

# MATERIAL TEST CERTIFICATE

QUALITY CERTIFICATE

DATE: September 28, 1998

**AMERICAN ENERGY SERVICES**  
**P. O. BOX 34356**  
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**CUSTOMER**

**FERRETERA ANAHUAC S.A. DE C.V.**  
**AV. VALLE DE LAS ALAMEDAS NO. 66-B**  
**COL. SAN FRANCISCO CHILPAN**  
**TULTITLAN, EMEX, C.P. 54940**

AES CONTROL NO.: 3352

CUSTOMER P.O.: 98/005

ITEM NO.: 39

QUANTITY: 5

**SIZE & DESCRIPTION**

3" 300# GLOBE VALVE

AES FIG. NO: 03GL03RHA11

**IDENTIFICATION NOS.**

38988.38989.38990.38991.38992

COMPLIES WITH NACE MR-0175

| HEAT NO. | MATERIAL: ASTM A216 GR WCB |      |       |       |      |       |       |       |       |       |
|----------|----------------------------|------|-------|-------|------|-------|-------|-------|-------|-------|
|          | CHEMICALS                  |      |       |       |      |       |       |       |       |       |
|          | C.                         | Mn.  | P.    | S.    | Si.  | Cu.   | Ni.   | Cr.   | Mo.   | V.    |
| C60187   | 0.25                       | 0.75 | 0.023 | 0.022 | 0.48 | 0.036 | 0.018 | 0.062 | 0.011 | 0.004 |
| C60697   | 0.19                       | 0.73 | 0.023 | 0.030 | 0.47 | 0.030 | 0.026 | 0.030 | 0.010 | 0.006 |
| C61670   | 0.22                       | 0.83 | 0.022 | 0.025 | 0.49 | 0.060 | 0.066 | 0.040 | 0.011 | 0.004 |
| C60652   | 0.21                       | 0.73 | 0.026 | 0.016 | 0.40 | 0.030 | 0.062 | 0.082 | 0.032 | 0.005 |
| C51832   | 0.21                       | 0.74 | 0.030 | 0.025 | 0.41 | 0.031 | 0.026 | 0.043 | 0.016 | 0.003 |
| C61982   | 0.23                       | 0.97 | 0.027 | 0.026 | 0.52 | 0.040 | 0.046 | 0.037 | 0.010 | 0.002 |
| C60174   | 0.21                       | 0.72 | 0.021 | 0.027 | 0.49 | 0.041 | 0.020 | 0.046 | 0.013 | 0.005 |
| C60170   | 0.24                       | 0.71 | 0.027 | 0.023 | 0.38 | 0.055 | 0.092 | 0.042 | 0.055 | 0.003 |

| PHYSICALS |       |      |      |     |     |
|-----------|-------|------|------|-----|-----|
| TENSILE   | YIELD |      | %EL  | %RA | BHN |
| KSI       | KSI   |      |      |     |     |
| 71        | 46    | 24.0 | 48.0 | 148 |     |
| 76        | 45    | 24.0 | 38.0 | 158 |     |
| 76        | 43    | 24.0 | 38.0 | 160 |     |
| 77        | 46    | 29.0 | 55.0 | 158 |     |
| 72        | 46    | 24.9 | 40.5 | 153 |     |
| 78        | 43    | 29.2 | 50.5 | 159 |     |
| 70        | 41    | 29.5 | 48.3 | 146 |     |
| 81        | 37    | 27.0 | 50.0 | 160 |     |

**HEAT TREATMENT** 1650°F NORMALIZE

**PRESSURE TEST** API 598 1990

| psi   |        |     |        |     |           |     |
|-------|--------|-----|--------|-----|-----------|-----|
| SHELL | SEAT A |     | SEAT B |     | BACK SEAT |     |
| HYDRO | HYDRO  | AIR | HYDRO  | AIR | HYDRO     | AIR |
| 1125  | 825    |     |        |     | 825       |     |

| SECONDS |    |  |  |  |    |
|---------|----|--|--|--|----|
| 60      | 60 |  |  |  | 60 |

DIMENSIONS CONFORM TO ASME/ANSI B16.34

Our letters are for the exclusive use of the client to whom they are addressed. The use of our name must receive our written approval. Our letters and reports apply only to the sample tested an/or inspected, and are not necessarily indicative of the qualities of apparently identical or similar products. We certify the materials meet the referenced specifications as reported on the material manufacturer's test certificates which are maintained in our files. The information contained in this report is true and correct to the best of my knowledge. This report is issued by the Quality Assurance Department which is independent of the Manufacturing or Processing Department. It conforms to Din Standard 50049-3.1B and to ISO standard 10474-3.1B.

*Paula Kelly*  
 QUALITY ASSURANCE