENGTH(meters)
A. Serial Number <u>34476</u>	
1m <u>200 hcm</u>	<u>00000</u> <u>1.00000</u>
2m <u>400 hcm</u>	<u>00000</u> <u>2.00000</u>
3m <u>600 hcm</u>	<u>+ .00002</u> <u>3.00002</u>

INTERVAL(meters)	LENGTH(meters)
B. Serial Number <u>34477</u>	
1m <u>200 hcm</u>	<u>.00000</u> <u>1.00000</u>
2m <u>400 hcm</u>	<u>+ .00003</u> <u>2.00003</u>
3m <u>600 hcm</u>	<u>+ .00005</u> <u>3.00005</u>

The indicated intervals are taken at the geometric center of the graduated line on the scale of the rod. The assumed thermal expansion of scale is (1 micron per 1 m. per 1 degree C). (.00000055 inch per inch per 1 degree F.) The exact relationship between the International System of units and the U.S. Customary units of length is one inch equals 0.0254 meter. Furthermore, all tests performed fully comply with the drawings and other equipment and/or specifications stipulated in the Purchase Order.

**Please note:** Normal field check procedures should be performed to assure that the instrument is holding the adjustments performed and that the instrument has not been damaged after calibration.

EARL DUDLEY ASSOCIATES, INC.

Earl Dudley  
Chairman

Birmingham

Atlanta

Jackson

Nashville

Charlotte

OK-Near value of .0055 determined initially by Tum for 6/22/92 calibration