



# EMPIRE TUBULARS, Inc.

1101 Chambliss  
Memphis, TN 38116  
901-396-8003

INVOICE

№ 10804

S T Bob Anthon Co.  
O R.R.4, 3200 Rankin Hwy  
L Midland, TX 79701  
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H  
I  
P

T Attn: Bob Anthon  
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T  
O

| P.O. # | REL # | SHIP VIA | TERMS | DUE DATE | F.O.B.    | INVOICE DATE |
|--------|-------|----------|-------|----------|-----------|--------------|
| verbal |       | CPU      | below |          | Trk-Clark | 5-14-90      |

| PROD # | QTY | SIZE & DESCRIPTION                                                                                                                                                                                             | PCS | FEET | LBS | TONS | PRICE | UNIT | TOTAL |
|--------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|-------|------|-------|
|        |     | ELECTRIC WELD CASING<br>8-5/8" OD 24# STC<br>J-55, R3, USX<br>Plastic Pin End Protectors<br>MTR's Attached<br>Final Tally to Govern<br>TERMS: Net Cash - Wire<br>Transfer or Check<br>by Overnight<br>Courier. |     | 2000 |     |      |       |      |       |



USS  
A Division of USX Corporation

TUBULAR PRODUCTS

METALLURGICAL TEST REPORT



|                                                                   |             |                    |             |  |
|-------------------------------------------------------------------|-------------|--------------------|-------------|--|
| REQ. JOB. CONTRACT NO.                                            | P.O. DATE   | PURCHASE ORDER NO. | DATE        |  |
|                                                                   |             |                    | 01/15/90    |  |
| VENDOR                                                            | SHIPPER NO. | MILL ORDER NO.     | INVOICE NO. |  |
| FAIRFIELD WORKS                                                   |             |                    |             |  |
| VEHICLE IDENTITY                                                  |             |                    |             |  |
| EMPIRE TUBULARS                                                   |             |                    |             |  |
| 1101 CHAMPLAIN                                                    |             |                    |             |  |
| MEMPHIS, TN 38116                                                 |             |                    |             |  |
| MATERIAL TO                                                       |             |                    |             |  |
| PIPE CASTING 601 50T GRADE J-55 UN EXCEPT END FINISH PE           |             |                    |             |  |
| REV 65 REG SPEC PER HAME 301 EDITION STD 3/15/88 SPEC DATE MAR 88 |             |                    |             |  |

| ITEM NO. | MATERIAL DESCRIPTION |       |                       | MATERIAL | HEAT/LOT NO. | MIN. HYDRO PSI | YIELD STR. PSI          | TENSILE STR. PSI         | ELONG. % IN 2"          | GAGE WIDTH IN | FLAT | WAT. BEI |
|----------|----------------------|-------|-----------------------|----------|--------------|----------------|-------------------------|--------------------------|-------------------------|---------------|------|----------|
|          | SIZE                 | WALL  | SPECIFICATION & GRADE |          |              |                |                         |                          |                         |               |      |          |
| 1        | 8 5/8                | 0.260 | API 50T GRADE J-55    | ERB      | 01111        | 2700           | 65700                   | 85010<br>XMXKXX          | 33.00                   | 1 1/2         | OK   | 0.       |
| 1        | 8 5/8                | 0.260 | API 50T GRADE J-55    | ERB      | 01115        | 2700           | 67940<br>63130          | 88040<br>XMXKXX          | 29.5<br>31.50           | 1 1/2         | OK   | 0.       |
| 1        | 8 5/8                | 0.260 | API 50T GRADE J-55    | ERB      | 01116        | 2700           | 68160<br>64030<br>64550 | 88030<br>XMXKXX<br>80810 | 30.50<br>33.50<br>35.50 | 1 1/2         | OK   | 0.       |

| ITEM NO. | HEAT NO. | TYPE | C  | MN  | P   | S   | SI  | CU | NI | CR | MO  | SN | AL  | N | V  | Ti | CB | CO |
|----------|----------|------|----|-----|-----|-----|-----|----|----|----|-----|----|-----|---|----|----|----|----|
|          |          |      |    |     |     |     |     |    |    |    |     |    |     |   |    |    |    |    |
| 1        | 01111    | ERB  | 50 | 117 | 020 | 011 | 010 | 01 | 01 | 03 | 005 |    | 028 |   | 01 |    |    |    |
| 1        | 01111    | ERB  | 50 | 122 | 013 | 009 | 011 | 01 | 01 | 03 | 005 |    | 037 |   | 01 |    |    |    |
| 1        | 01115    | ERB  | 52 | 121 | 014 | 009 | 009 | 01 | 01 | 02 | 005 |    | 022 |   | 01 |    |    |    |
| 1        | 01115    | ERB  | 54 | 119 | 020 | 010 | 007 | 03 | 02 | 04 | 005 |    | 030 |   | 01 |    |    |    |
| 1        | 01116    | ERB  | 54 | 127 | 017 | 009 | 015 | 01 | 01 | 03 | 005 |    | 033 |   | 01 |    |    |    |
| 1        | 01116    | ERB  | 59 | 123 | 019 | 010 | 016 | 01 | 01 | 03 | 005 |    | 034 |   | 01 |    |    |    |
| 1        | 01116    | ERB  | 59 | 123 | 019 | 010 | 016 | 01 | 01 | 03 | 005 |    | 034 |   | 01 |    |    |    |



CONTRACT NO.

|                                                                                                                                                                                                  |                                                        |                           |             |  |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------|-------------|--|-----------------------|
| CONTRACT NO.                                                                                                                                                                                     | PURCHASE ORDER NO.<br>1099 10/10/89                    |                           | INVOICE NO. |  | M<br>A<br>L<br>T<br>O |
| FAIRFIELD WORKS                                                                                                                                                                                  | SHIPPERS NO.                                           | MILL ORDER NO.<br>DM02593 | INVOICE NO. |  |                       |
|                                                                                                                                                                                                  | VEHICLE<br>IDENTITY                                    |                           |             |  |                       |
|                                                                                                                                                                                                  | EMPIRE TUBULARS<br>1101 CHAMELISS<br>MEMPHIS, TN 38116 |                           |             |  |                       |
| THIS IS TO CERTIFY THAT THE<br>PRODUCT DESCRIBED HEREIN<br>WAS MFGD., SAMPLED, TESTED<br>AND/OR INSPD. IN ACCORDANCE<br>WITH THE SPECIFICATION AND<br>FULFILLS REQUIREMENTS IN<br>SUCH RESPECTS. |                                                        |                           |             |  |                       |
| APPROVED BY THE OFFICE OF<br>F.W. MOORE, MGR. G.A.<br>FAIRFIELD WORKS<br>DATE 01/15/90                                                                                                           |                                                        |                           |             |  |                       |

PIPE CARBON EW CASTING API 5CT GRADE J-55 OF EXCEPT END FINISH PE  
REV 65 SPEC REV NAME 1ST EDITION DTD 3/15/88 SPEC DATE MAR 88

| Q. | MATERIAL DESCRIPTION |      |   |    |   |   |   |   |   |   | WALL | SIZE | SPECIFICATION & GRADE |   |   |   |   |   |   |   |   |   |   |   |   |   | MNL | P | S | SI | CU | NI | CR | MO | KSN | AL | N | V | YBR | TI | TENSILE STR. |   | ELONG. %<br>IN 2" | GAGE<br>WIDTH<br>IN. | FLAT | RATIO<br>BEND |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----|----------------------|------|---|----|---|---|---|---|---|---|------|------|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|---|---|----|----|----|----|----|-----|----|---|---|-----|----|--------------|---|-------------------|----------------------|------|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|    | HEAT NO.             | TYPE | C | MN | Y | U | W | Q | Q | Q |      |      | Q                     | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q |     |   |   |    |    |    |    |    |     |    |   |   |     |    | Q            | Q |                   |                      |      |               | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q |



**CONTRACT NO.**

PIPE CARBON EW CASING API 5CT GRADE J-55 UF EXCEPT END FINISH PE  
REV 65 DEG SPEC REV NAME 1ST EDITION DTD 3/15/88 SPEC DATE MAR 88

| NO. | MATERIAL DESCRIPTION |       |                       |       |     |       |      |       |       |       | HEAT NO. | TYPE | C    | MN | P | S | SI | CU | NI | CR | MO | K.S.N. | AL | N | V | YIELD STR.<br>P.S.I. | TENSILE STR.<br>P.S.I. | ELONG. %<br>IN 2" | GAGE<br>WIDTH<br>IN. | FLAT | RATIO<br>BEND |
|-----|----------------------|-------|-----------------------|-------|-----|-------|------|-------|-------|-------|----------|------|------|----|---|---|----|----|----|----|----|--------|----|---|---|----------------------|------------------------|-------------------|----------------------|------|---------------|
|     | SIZE                 | WALL  | SPECIFICATION & GRADE |       |     |       |      |       |       |       |          |      |      |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |
|     |                      |       |                       |       |     |       |      |       |       |       |          |      |      |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |
| 8   | 5/8                  | 0.264 | API 5CT GRADE J-55    | 01117 | ERW | 01117 | 2700 | 59780 | 79040 | 34.50 | 1 1/2    | OK   | 0.76 |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |
| 8   | 5/8                  | 0.264 | API 5CT GRADE J-55    | 01118 | ERW | 01118 | 2700 | 64240 | 83350 | 35.00 | 1 1/2    | OK   | 0.77 |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |
| 8   | 5/8                  | 0.264 | API 5CT GRADE J-55    | 01119 | ERW | 01119 | 2700 | 64180 | 82810 | 35.00 | 1 1/2    | OK   | 0.78 |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |
| 8   | 5/8                  | 0.264 | API 5CT GRADE J-55    | 01119 | ERW | 01119 | 2700 | 64810 | 84150 | 32.50 | 1 1/2    | OK   | 0.80 |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |
| 8   | 5/8                  | 0.264 | API 5CT GRADE J-55    | 01119 | ERW | 01119 | 2700 | 71660 | 85540 | 34.00 | 1 1/2    | OK   | 0.84 |    |   |   |    |    |    |    |    |        |    |   |   |                      |                        |                   |                      |      |               |