FAILURE\_PREDICTION\_DATA.CSV

**Binary Logistic Regression: Failed versus Temperature, Pressure, Cycle\_Count, Voltage**

|  |
| --- |
|  |

\* WARNING \* When the data are in the Response/Frequency format, the Residuals versus fits  
plot is unavailable.

**Method**

|  |  |
| --- | --- |
| Link function | Logit |
| Rows used | 10000 |

**Response Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Value** | **Count** |  |
| Failed | 1 | 3552 | (Event) |
|  | 0 | 6448 |  |
|  | Total | 10000 |  |

**Regression Equation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| P(1) | | = | | exp(Y')/(1 + exp(Y')) |
| Y' | = | | 35.81 + 0.27349 Temperature + 0.06102 Pressure + 0.000053 Cycle\_Count - 13.832 Voltage | | |

**Coefficients**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Term** | **Coef** | **SE Coef** | **Z-Value** | **P-Value** | **VIF** |
| Constant | 35.81 | 1.20 | 29.82 | 0.000 |  |
| Temperature | 0.27349 | 0.00707 | 38.68 | 0.000 | 1.24 |
| Pressure | 0.06102 | 0.00208 | 29.32 | 0.000 | 1.15 |
| Cycle\_Count | 0.000053 | 0.000235 | 0.23 | 0.821 | 1.00 |
| Voltage | -13.832 | 0.356 | -38.87 | 0.000 | 1.25 |

**Odds Ratios for Continuous Predictors**

|  |  |  |
| --- | --- | --- |
|  | **Odds Ratio** | **95% CI** |
| Temperature | 1.3145 | (1.2965, 1.3329) |
| Pressure | 1.0629 | (1.0586, 1.0673) |
| Cycle\_Count | 1.0001 | (0.9996, 1.0005) |
| Voltage | 0.0000 | (0.0000, 0.0000) |

**Model Summary**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Deviance R-Sq** | **Deviance R-Sq(adj)** | **AIC** | **AICc** | **BIC** | **Area Under ROC Curve** |
| 36.40% | 36.37% | 8285.89 | 8285.90 | 8321.95 | 0.8741 |

**Goodness-of-Fit Tests**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test** | **DF** | **Chi-Square** | **P-Value** |
| Deviance | 9995 | 8275.89 | 1.000 |
| Pearson | 9995 | 10118.82 | 0.190 |
| Hosmer-Lemeshow | 8 | 58.53 | 0.000 |

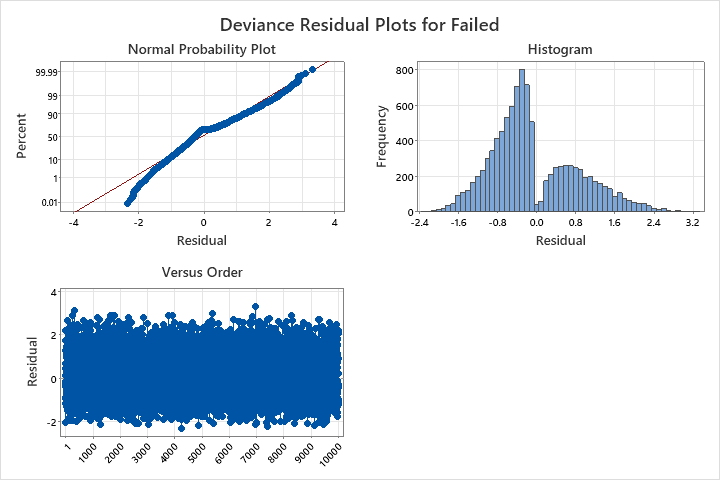
**Analysis of Variance**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Wald Test** | |
| **Source** | **DF** | **Chi-Square** | **P-Value** |
| Regression | 4 | 2334.37 | 0.000 |
| Temperature | 1 | 1495.77 | 0.000 |
| Pressure | 1 | 859.68 | 0.000 |
| Cycle\_Count | 1 | 0.05 | 0.821 |
| Voltage | 1 | 1510.60 | 0.000 |

**Fits and Diagnostics for Unusual Observations**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Obs** | **Observed Probability** | **Fit** | **Resid** | **Std Resid** |  |  |
| 13 | 0.0000 | 0.8727 | -2.0302 | -2.03 | R |  |
| 17 | 1.0000 | 0.0852 | 2.2192 | 2.22 | R |  |
| 56 | 1.0000 | 0.5792 | 1.0451 | 1.05 |  | X |
| 70 | 1.0000 | 0.0822 | 2.2354 | 2.24 | R |  |
| 84 | 1.0000 | 0.0296 | 2.6531 | 2.65 | R |  |
| 154 | 1.0000 | 0.4898 | 1.1948 | 1.20 |  | X |
| 158 | 1.0000 | 0.4052 | 1.3442 | 1.35 |  | X |
| 163 | 1.0000 | 0.5805 | 1.0429 | 1.04 |  | X |
| 195 | 1.0000 | 0.0846 | 2.2225 | 2.22 | R |  |
| 219 | 1.0000 | 0.0539 | 2.4167 | 2.42 | R |  |
| 225 | 1.0000 | 0.4712 | 1.2267 | 1.23 |  | X |
| 230 | 1.0000 | 0.6341 | 0.9545 | 0.96 |  | X |
| 241 | 1.0000 | 0.0147 | 2.9045 | 2.90 | R |  |
| 243 | 1.0000 | 0.1892 | 1.8248 | 1.83 |  | X |
| 287 | 1.0000 | 0.0471 | 2.4724 | 2.47 | R |  |
| 332 | 1.0000 | 0.0080 | 3.1061 | 3.11 | R |  |
| 380 | 1.0000 | 0.1000 | 2.1461 | 2.15 | R |  |
| 391 | 1.0000 | 0.0895 | 2.1972 | 2.20 | R |  |
| 410 | 1.0000 | 0.3972 | 1.3589 | 1.36 |  | X |
| 419 | 1.0000 | 0.2242 | 1.7294 | 1.73 |  | X |
| 437 | 1.0000 | 0.0463 | 2.4789 | 2.48 | R |  |
| 444 | 1.0000 | 0.6198 | 0.9781 | 0.98 |  | X |
| 487 | 1.0000 | 0.3893 | 1.3736 | 1.37 |  | X |
| 538 | 1.0000 | 0.3569 | 1.4354 | 1.44 |  | X |
| 575 | 1.0000 | 0.0634 | 2.3489 | 2.35 | R |  |
| 640 | 1.0000 | 0.3103 | 1.5299 | 1.53 |  | X |
| 679 | 1.0000 | 0.0303 | 2.6449 | 2.65 | R |  |
| 727 | 1.0000 | 0.7360 | 0.7829 | 0.78 |  | X |
| 732 | 1.0000 | 0.0712 | 2.2986 | 2.30 | R |  |
| 737 | 1.0000 | 0.0761 | 2.2696 | 2.27 | R |  |
| 749 | 1.0000 | 0.1182 | 2.0667 | 2.07 | R |  |
| 774 | 1.0000 | 0.4859 | 1.2015 | 1.20 |  | X |
| 785 | 1.0000 | 0.0438 | 2.5014 | 2.50 | R |  |
| 823 | 1.0000 | 0.0746 | 2.2783 | 2.28 | R |  |
| 831 | 1.0000 | 0.0779 | 2.2596 | 2.26 | R |  |
| 846 | 1.0000 | 0.3027 | 1.5459 | 1.55 |  | X |
| 858 | 1.0000 | 0.5876 | 1.0313 | 1.03 |  | X |
| 860 | 1.0000 | 0.6351 | 0.9529 | 0.95 |  | X |
| 873 | 1.0000 | 0.0594 | 2.3766 | 2.38 | R |  |
| 874 | 1.0000 | 0.0561 | 2.4000 | 2.40 | R |  |
| 886 | 1.0000 | 0.7107 | 0.8264 | 0.83 |  | X |
| 888 | 1.0000 | 0.7785 | 0.7076 | 0.71 |  | X |
| 889 | 1.0000 | 0.0863 | 2.2135 | 2.21 | R |  |
| 907 | 1.0000 | 0.0372 | 2.5662 | 2.57 | R |  |
| 920 | 1.0000 | 0.5981 | 1.0140 | 1.01 |  | X |
| 925 | 1.0000 | 0.0918 | 2.1857 | 2.19 | R |  |
| 932 | 1.0000 | 0.1313 | 2.0149 | 2.02 | R |  |
| 968 | 1.0000 | 0.6737 | 0.8887 | 0.89 |  | X |
| 973 | 1.0000 | 0.5455 | 1.1010 | 1.10 |  | X |
| 1093 | 1.0000 | 0.5971 | 1.0156 | 1.02 |  | X |
| 1143 | 1.0000 | 0.0499 | 2.4486 | 2.45 | R |  |
| 1190 | 1.0000 | 0.0195 | 2.8064 | 2.81 | R |  |
| 1202 | 1.0000 | 0.0677 | 2.3205 | 2.32 | R |  |
| 1232 | 1.0000 | 0.1044 | 2.1259 | 2.13 | R |  |
| 1234 | 1.0000 | 0.0254 | 2.7102 | 2.71 | R |  |
| 1295 | 0.0000 | 0.9021 | -2.1556 | -2.16 | R |  |
| 1335 | 1.0000 | 0.2282 | 1.7190 | 1.72 |  | X |
| 1375 | 1.0000 | 0.6412 | 0.9427 | 0.94 |  | X |
| 1379 | 1.0000 | 0.0600 | 2.3723 | 2.37 | R |  |
| 1386 | 1.0000 | 0.5509 | 1.0920 | 1.09 |  | X |
| 1397 | 1.0000 | 0.4911 | 1.1925 | 1.19 |  | X |
| 1399 | 1.0000 | 0.4935 | 1.1885 | 1.19 |  | X |
| 1402 | 1.0000 | 0.1050 | 2.1233 | 2.12 | R |  |
| 1452 | 1.0000 | 0.0977 | 2.1567 | 2.16 | R |  |
| 1471 | 1.0000 | 0.0490 | 2.4564 | 2.46 | R |  |
| 1535 | 1.0000 | 0.0589 | 2.3798 | 2.38 | R |  |
| 1555 | 1.0000 | 0.0703 | 2.3046 | 2.31 | R |  |
| 1566 | 1.0000 | 0.1265 | 2.0335 | 2.03 | R |  |
| 1578 | 1.0000 | 0.0876 | 2.2066 | 2.21 | R |  |
| 1591 | 1.0000 | 0.0303 | 2.6444 | 2.64 | R |  |
| 1599 | 1.0000 | 0.6199 | 0.9780 | 0.98 |  | X |
| 1601 | 1.0000 | 0.0658 | 2.3327 | 2.33 | R |  |
| 1614 | 1.0000 | 0.1104 | 2.0994 | 2.10 | R |  |
| 1634 | 1.0000 | 0.0154 | 2.8896 | 2.89 | R |  |
| 1644 | 1.0000 | 0.4544 | 1.2561 | 1.26 |  | X |
| 1668 | 1.0000 | 0.0261 | 2.7005 | 2.70 | R |  |
| 1689 | 1.0000 | 0.4732 | 1.2233 | 1.22 |  | X |
| 1755 | 1.0000 | 0.0151 | 2.8969 | 2.90 | R |  |
| 1774 | 1.0000 | 0.0619 | 2.3592 | 2.36 | R |  |
| 1784 | 1.0000 | 0.0152 | 2.8935 | 2.89 | R |  |
| 1879 | 1.0000 | 0.7772 | 0.7099 | 0.71 |  | X |
| 1881 | 1.0000 | 0.4743 | 1.2214 | 1.22 |  | X |
| 1883 | 1.0000 | 0.4283 | 1.3022 | 1.30 |  | X |
| 1888 | 1.0000 | 0.0799 | 2.2480 | 2.25 | R |  |
| 1904 | 1.0000 | 0.7511 | 0.7566 | 0.76 |  | X |
| 1911 | 1.0000 | 0.1080 | 2.1099 | 2.11 | R |  |
| 1941 | 1.0000 | 0.0318 | 2.6264 | 2.63 | R |  |
| 1961 | 1.0000 | 0.0600 | 2.3720 | 2.37 | R |  |
| 1963 | 1.0000 | 0.3880 | 1.3761 | 1.38 |  | X |
| 1968 | 1.0000 | 0.5575 | 1.0811 | 1.08 |  | X |
| 1985 | 1.0000 | 0.4141 | 1.3278 | 1.33 |  | X |
| 1993 | 1.0000 | 0.0702 | 2.3049 | 2.31 | R |  |
| 1998 | 1.0000 | 0.0616 | 2.3609 | 2.36 | R |  |
| 2001 | 1.0000 | 0.0419 | 2.5193 | 2.52 | R |  |
| 2003 | 1.0000 | 0.1276 | 2.0294 | 2.03 | R |  |
| 2034 | 1.0000 | 0.4073 | 1.3403 | 1.34 |  | X |
| 2107 | 1.0000 | 0.1193 | 2.0622 | 2.06 | R |  |
| 2119 | 1.0000 | 0.0483 | 2.4616 | 2.46 | R |  |
| 2129 | 1.0000 | 0.3595 | 1.4304 | 1.43 |  | X |
| 2248 | 1.0000 | 0.3306 | 1.4878 | 1.49 |  | X |
| 2249 | 1.0000 | 0.0757 | 2.2718 | 2.27 | R |  |
| 2300 | 1.0000 | 0.0205 | 2.7879 | 2.79 | R |  |
| 2301 | 1.0000 | 0.0339 | 2.6022 | 2.60 | R |  |
| 2345 | 1.0000 | 0.0705 | 2.3032 | 2.30 | R |  |
| 2383 | 1.0000 | 0.0931 | 2.1791 | 2.18 | R |  |
| 2392 | 1.0000 | 0.0346 | 2.5939 | 2.59 | R |  |
| 2434 | 1.0000 | 0.0368 | 2.5696 | 2.57 | R |  |
| 2449 | 1.0000 | 0.1353 | 2.0002 | 2.00 | R |  |
| 2461 | 1.0000 | 0.1150 | 2.0796 | 2.08 | R |  |
| 2464 | 1.0000 | 0.4140 | 1.3282 | 1.33 |  | X |
| 2469 | 1.0000 | 0.2187 | 1.7437 | 1.75 |  | X |
| 2512 | 1.0000 | 0.2674 | 1.6242 | 1.63 |  | X |
| 2513 | 1.0000 | 0.2188 | 1.7433 | 1.74 |  | X |
| 2551 | 0.0000 | 0.8722 | -2.0284 | -2.03 | R |  |
| 2562 | 0.0000 | 0.8842 | -2.0763 | -2.08 | R |  |
| 2563 | 1.0000 | 0.1006 | 2.1432 | 2.14 | R |  |
| 2566 | 1.0000 | 0.7593 | 0.7421 | 0.74 |  | X |
| 2614 | 1.0000 | 0.1269 | 2.0318 | 2.03 | R |  |
| 2615 | 1.0000 | 0.0881 | 2.2043 | 2.20 | R |  |
| 2627 | 1.0000 | 0.3076 | 1.5356 | 1.54 |  | X |
| 2681 | 0.0000 | 0.8918 | -2.1090 | -2.11 | R |  |
| 2689 | 1.0000 | 0.3607 | 1.4280 | 1.43 |  | X |
| 2690 | 1.0000 | 0.1229 | 2.0477 | 2.05 | R |  |
| 2773 | 1.0000 | 0.0706 | 2.3028 | 2.30 | R |  |
| 2829 | 1.0000 | 0.0694 | 2.3097 | 2.31 | R |  |
| 2831 | 1.0000 | 0.1292 | 2.0230 | 2.02 | R |  |
| 2859 | 1.0000 | 0.0201 | 2.7948 | 2.80 | R |  |
| 3013 | 1.0000 | 0.0397 | 2.5406 | 2.54 | R |  |
| 3030 | 0.0000 | 0.8989 | -2.1407 | -2.14 | R |  |
| 3062 | 1.0000 | 0.2375 | 1.6957 | 1.70 |  | X |
| 3087 | 1.0000 | 0.3211 | 1.5074 | 1.51 |  | X |
| 3143 | 1.0000 | 0.1049 | 2.1234 | 2.12 | R |  |
| 3164 | 1.0000 | 0.5775 | 1.0479 | 1.05 |  | X |
| 3190 | 1.0000 | 0.4068 | 1.3413 | 1.34 |  | X |
| 3287 | 1.0000 | 0.4190 | 1.3191 | 1.32 |  | X |
| 3302 | 1.0000 | 0.0713 | 2.2983 | 2.30 | R |  |
| 3312 | 1.0000 | 0.1139 | 2.0844 | 2.08 | R |  |
| 3314 | 1.0000 | 0.0581 | 2.3858 | 2.39 | R |  |
| 3364 | 1.0000 | 0.3226 | 1.5042 | 1.51 |  | X |
| 3397 | 1.0000 | 0.1129 | 2.0888 | 2.09 | R |  |
| 3408 | 1.0000 | 0.1130 | 2.0884 | 2.09 | R |  |
| 3410 | 1.0000 | 0.4739 | 1.2221 | 1.22 |  | X |
| 3417 | 1.0000 | 0.1238 | 2.0439 | 2.04 | R |  |
| 3425 | 1.0000 | 0.3617 | 1.4261 | 1.43 |  | X |
| 3434 | 1.0000 | 0.0998 | 2.1469 | 2.15 | R |  |
| 3480 | 1.0000 | 0.3447 | 1.4596 | 1.46 |  | X |
| 3527 | 1.0000 | 0.3560 | 1.4372 | 1.44 |  | X |
| 3563 | 1.0000 | 0.5894 | 1.0282 | 1.03 |  | X |
| 3577 | 1.0000 | 0.0485 | 2.4603 | 2.46 | R |  |
| 3603 | 1.0000 | 0.4495 | 1.2647 | 1.27 |  | X |
| 3613 | 1.0000 | 0.0629 | 2.3522 | 2.35 | R |  |
| 3633 | 1.0000 | 0.0905 | 2.1919 | 2.19 | R |  |
| 3648 | 1.0000 | 0.3234 | 1.5025 | 1.50 |  | X |
| 3700 | 1.0000 | 0.4239 | 1.3102 | 1.31 |  | X |
| 3716 | 1.0000 | 0.7258 | 0.8005 | 0.80 |  | X |
| 3745 | 1.0000 | 0.6218 | 0.9748 | 0.98 |  | X |
| 3760 | 1.0000 | 0.0154 | 2.8884 | 2.89 | R |  |
| 3795 | 1.0000 | 0.4139 | 1.3283 | 1.33 |  | X |
| 3798 | 1.0000 | 0.0923 | 2.1828 | 2.18 | R |  |
| 3817 | 1.0000 | 0.3206 | 1.5084 | 1.51 |  | X |
| 3839 | 1.0000 | 0.0962 | 2.1641 | 2.16 | R |  |
| 3863 | 1.0000 | 0.1273 | 2.0306 | 2.03 | R |  |
| 3865 | 1.0000 | 0.0642 | 2.3433 | 2.34 | R |  |
| 3882 | 1.0000 | 0.5143 | 1.1531 | 1.15 |  | X |
| 3903 | 1.0000 | 0.0857 | 2.2168 | 2.22 | R |  |
| 3912 | 1.0000 | 0.0147 | 2.9058 | 2.91 | R |  |
| 3936 | 1.0000 | 0.1112 | 2.0961 | 2.10 | R |  |
| 3988 | 1.0000 | 0.1182 | 2.0667 | 2.07 | R |  |
| 4006 | 1.0000 | 0.0789 | 2.2539 | 2.26 | R |  |
| 4009 | 1.0000 | 0.5081 | 1.1637 | 1.16 |  | X |
| 4010 | 1.0000 | 0.0349 | 2.5901 | 2.59 | R |  |
| 4048 | 1.0000 | 0.3586 | 1.4323 | 1.43 |  | X |
| 4092 | 1.0000 | 0.6727 | 0.8904 | 0.89 |  | X |
| 4152 | 1.0000 | 0.4126 | 1.3307 | 1.33 |  | X |
| 4208 | 1.0000 | 0.0598 | 2.3732 | 2.37 | R |  |
| 4224 | 1.0000 | 0.0456 | 2.4852 | 2.49 | R |  |
| 4233 | 1.0000 | 0.1309 | 2.0167 | 2.02 | R |  |
| 4240 | 1.0000 | 0.0994 | 2.1486 | 2.15 | R |  |
| 4241 | 1.0000 | 0.4490 | 1.2655 | 1.27 |  | X |
| 4263 | 0.0000 | 0.9337 | -2.3297 | -2.33 | R |  |
| 4381 | 1.0000 | 0.4580 | 1.2497 | 1.25 |  | X |
| 4400 | 1.0000 | 0.0608 | 2.3667 | 2.37 | R |  |
| 4446 | 1.0000 | 0.5252 | 1.1349 | 1.14 |  | X |
| 4466 | 1.0000 | 0.6541 | 0.9215 | 0.92 |  | X |
| 4470 | 1.0000 | 0.4188 | 1.3193 | 1.32 |  | X |
| 4565 | 1.0000 | 0.0518 | 2.4329 | 2.43 | R |  |
| 4577 | 1.0000 | 0.0825 | 2.2336 | 2.23 | R |  |
| 4585 | 1.0000 | 0.0639 | 2.3452 | 2.35 | R |  |
| 4597 | 1.0000 | 0.0855 | 2.2176 | 2.22 | R |  |
| 4621 | 1.0000 | 0.6674 | 0.8993 | 0.90 |  | X |
| 4624 | 1.0000 | 0.6150 | 0.9861 | 0.99 |  | X |
| 4629 | 1.0000 | 0.7001 | 0.8444 | 0.85 |  | X |
| 4634 | 1.0000 | 0.1015 | 2.1392 | 2.14 | R |  |
| 4647 | 1.0000 | 0.0383 | 2.5540 | 2.55 | R |  |
| 4660 | 1.0000 | 0.1325 | 2.0104 | 2.01 | R |  |
| 4711 | 1.0000 | 0.0599 | 2.3725 | 2.37 | R |  |
| 4731 | 1.0000 | 0.7042 | 0.8375 | 0.84 |  | X |
| 4778 | 1.0000 | 0.3837 | 1.3842 | 1.39 |  | X |
| 4810 | 1.0000 | 0.6082 | 0.9972 | 1.00 |  | X |
| 4827 | 1.0000 | 0.4192 | 1.3186 | 1.32 |  | X |
| 4854 | 1.0000 | 0.0747 | 2.2780 | 2.28 | R |  |
| 4868 | 0.0000 | 0.9065 | -2.1771 | -2.18 | R |  |
| 4970 | 1.0000 | 0.2301 | 1.7141 | 1.72 |  | X |
| 5031 | 1.0000 | 0.6553 | 0.9194 | 0.92 |  | X |
| 5035 | 1.0000 | 0.5052 | 1.1686 | 1.17 |  | X |
| 5038 | 1.0000 | 0.1803 | 1.8509 | 1.85 |  | X |
| 5055 | 1.0000 | 0.2649 | 1.6301 | 1.63 |  | X |
| 5056 | 1.0000 | 0.0799 | 2.2483 | 2.25 | R |  |
| 5058 | 1.0000 | 0.3208 | 1.5080 | 1.51 |  | X |
| 5071 | 1.0000 | 0.0632 | 2.3498 | 2.35 | R |  |
| 5153 | 1.0000 | 0.0503 | 2.4450 | 2.45 | R |  |
| 5188 | 1.0000 | 0.0899 | 2.1948 | 2.20 | R |  |
| 5192 | 1.0000 | 0.0816 | 2.2389 | 2.24 | R |  |
| 5213 | 1.0000 | 0.1002 | 2.1450 | 2.15 | R |  |
| 5231 | 1.0000 | 0.1077 | 2.1110 | 2.11 | R |  |
| 5235 | 1.0000 | 0.0593 | 2.3773 | 2.38 | R |  |
| 5239 | 1.0000 | 0.0378 | 2.5591 | 2.56 | R |  |
| 5329 | 1.0000 | 0.7656 | 0.7309 | 0.73 |  | X |
| 5336 | 1.0000 | 0.0350 | 2.5888 | 2.59 | R |  |
| 5338 | 1.0000 | 0.0291 | 2.6596 | 2.66 | R |  |
| 5351 | 1.0000 | 0.0863 | 2.2135 | 2.21 | R |  |
| 5369 | 1.0000 | 0.1034 | 2.1305 | 2.13 | R |  |
| 5370 | 1.0000 | 0.0119 | 2.9778 | 2.98 | R |  |
| 5382 | 1.0000 | 0.5524 | 1.0894 | 1.09 |  | X |
| 5403 | 1.0000 | 0.2679 | 1.6230 | 1.63 |  | X |
| 5405 | 0.0000 | 0.8919 | -2.1096 | -2.11 | R |  |
| 5413 | 1.0000 | 0.4543 | 1.2562 | 1.26 |  | X |
| 5427 | 1.0000 | 0.4908 | 1.1931 | 1.19 |  | X |
| 5439 | 1.0000 | 0.0422 | 2.5157 | 2.52 | R |  |
| 5454 | 1.0000 | 0.4498 | 1.2641 | 1.27 |  | X |
| 5486 | 1.0000 | 0.1248 | 2.0400 | 2.04 | R |  |
| 5487 | 1.0000 | 0.0981 | 2.1549 | 2.16 | R |  |
| 5496 | 1.0000 | 0.7117 | 0.8247 | 0.83 |  | X |
| 5501 | 1.0000 | 0.4681 | 1.2322 | 1.23 |  | X |
| 5503 | 1.0000 | 0.4434 | 1.2753 | 1.28 |  | X |
| 5507 | 1.0000 | 0.1116 | 2.0941 | 2.09 | R |  |
| 5518 | 1.0000 | 0.1047 | 2.1245 | 2.13 | R |  |
| 5534 | 1.0000 | 0.0908 | 2.1905 | 2.19 | R |  |
| 5596 | 0.0000 | 0.3802 | -0.9781 | -0.98 |  | X |
| 5608 | 1.0000 | 0.0408 | 2.5295 | 2.53 | R |  |
| 5663 | 1.0000 | 0.0863 | 2.2136 | 2.21 | R |  |
| 5664 | 1.0000 | 0.3998 | 1.3540 | 1.36 |  | X |
| 5686 | 1.0000 | 0.4266 | 1.3052 | 1.31 |  | X |
| 5752 | 0.0000 | 0.3551 | -0.9366 | -0.94 |  | X |
| 5772 | 1.0000 | 0.5935 | 1.0215 | 1.02 |  | X |
| 5821 | 1.0000 | 0.5403 | 1.1096 | 1.11 |  | X |
| 5860 | 1.0000 | 0.1187 | 2.0647 | 2.07 | R |  |
| 5878 | 1.0000 | 0.5746 | 1.0528 | 1.05 |  | X |
| 5880 | 1.0000 | 0.5360 | 1.1167 | 1.12 |  | X |
| 5887 | 1.0000 | 0.1050 | 2.1230 | 2.12 | R |  |
| 5923 | 1.0000 | 0.3144 | 1.5213 | 1.52 |  | X |
| 5939 | 1.0000 | 0.6462 | 0.9345 | 0.94 |  | X |
| 5961 | 1.0000 | 0.5484 | 1.0962 | 1.10 |  | X |
| 5963 | 1.0000 | 0.3553 | 1.4386 | 1.44 |  | X |
| 5971 | 1.0000 | 0.5013 | 1.1752 | 1.18 |  | X |
| 5994 | 1.0000 | 0.0859 | 2.2159 | 2.22 | R |  |
| 6031 | 0.0000 | 0.8818 | -2.0667 | -2.07 | R |  |
| 6032 | 1.0000 | 0.0842 | 2.2247 | 2.23 | R |  |
| 6083 | 1.0000 | 0.6384 | 0.9474 | 0.95 |  | X |
| 6115 | 1.0000 | 0.1166 | 2.0732 | 2.07 | R |  |
| 6147 | 1.0000 | 0.2735 | 1.6102 | 1.61 |  | X |
| 6151 | 1.0000 | 0.6174 | 0.9820 | 0.98 |  | X |
| 6157 | 1.0000 | 0.0271 | 2.6859 | 2.69 | R |  |
| 6311 | 1.0000 | 0.1102 | 2.1002 | 2.10 | R |  |
| 6316 | 1.0000 | 0.4543 | 1.2562 | 1.26 |  | X |
| 6325 | 1.0000 | 0.0317 | 2.6268 | 2.63 | R |  |
| 6333 | 1.0000 | 0.0970 | 2.1600 | 2.16 | R |  |
| 6372 | 1.0000 | 0.3070 | 1.5369 | 1.54 |  | X |
| 6381 | 1.0000 | 0.0313 | 2.6321 | 2.63 | R |  |
| 6390 | 1.0000 | 0.3175 | 1.5147 | 1.52 |  | X |
| 6392 | 1.0000 | 0.4805 | 1.2108 | 1.21 |  | X |
| 6422 | 1.0000 | 0.6606 | 0.9106 | 0.91 |  | X |
| 6440 | 1.0000 | 0.4751 | 1.2201 | 1.22 |  | X |
| 6474 | 1.0000 | 0.5622 | 1.0732 | 1.07 |  | X |
| 6480 | 1.0000 | 0.0720 | 2.2942 | 2.29 | R |  |
| 6500 | 1.0000 | 0.1230 | 2.0473 | 2.05 | R |  |
| 6502 | 1.0000 | 0.0951 | 2.1692 | 2.17 | R |  |
| 6530 | 1.0000 | 0.0371 | 2.5663 | 2.57 | R |  |
| 6540 | 1.0000 | 0.0806 | 2.2445 | 2.25 | R |  |
| 6549 | 1.0000 | 0.1315 | 2.0144 | 2.02 | R |  |
| 6599 | 1.0000 | 0.0865 | 2.2123 | 2.21 | R |  |
| 6631 | 1.0000 | 0.1071 | 2.1137 | 2.11 | R |  |
| 6642 | 1.0000 | 0.5980 | 1.0141 | 1.02 |  | X |
| 6655 | 1.0000 | 0.2514 | 1.6617 | 1.66 |  | X |
| 6664 | 1.0000 | 0.6740 | 0.8883 | 0.89 |  | X |
| 6720 | 1.0000 | 0.1340 | 2.0051 | 2.01 | R |  |
| 6727 | 1.0000 | 0.7013 | 0.8425 | 0.84 |  | X |
| 6734 | 1.0000 | 0.0976 | 2.1575 | 2.16 | R |  |
| 6745 | 1.0000 | 0.6323 | 0.9574 | 0.96 |  | X |
| 6754 | 1.0000 | 0.3411 | 1.4667 | 1.47 |  | X |
| 6771 | 1.0000 | 0.0321 | 2.6220 | 2.62 | R |  |
| 6781 | 1.0000 | 0.0448 | 2.4918 | 2.49 | R |  |
| 6790 | 1.0000 | 0.0388 | 2.5493 | 2.55 | R |  |
| 6825 | 1.0000 | 0.1114 | 2.0949 | 2.10 | R |  |
| 6832 | 1.0000 | 0.1168 | 2.0722 | 2.07 | R |  |
| 6840 | 1.0000 | 0.1129 | 2.0888 | 2.09 | R |  |
| 6844 | 1.0000 | 0.0970 | 2.1600 | 2.16 | R |  |
| 6856 | 1.0000 | 0.0172 | 2.8507 | 2.85 | R |  |
| 6899 | 1.0000 | 0.3634 | 1.4229 | 1.42 |  | X |
| 6908 | 1.0000 | 0.6125 | 0.9901 | 0.99 |  | X |
| 6935 | 1.0000 | 0.1312 | 2.0156 | 2.02 | R |  |
| 6943 | 1.0000 | 0.0041 | 3.3130 | 3.31 | R |  |
| 6951 | 0.0000 | 0.9008 | -2.1498 | -2.15 | R |  |
| 6964 | 1.0000 | 0.3274 | 1.4943 | 1.50 |  | X |
| 6983 | 0.0000 | 0.8778 | -2.0504 | -2.05 | R |  |
| 6993 | 1.0000 | 0.0382 | 2.5549 | 2.56 | R |  |
| 7008 | 0.0000 | 0.8903 | -2.1026 | -2.10 | R |  |
| 7055 | 1.0000 | 0.7135 | 0.8216 | 0.82 |  | X |
| 7057 | 1.0000 | 0.5718 | 1.0573 | 1.06 |  | X |
| 7088 | 1.0000 | 0.0314 | 2.6311 | 2.63 | R |  |
| 7097 | 1.0000 | 0.0742 | 2.2805 | 2.28 | R |  |
| 7121 | 1.0000 | 0.0940 | 2.1746 | 2.18 | R |  |
| 7134 | 1.0000 | 0.1095 | 2.1034 | 2.10 | R |  |
| 7156 | 1.0000 | 0.0954 | 2.1676 | 2.17 | R |  |
| 7157 | 1.0000 | 0.0626 | 2.3543 | 2.35 | R |  |
| 7163 | 1.0000 | 0.1235 | 2.0454 | 2.05 | R |  |
| 7191 | 1.0000 | 0.1044 | 2.1260 | 2.13 | R |  |
| 7213 | 1.0000 | 0.4584 | 1.2490 | 1.25 |  | X |
| 7225 | 1.0000 | 0.0955 | 2.1675 | 2.17 | R |  |
| 7278 | 1.0000 | 0.0851 | 2.2200 | 2.22 | R |  |
| 7282 | 1.0000 | 0.0468 | 2.4744 | 2.47 | R |  |
| 7373 | 0.0000 | 0.8711 | -2.0244 | -2.02 | R |  |
| 7391 | 1.0000 | 0.0251 | 2.7143 | 2.71 | R |  |
| 7393 | 1.0000 | 0.1051 | 2.1226 | 2.12 | R |  |
| 7401 | 0.0000 | 0.9177 | -2.2350 | -2.24 | R |  |
| 7422 | 1.0000 | 0.7632 | 0.7351 | 0.74 |  | X |
| 7486 | 1.0000 | 0.0218 | 2.7657 | 2.77 | R |  |
| 7501 | 1.0000 | 0.0675 | 2.3221 | 2.32 | R |  |
| 7530 | 1.0000 | 0.7433 | 0.7702 | 0.77 |  | X |
| 7586 | 1.0000 | 0.1182 | 2.0667 | 2.07 | R |  |
| 7610 | 1.0000 | 0.0731 | 2.2873 | 2.29 | R |  |
| 7642 | 0.0000 | 0.8697 | -2.0188 | -2.02 | R |  |
| 7657 | 1.0000 | 0.0866 | 2.2119 | 2.21 | R |  |
| 7685 | 1.0000 | 0.0724 | 2.2918 | 2.29 | R |  |
| 7702 | 1.0000 | 0.0982 | 2.1543 | 2.15 | R |  |
| 7703 | 1.0000 | 0.6931 | 0.8562 | 0.86 |  | X |
| 7716 | 1.0000 | 0.2568 | 1.6490 | 1.65 |  | X |
| 7747 | 1.0000 | 0.3239 | 1.5014 | 1.50 |  | X |
| 7761 | 1.0000 | 0.4264 | 1.3057 | 1.31 |  | X |
| 7774 | 1.0000 | 0.2879 | 1.5781 | 1.58 |  | X |
| 7776 | 1.0000 | 0.1192 | 2.0625 | 2.06 | R |  |
| 7779 | 1.0000 | 0.5926 | 1.0230 | 1.02 |  | X |
| 7790 | 1.0000 | 0.0310 | 2.6358 | 2.64 | R |  |
| 7804 | 1.0000 | 0.4653 | 1.2369 | 1.24 |  | X |
| 7939 | 1.0000 | 0.0550 | 2.4083 | 2.41 | R |  |
| 8011 | 1.0000 | 0.0495 | 2.4516 | 2.45 | R |  |
| 8032 | 0.0000 | 0.8685 | -2.0142 | -2.01 | R |  |
| 8043 | 1.0000 | 0.4053 | 1.3440 | 1.35 |  | X |
| 8057 | 1.0000 | 0.1024 | 2.1347 | 2.14 | R |  |
| 8086 | 1.0000 | 0.0317 | 2.6277 | 2.63 | R |  |
| 8090 | 1.0000 | 0.3022 | 1.5470 | 1.55 |  | X |
| 8113 | 1.0000 | 0.4439 | 1.2746 | 1.28 |  | X |
| 8133 | 1.0000 | 0.0753 | 2.2742 | 2.27 | R |  |
| 8136 | 1.0000 | 0.3951 | 1.3627 | 1.36 |  | X |
| 8168 | 1.0000 | 0.6422 | 0.9411 | 0.94 |  | X |
| 8194 | 1.0000 | 0.1293 | 2.0226 | 2.02 | R |  |
| 8210 | 1.0000 | 0.1337 | 2.0062 | 2.01 | R |  |
| 8211 | 1.0000 | 0.1102 | 2.1004 | 2.10 | R |  |
| 8237 | 1.0000 | 0.1770 | 1.8609 | 1.86 |  | X |
| 8249 | 1.0000 | 0.7926 | 0.6818 | 0.68 |  | X |
| 8261 | 1.0000 | 0.3400 | 1.4689 | 1.47 |  | X |
| 8265 | 1.0000 | 0.0150 | 2.8985 | 2.90 | R |  |
| 8267 | 1.0000 | 0.4274 | 1.3038 | 1.30 |  | X |
| 8313 | 1.0000 | 0.0295 | 2.6542 | 2.65 | R |  |
| 8336 | 1.0000 | 0.0866 | 2.2120 | 2.21 | R |  |
| 8339 | 1.0000 | 0.1135 | 2.0863 | 2.09 | R |  |
| 8350 | 1.0000 | 0.6677 | 0.8987 | 0.90 |  | X |
| 8395 | 0.0000 | 0.8831 | -2.0720 | -2.07 | R |  |
| 8417 | 1.0000 | 0.1143 | 2.0826 | 2.08 | R |  |
| 8442 | 1.0000 | 0.3279 | 1.4934 | 1.49 |  | X |
| 8443 | 1.0000 | 0.0670 | 2.3249 | 2.33 | R |  |
| 8462 | 1.0000 | 0.5869 | 1.0324 | 1.03 |  | X |
| 8485 | 1.0000 | 0.0761 | 2.2699 | 2.27 | R |  |
| 8509 | 1.0000 | 0.1029 | 2.1325 | 2.13 | R |  |
| 8528 | 1.0000 | 0.7447 | 0.7678 | 0.77 |  | X |
| 8585 | 1.0000 | 0.4508 | 1.2624 | 1.26 |  | X |
| 8636 | 1.0000 | 0.1286 | 2.0252 | 2.03 | R |  |
| 8643 | 1.0000 | 0.6246 | 0.9702 | 0.97 |  | X |
| 8659 | 1.0000 | 0.0688 | 2.3138 | 2.31 | R |  |
| 8673 | 1.0000 | 0.3690 | 1.4120 | 1.41 |  | X |
| 8710 | 1.0000 | 0.0367 | 2.5713 | 2.57 | R |  |
| 8787 | 1.0000 | 0.5776 | 1.0477 | 1.05 |  | X |
| 8802 | 1.0000 | 0.1142 | 2.0831 | 2.08 | R |  |
| 8806 | 1.0000 | 0.6012 | 1.0088 | 1.01 |  | X |
| 8841 | 1.0000 | 0.5307 | 1.1256 | 1.13 |  | X |
| 8862 | 0.0000 | 0.8863 | -2.0851 | -2.09 | R |  |
| 8884 | 1.0000 | 0.0529 | 2.4244 | 2.42 | R |  |
| 8920 | 1.0000 | 0.0830 | 2.2309 | 2.23 | R |  |
| 8927 | 1.0000 | 0.1061 | 2.1182 | 2.12 | R |  |
| 8945 | 1.0000 | 0.1152 | 2.0790 | 2.08 | R |  |
| 9006 | 1.0000 | 0.1347 | 2.0024 | 2.00 | R |  |
| 9015 | 1.0000 | 0.1327 | 2.0100 | 2.01 | R |  |
| 9039 | 1.0000 | 0.6938 | 0.8550 | 0.86 |  | X |
| 9128 | 0.0000 | 0.9056 | -2.1727 | -2.17 | R |  |
| 9148 | 1.0000 | 0.0722 | 2.2928 | 2.29 | R |  |
| 9163 | 1.0000 | 0.4391 | 1.2831 | 1.28 |  | X |
| 9223 | 1.0000 | 0.3192 | 1.5113 | 1.51 |  | X |
| 9260 | 0.0000 | 0.8775 | -2.0493 | -2.05 | R |  |
| 9275 | 1.0000 | 0.0258 | 2.7046 | 2.71 | R |  |
| 9307 | 1.0000 | 0.5216 | 1.1409 | 1.14 |  | X |
| 9309 | 1.0000 | 0.0659 | 2.3321 | 2.33 | R |  |
| 9312 | 1.0000 | 0.0247 | 2.7200 | 2.72 | R |  |
| 9341 | 1.0000 | 0.5685 | 1.0628 | 1.06 |  | X |
| 9343 | 1.0000 | 0.5509 | 1.0920 | 1.09 |  | X |
| 9372 | 1.0000 | 0.0701 | 2.3059 | 2.31 | R |  |
| 9378 | 1.0000 | 0.3272 | 1.4948 | 1.50 |  | X |
| 9411 | 1.0000 | 0.0788 | 2.2543 | 2.25 | R |  |
| 9416 | 1.0000 | 0.0587 | 2.3816 | 2.38 | R |  |
| 9418 | 1.0000 | 0.0878 | 2.2057 | 2.21 | R |  |
| 9434 | 1.0000 | 0.1331 | 2.0083 | 2.01 | R |  |
| 9446 | 0.0000 | 0.8997 | -2.1448 | -2.15 | R |  |
| 9467 | 1.0000 | 0.0948 | 2.1709 | 2.17 | R |  |
| 9487 | 1.0000 | 0.1051 | 2.1228 | 2.12 | R |  |
| 9500 | 1.0000 | 0.6275 | 0.9655 | 0.97 |  | X |
| 9528 | 1.0000 | 0.6265 | 0.9671 | 0.97 |  | X |
| 9572 | 1.0000 | 0.1272 | 2.0306 | 2.03 | R |  |
| 9575 | 0.0000 | 0.8668 | -2.0080 | -2.01 | R |  |
| 9634 | 1.0000 | 0.7287 | 0.7956 | 0.80 |  | X |
| 9639 | 1.0000 | 0.4927 | 1.1899 | 1.19 |  | X |
| 9656 | 1.0000 | 0.4171 | 1.3224 | 1.32 |  | X |
| 9675 | 1.0000 | 0.0701 | 2.3056 | 2.31 | R |  |
| 9682 | 1.0000 | 0.4887 | 1.1967 | 1.20 |  | X |
| 9687 | 1.0000 | 0.0364 | 2.5736 | 2.57 | R |  |
| 9705 | 1.0000 | 0.1153 | 2.0786 | 2.08 | R |  |
| 9729 | 1.0000 | 0.3139 | 1.5223 | 1.52 |  | X |
| 9750 | 1.0000 | 0.0671 | 2.3243 | 2.32 | R |  |
| 9763 | 1.0000 | 0.6023 | 1.0069 | 1.01 |  | X |
| 9765 | 1.0000 | 0.1317 | 2.0137 | 2.01 | R |  |
| 9770 | 1.0000 | 0.4101 | 1.3353 | 1.34 |  | X |
| 9772 | 1.0000 | 0.0842 | 2.2249 | 2.23 | R |  |
| 9784 | 1.0000 | 0.1114 | 2.0951 | 2.10 | R |  |
| 9802 | 1.0000 | 0.0881 | 2.2043 | 2.20 | R |  |
| 9812 | 1.0000 | 0.1220 | 2.0511 | 2.05 | R |  |
| 9860 | 1.0000 | 0.3782 | 1.3945 | 1.40 |  | X |
| 9894 | 1.0000 | 0.0859 | 2.2154 | 2.22 | R |  |
| 9895 | 1.0000 | 0.8388 | 0.5930 | 0.59 |  | X |
| 9901 | 1.0000 | 0.0897 | 2.1959 | 2.20 | R |  |
| 9913 | 1.0000 | 0.1034 | 2.1304 | 2.13 | R |  |
| 9928 | 1.0000 | 0.6482 | 0.9311 | 0.93 |  | X |
| 9938 | 1.0000 | 0.0445 | 2.4949 | 2.50 | R |  |
| 9943 | 1.0000 | 0.3515 | 1.4461 | 1.45 |  | X |
| 9996 | 1.0000 | 0.1256 | 2.0371 | 2.04 | R |  |
| 9999 | 1.0000 | 0.0860 | 2.2152 | 2.22 | R |  |

*R  Large residual  
X  Unusual X*



**Contour Plots of Failed**

