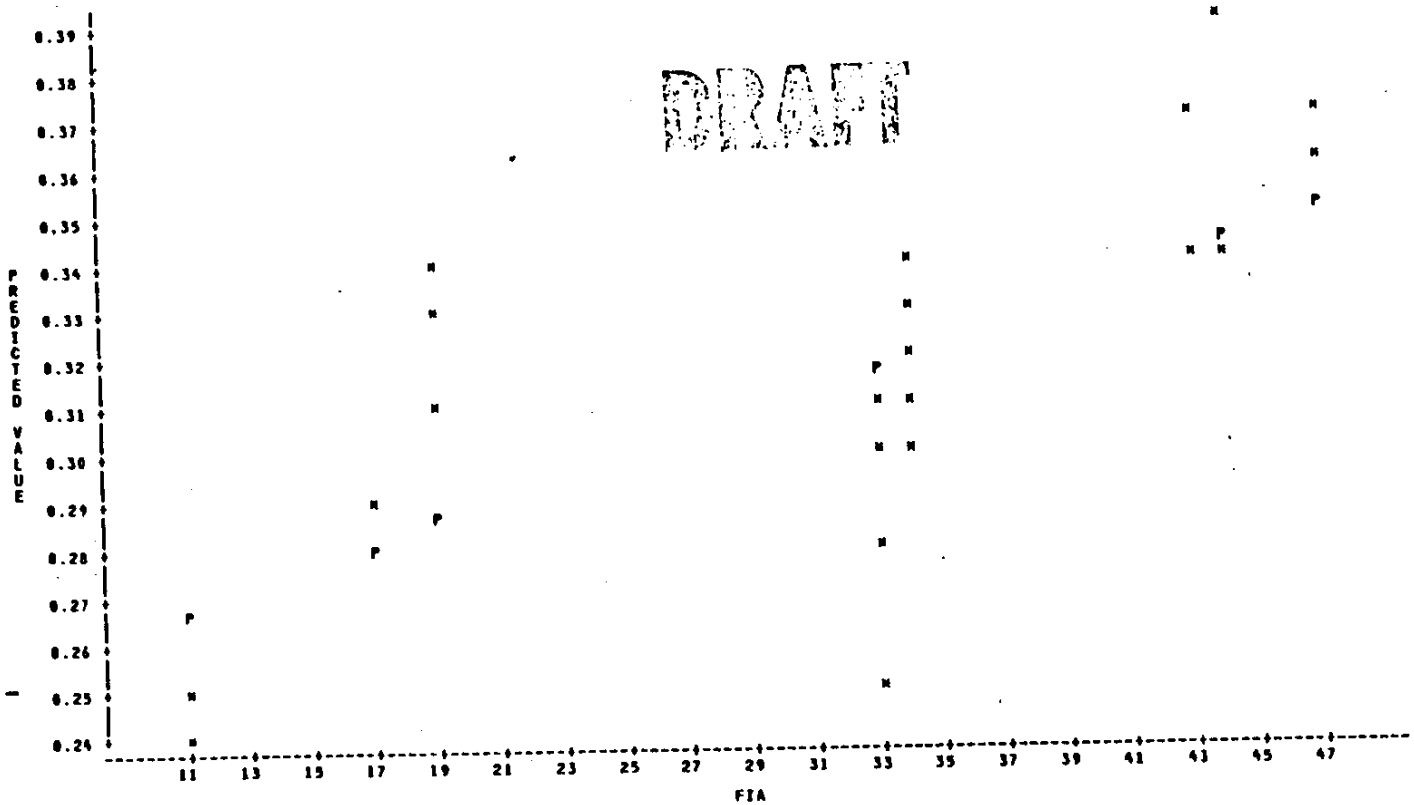
# APPENDIX C

## ARB Staff Statistical Analysis of CRC Data

DDAD 60

PLOT OF PMCS*FIA SYMBOL USED IS *
PLOT OF PRED800*FIA SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 37 OBS HIDDEN

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.01764693 | 0.01764693 | 21.969 | 0.0001 |
| ERROR | 29 | 0.02329500 | 0.000803276 | | |
| C TOTAL | 30 | 0.04094194 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02834212 | R-SQUARE | 0.4310 |
| DEP MEAN | 0.3177419 | ADJ R-SQ | 0.4114 |
| C.V. | 8.919856 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.24132976 | 0.01707897 | 14.130 | 0.0001 |
| FIA | 1 | 0.002329181 | 0.000496937 | 4.687 | 0.0001 |

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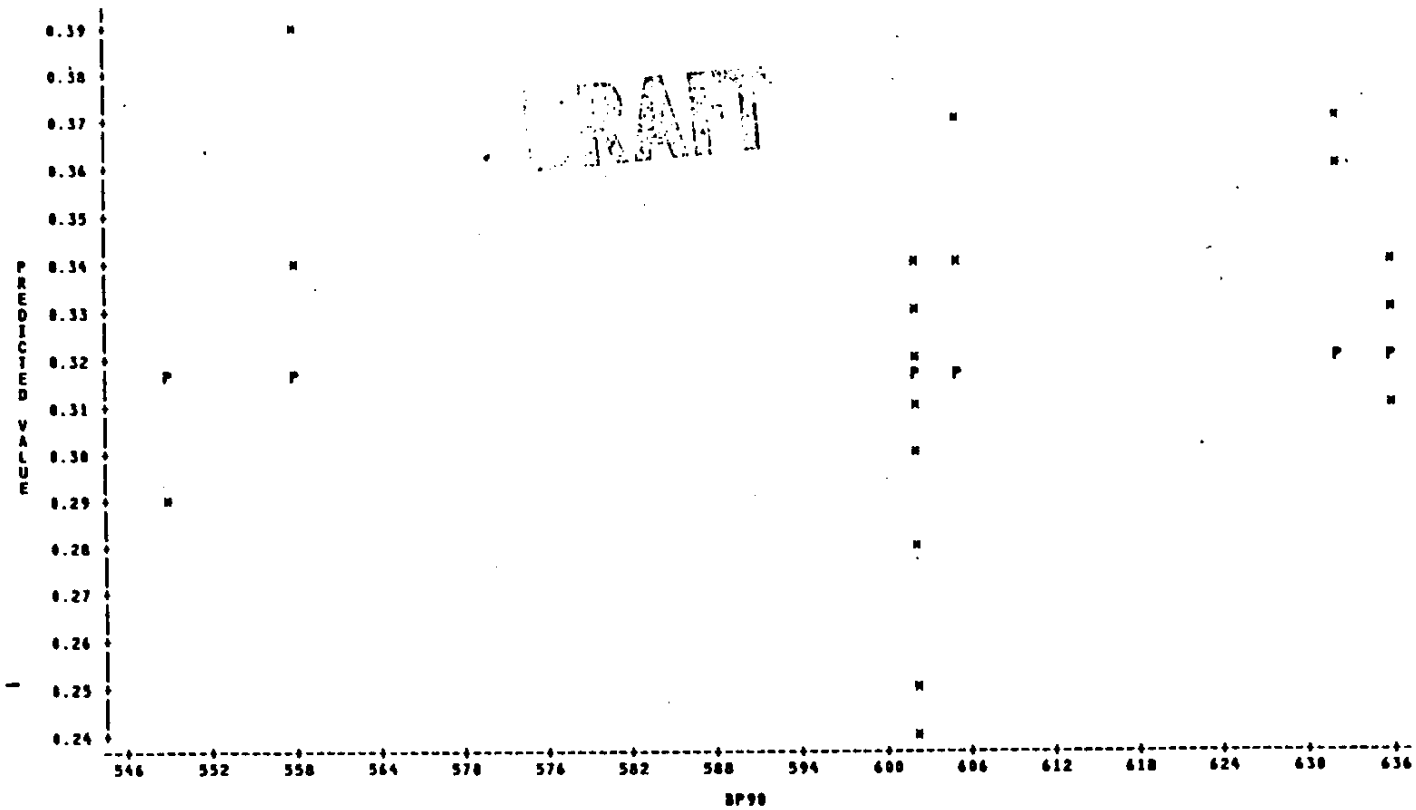
PLOT OF FMCS*BP90 SYMBOL USED IS M
PLOT OF PRED813*BP90 SYMBOL USED IS P

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NOTE: 132 OBS HAD MISSING VALUES 42 OBS HIDDEN

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.000040444 | 0.000040444 | 0.029 | 0.8667 |
| ERROR | 29 | 0.04090149 | 0.001410396 | | |
| C TOTAL | 30 | 0.04094194 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.03755524 | R-SQUARE | 0.0010 |
| DEP MEAN | 0.3177419 | ADJ R-SQ | -0.0335 |
| C.V. | 11.81942 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.28957834 | 0.16645163 | 1.740 | 0.0925 |
| BP90 | 1 | 0.000047063 | 0.000277924 | 0.169 | 0.8667 |

DEP VARIABLE: PMCS

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ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.01802897 | 0.009014485 | 11.016 | 0.0003 |
| ERROR | 28 | 0.02291297 | 0.000818320 | | |
| C TOTAL | 30 | 0.04094194 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.0286063 | R-SQUARE | 0.4404 |
| DEP MEAN | 0.3177419 | ADJ R-SQ | 0.4004 |
| C.V. | 9.002997 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.15323349 | 0.13008054 | 1.178 | 0.2487 |
| FIA | 1 | 0.002363119 | 0.000504022 | 4.689 | 0.0001 |
| BF90 | 1 | 0.000145354 | 0.000212733 | 0.683 | 0.5001 |

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.01025141 | 0.01025141 | 9.687 | 0.0042 |
| ERROR | 29 | 0.03069053 | 0.001058294 | | |
| C TOTAL | 30 | 0.04094194 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.03253143 | R-SQUARE | 0.2504 |
| DEP MEAN | 0.3177419 | ADJ R-SQ | 0.2245 |
| C.V. | 10.23832 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.27961039 | 0.01357359 | 20.600 | 0.0001 |
| SULFUR | 1 | 0.17244025 | 0.05540515 | 3.112 | 0.0042 |

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DEP VARIABLE: PMCS

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ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.02624969 | 0.008749897 | 16.080 | 0.0001 |
| ERROR | 27 | 0.01469224 | 0.000544157 | | |
| C TOTAL | 30 | 0.04094194 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02332718 | R-SQUARE | 0.6411 |
| DEP MEAN | 0.3177419 | ADJ R-SQ | 0.6013 |
| C.V. | 7.341548 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.06791853 | 0.10832218 | 0.627 | 0.5359 |
| FIA | 1 | 0.002206916 | 0.000412968 | 5.344 | 0.0001 |
| SULFUR | 1 | 0.15684228 | 0.04035249 | 3.887 | 0.0006 |
| BP90 | 1 | 0.000238528 | 0.000175123 | 1.362 | 0.1844 |

EP VARIABLE: PMCS

ANALYSIS OF VARIANCE

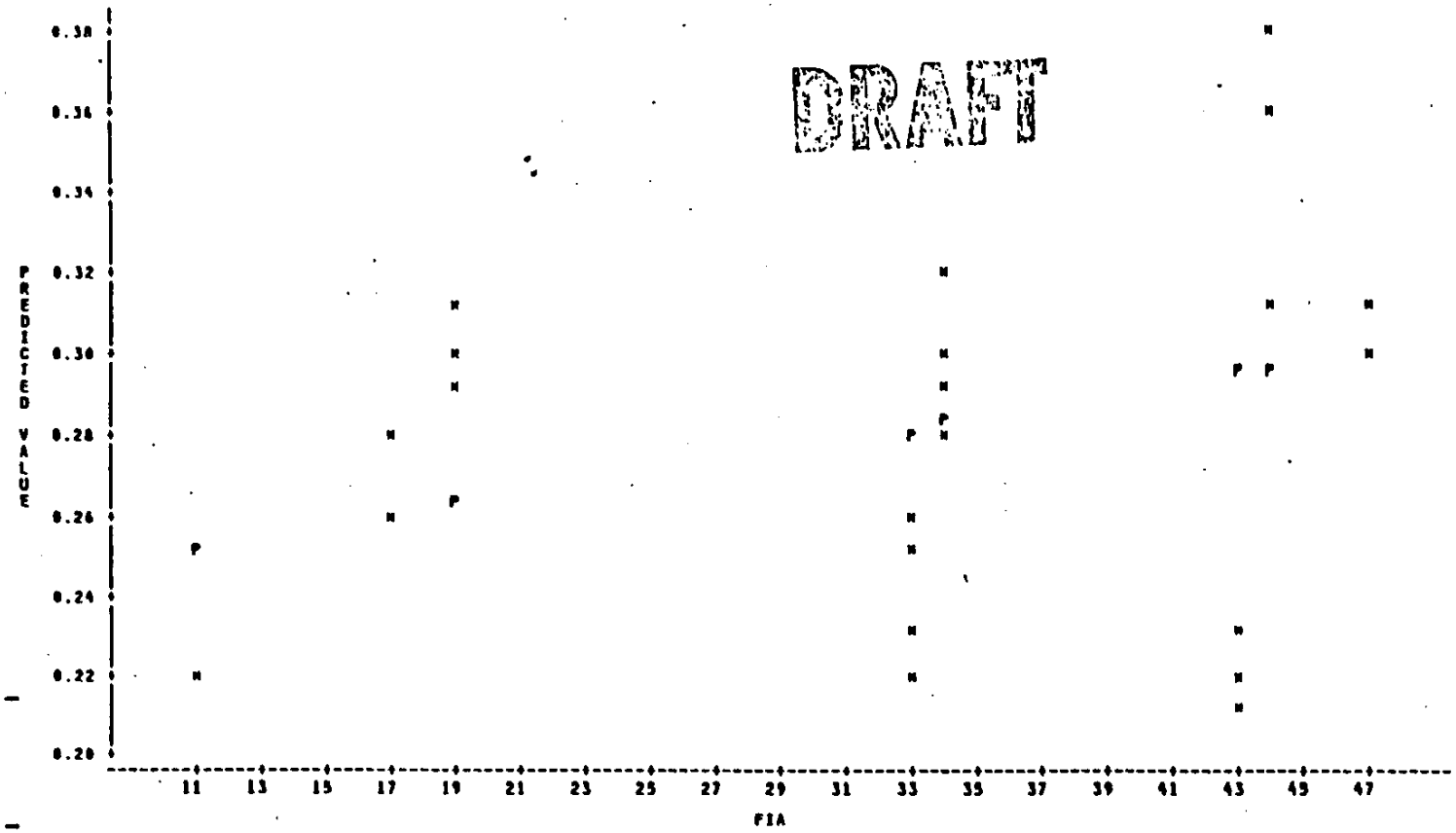
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.02524017 | 0.01262008 | 22.505 | 0.0001 |
| ERROR | 28 | 0.01570177 | 0.000560777 | | |
| C TOTAL | 30 | 0.04094194 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02368074 | R-SQUARE | 0.6165 |
| DEP MEAN | 0.3177419 | ADJ R-SQ | 0.5891 |
| C.V. | 7.452822 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.21386918 | 0.01610354 | 13.281 | 0.0001 |
| FIA | 1 | 0.002159760 | 0.000417751 | 5.170 | 0.0001 |
| SULFUR | 1 | 0.14931871 | 0.04057850 | 3.680 | 0.0010 |

PLOT OF PMHSHFIA SYMBOL USED IS M
PLOT OF PREDB19HFIA SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 36 OBS HIDDEN

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.005806816 | 0.005806816 | 3.363 | 0.0770 |
| ERROR | 29 | 0.05006493 | 0.001726378 | | |
| C TOTAL | 30 | 0.05587897 | | | |

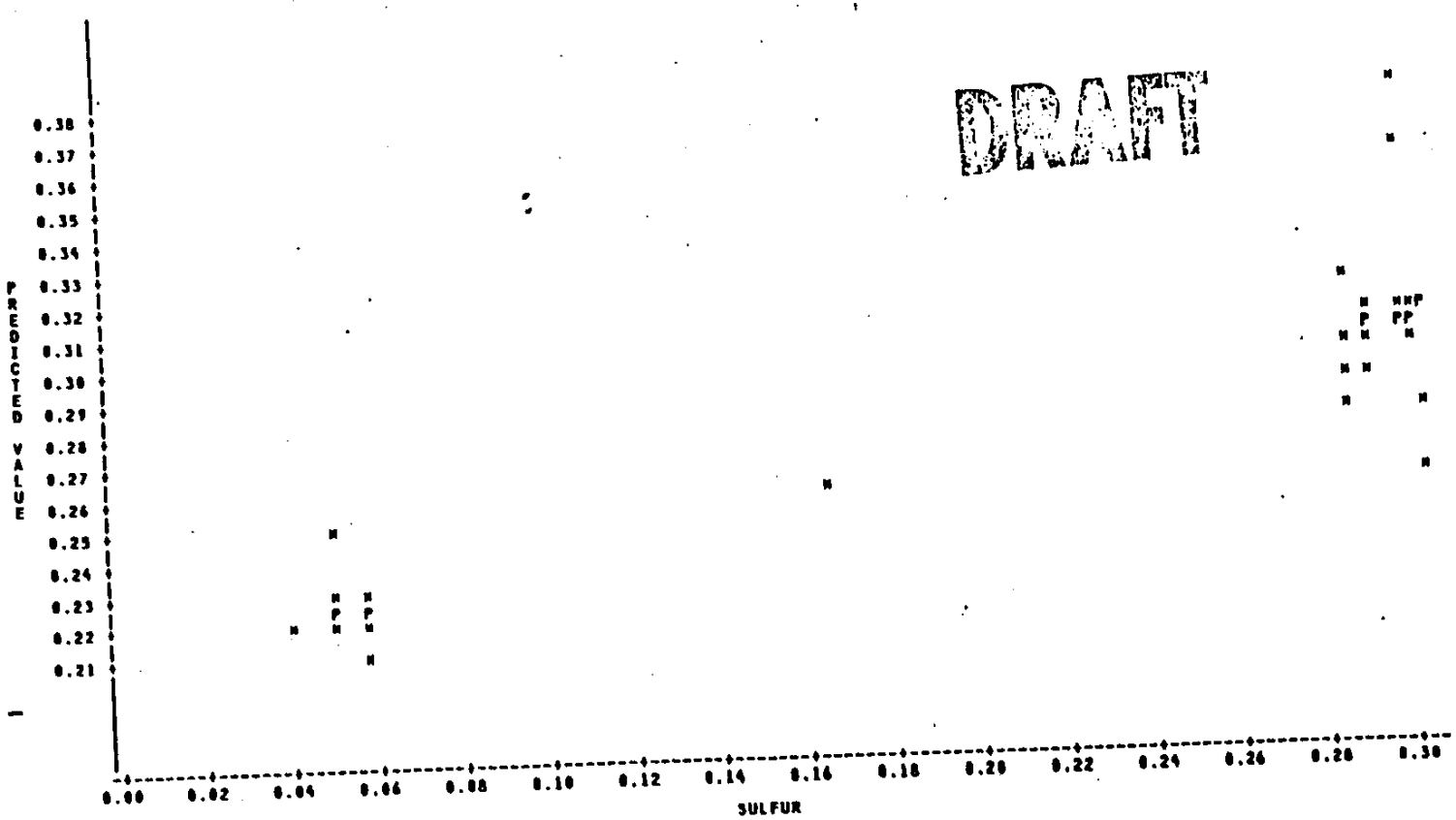
| | | | |
|---|---|---|---|
| ROOT MSE | 0.0415497 | R-SQUARE | 0.1039 |
| DEP MEAN | 0.2809677 | ADJ R-SQ | 0.0730 |
| C.V. | 14.78807 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.23713818 | 0.02503786 | 9.471 | 0.0001 |
| FIA | 1 | 0.001336004 | 0.000728512 | 1.834 | 0.0770 |

SAS

PLOT OF PMHS*SULFUR SYMBOL USED IS *
PLOT OF PRED82A*SULFUR SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 35 OBS HIDDEN

DEP VARIABLE: PMHS

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ANALYSIS OF VARIANCE

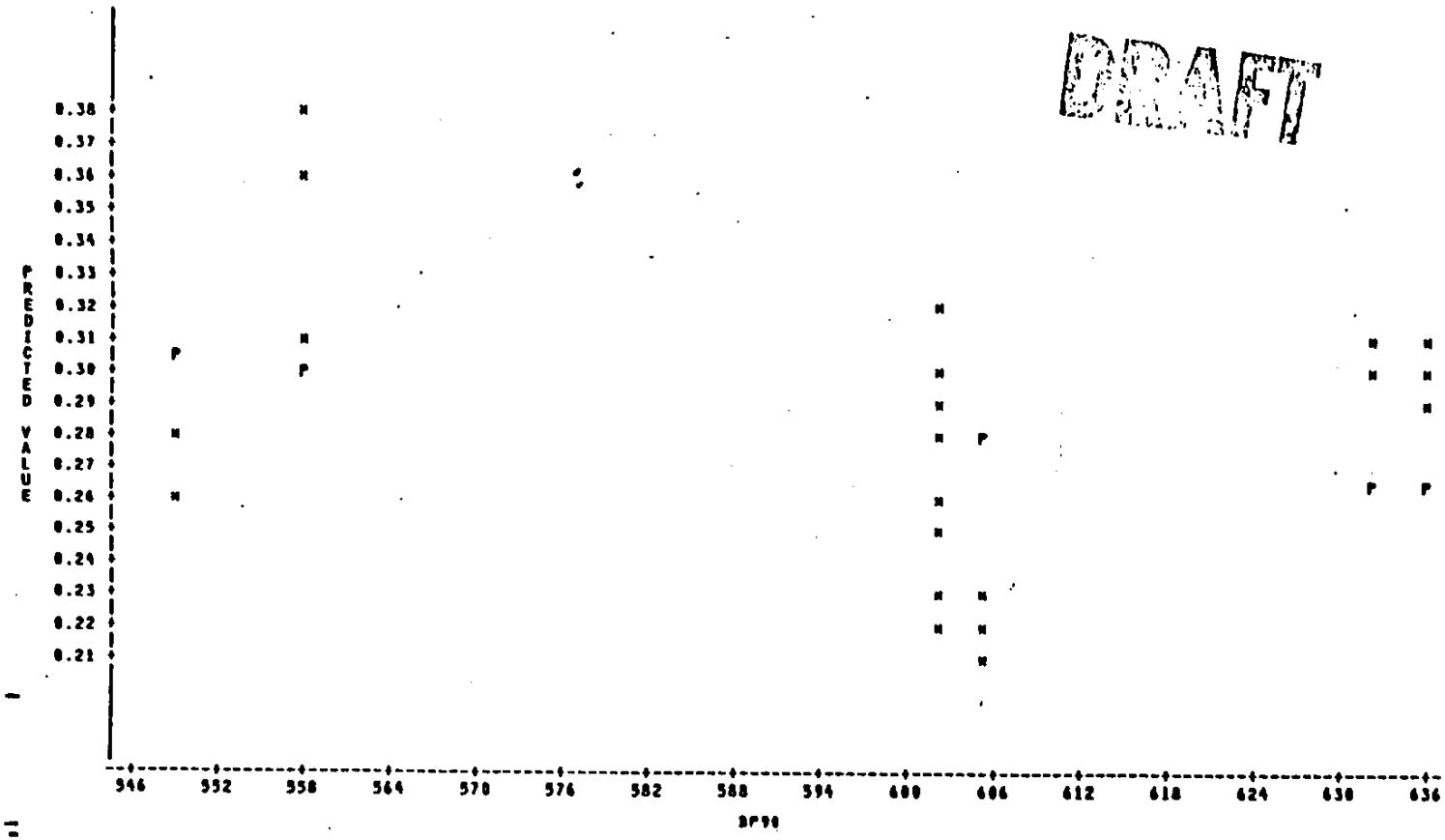
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.03788619 | 0.03788619 | 61.091 | 0.0001 |
| ERROR | 29 | 0.01798478 | 0.000620165 | | |
| C TOTAL | 30 | 0.05587097 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02490311 | R-SQUARE | 0.6781 |
| DEP MEAN | 0.2809677 | ADJ R-SQ | 0.6670 |
| C.V. | 8.863334 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.20766282 | 0.01039071 | 19.985 | 0.0001 |
| SULFUR | 1 | 0.33150294 | 0.04241315 | 7.816 | 0.0001 |

PLOT OF PMHISHBP90 SYMBOL USED IS H
PLOT OF PREDB33HBP90 SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 39 OBS HIDDEN

DEP VARIABLE: PMHS

SAS

8:57 TUESDAY, JULY 5, 1988 687

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.003853975 | 0.003853975 | 2.149 | 0.1535 |
| ERROR | 29 | 0.05201699 | 0.001793689 | | |
| C TOTAL | 30 | 0.05587097 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.04235197 | R-SQUARE | 0.0690 |
| DEP MEAN | 0.2809677 | ADJ R-SQ | 0.0367 |
| C.V. | 15.07361 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.65639612 | 0.25623457 | 2.562 | 0.0159 |
| EP | 1 | -0.000582001 | 0.000397048 | -1.466 | 0.1535 |

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CLP VARIABLE: PMHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.04092005 | 0.02046002 | 38.317 | 0.0001 |
| ERROR | 28 | 0.01495092 | 0.000533961 | | |
| C TOTAL | 30 | 0.05587097 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02310761 | R-SQUARE | 0.7324 |
| DEP MEAN | 0.2809677 | ADJ R-SQ | 0.7133 |
| C.V. | 8.224291 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.17808593 | 0.01571380 | 11.333 | 0.0001 |
| FIA | 1 | 0.000971673 | 0.000407641 | 2.384 | 0.0242 |
| SULFUP | 1 | 0.32110058 | 0.03959640 | 8.109 | 0.0001 |

F VARIABLE: PMHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.008981769 | 0.004490885 | 2.682 | 0.0860 |
| ERROR | 28 | 0.04688920 | 0.001674614 | | |
| C TOTAL | 30 | 0.05587097 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.04092205 | R-SQUARE | 0.1608 |
| DEP MEAN | 0.2809677 | ADJ R-SQ | 0.1008 |
| C.V. | 14.56468 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.49113414 | 0.18608360 | 2.639 | 0.0134 |
| FIA | 1 | 0.001238156 | 0.000721017 | 1.717 | 0.0970 |
| BP90 | 1 | -0.000419081 | 0.000304321 | -1.377 | 0.1794 |

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P VARIABLE: PMHS

ANALYSIS OF VARIANCE

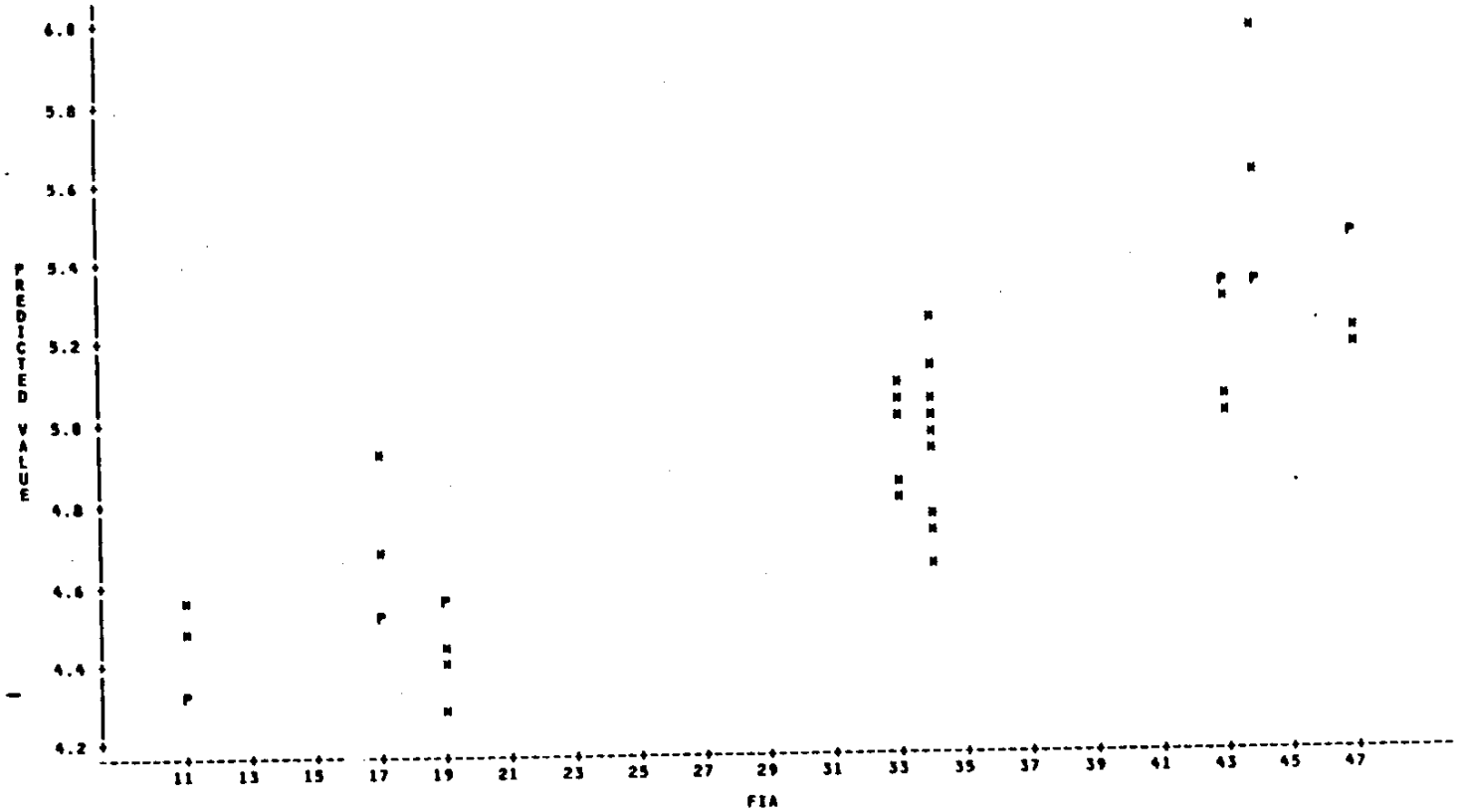
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.04198073 | 0.01396024 | 26.942 | 0.0001 |
| ERROR | 27 | 0.01399023 | 0.00051815 | | |
| C TOTAL | 30 | 0.05587097 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02276306 | R-SQUARE | 0.7496 |
| DEP MEAN | 0.2809677 | ADJ R-SQ | 0.7218 |
| C.V. | 8.101662 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.32046253 | 0.10570264 | 3.032 | 0.0053 |
| FIA | 1 | 0.000925672 | 0.00040298 | 2.297 | 0.0296 |
| SULFUR | 1 | 0.31376124 | 0.03937665 | 7.968 | 0.0001 |
| BP90 | 1 | -0.000232687 | 0.00017088 | -1.362 | 0.1846 |

PLOT OF NOXCSNFIA SYMBOL USED IS N
PLOT OF PRED500NFIA SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 30 OBS HIDDEN

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 3.04477629 | 3.04477629 | 37.398 | 0.0001 |
| ERROR | 29 | 2.36104306 | 0.08141528 | | |
| C TOTAL | 30 | 5.40581935 | | | |

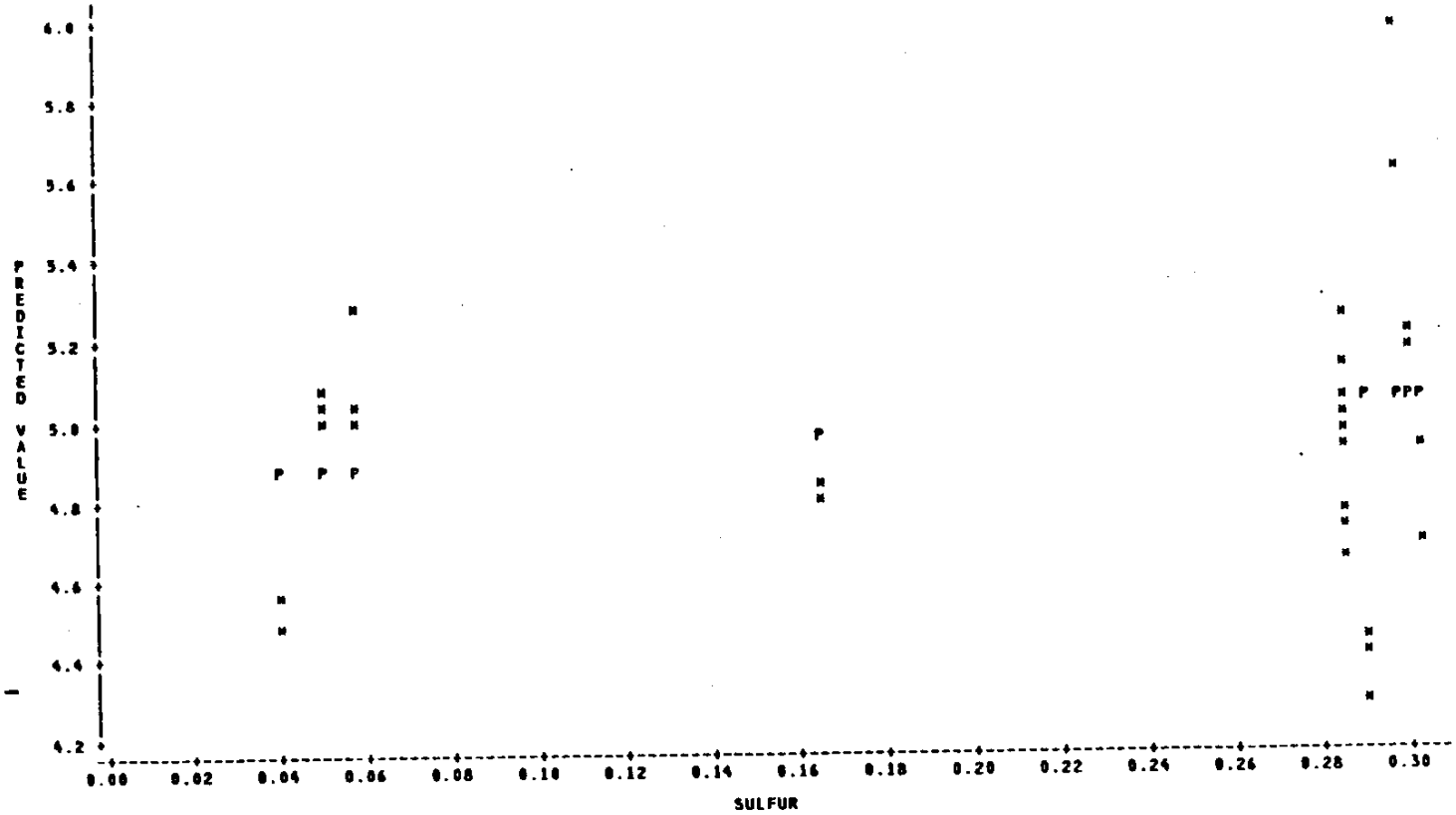
| | | | |
|---|---|---|---|
| ROOT MSE | 0.2853336 | R-SQUARE | 0.5632 |
| DEP MEAN | 4.991613 | ADJ R-SQ | 0.5482 |
| C.V. | 5.716261 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.98790882 | 0.17194210 | 23.193 | 0.0001 |
| FIA | 1 | 0.03059472 | 0.005002898 | 6.115 | 0.0001 |

UDAD

PLOT OF NOXCS*SULFUR SYMBOL USED IS *
PLOT OF PRED509*SULFUR SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 29 OBS HIDDEN

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.11666875 | 0.11666875 | 0.640 | 0.4303 |
| ERROR | 29 | 5.28915060 | 0.18238450 | | |
| C TOTAL | 30 | 5.40581935 | | | |

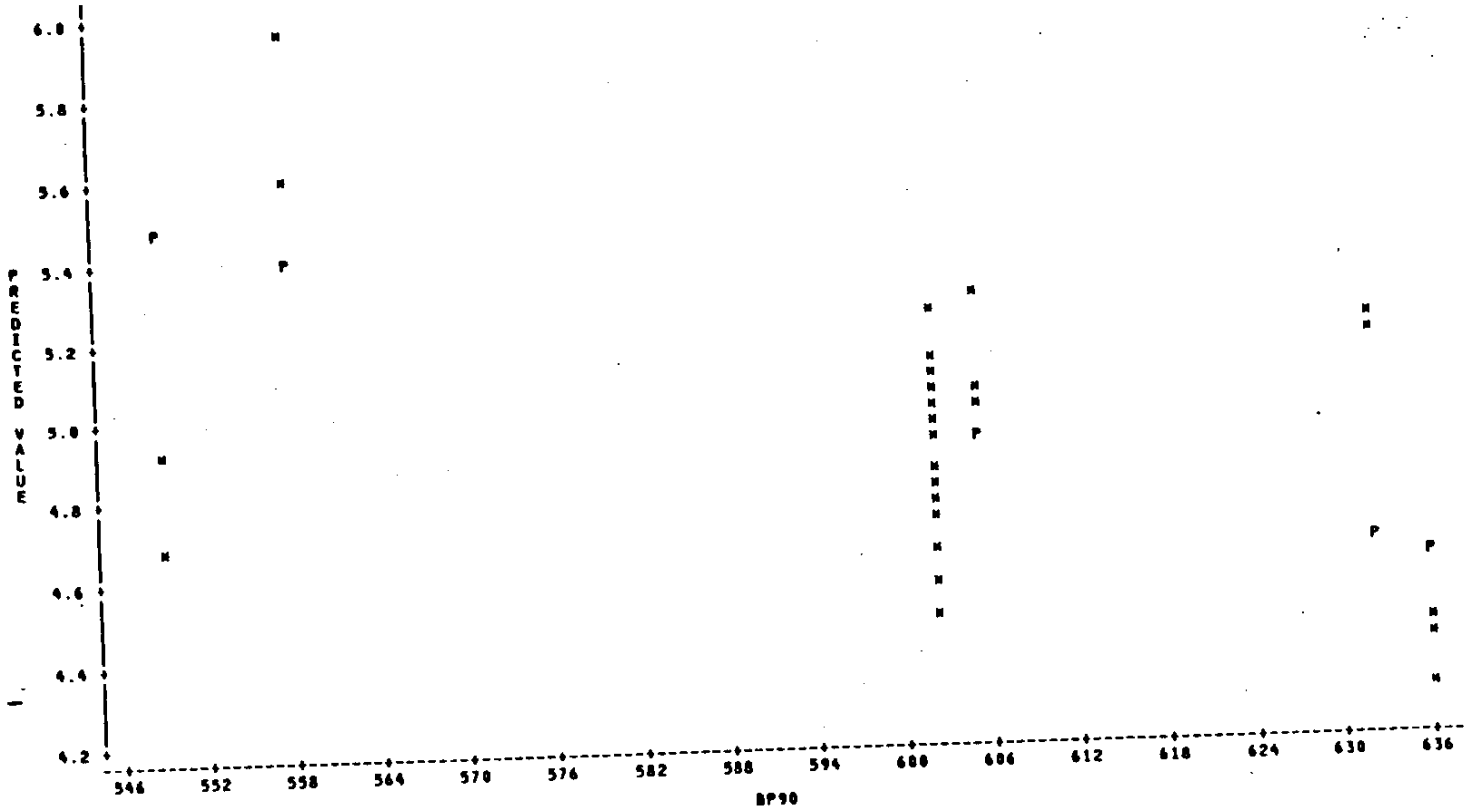
| | | | |
|---|---|---|---|
| ROOT MSE | 0.427065 | R-SQUARE | 0.0216 |
| DEP MEAN | 4.991613 | ADJ R-SQ | -0.0122 |
| C.V. | 8.555651 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.86297470 | 0.17819089 | 27.291 | 0.0001 |
| SULFUR | 1 | 0.58173368 | 0.72734573 | 0.800 | 0.4303 |

SAS

PLOT OF NOXCSMBP90 SYMBOL USED IS M
PLOT OF PRED513MBP90 SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 34 OBS HIDDEN

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 1.84210005 | 1.84210005 | 14.990 | 0.0006 |
| ERROR | 29 | 3.56371931 | 0.12288687 | | |
| C TOTAL | 30 | 5.40581935 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.3505522 | R-SQUARE | 0.3408 |
| DEP MEAN | 4.991613 | ADJ R-SQ | 0.3180 |
| C.V. | 7.022825 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 11.80220454 | 1.55371098 | 7.081 | 0.0001 |
| BP90 | 1 | -0.01004411 | 0.002594226 | -3.872 | 0.0006 |

EP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 3.06732701 | 1.53366350 | 18.363 | 0.0001 |
| ERROR | 28 | 2.33849235 | 0.08351758 | | |
| C TOTAL | 30 | 5.40581935 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.2889941 | R-SQUARE | 0.5674 |
| DEP MEAN | 4.991613 | ADJ R-SQ | 0.5365 |
| C.V. | 5.789593 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.94058539 | 0.19652381 | 20.051 | 0.0001 |
| FIA | 1 | 0.03030275 | 0.00509137 | 5.944 | 0.0001 |
| SULFUR | 1 | 0.25732434 | 0.49521035 | 0.520 | 0.6074 |

> VARIABLE: NOXES

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 4.46344904 | 2.23172452 | 66.310 | 0.0001 |
| ERROR | 28 | 0.94237031 | 0.03365608 |  |  |
| C TOTAL | 30 | 5.40581935 |  |  |  |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1834559 | R-SQUARE | 0.8257 |
| DEP MEAN | 4.991613 | ADJ R-SQ | 0.8132 |
| C.V. | 3.675294 |  |  |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 2.35630479 | 0.27422362 | 11.216 | 0.0001 |
| FIA | 1 | 0.02852662 | 0.003232359 | 8.825 | 0.0001 |
| RPM | 1 | -0.00885793 | 0.001364297 | -6.492 | 0.0001 |

P VARIABLE: NOXCS

ANALYSIS OF VARIANCE

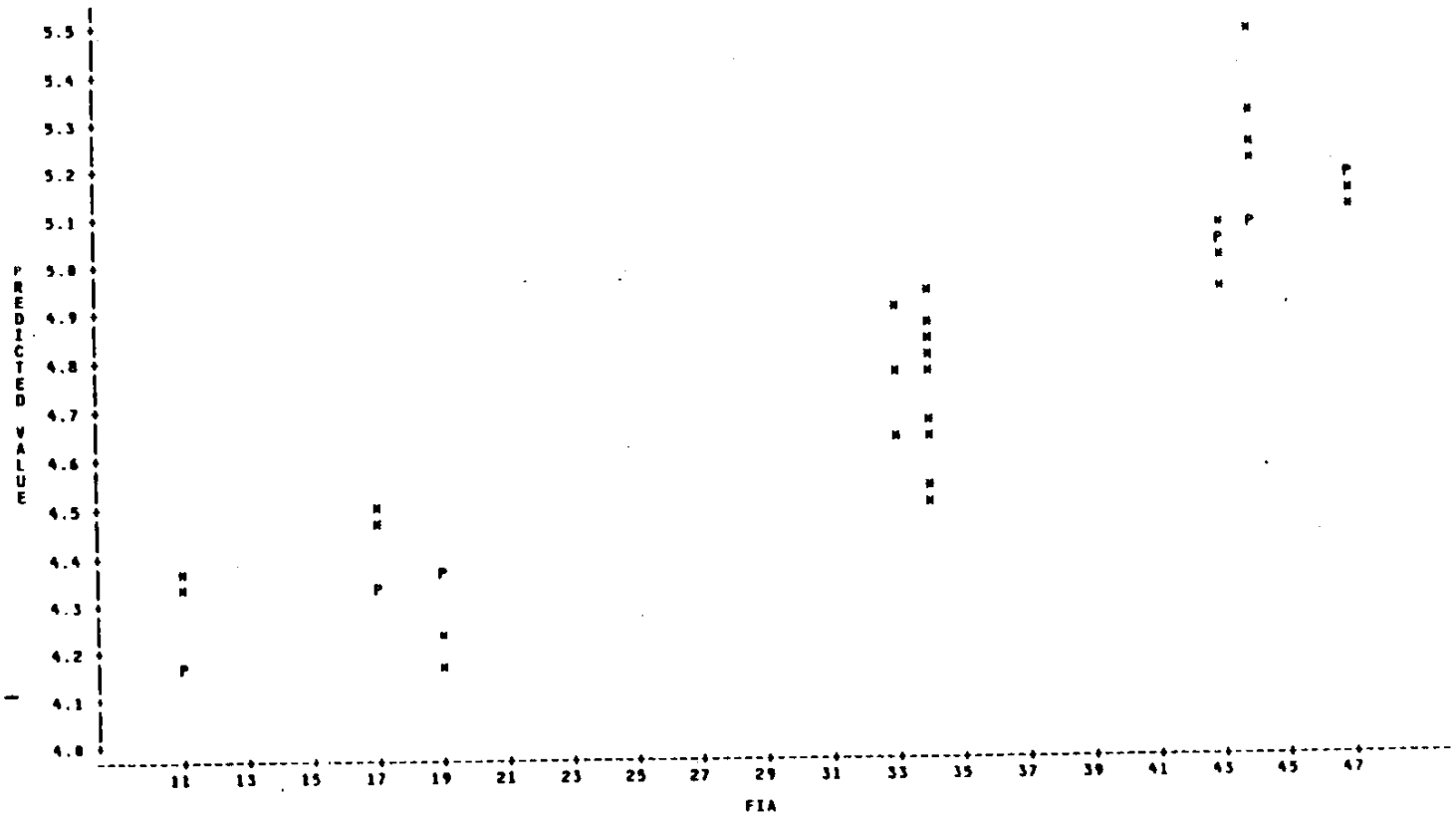
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 4.46361792 | 1.48787264 | 42.637 | 0.0001 |
| ERROR | 27 | 0.94220144 | 0.03489635 | | |
| C TOTAL | 30 | 5.40581935 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1868056 | R-SQUARE | 0.8257 |
| DEP MEAN | 4.991613 | ADJ R-SQ | 0.8063 |
| C.V. | 3.74239 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 9.36453265 | 0.86745153 | 10.800 | 0.0001 |
| FIA | 1 | 0.02854901 | 0.003307076 | 8.633 | 0.0001 |
| SULFUR | 1 | -0.02247961 | 0.32314555 | -0.070 | 0.9451 |
| HF90 | 1 | -0.008870937 | 0.001402399 | -6.326 | 0.0001 |

PLOT OF NOXHS*FIA SYMBOL USED IS *
PLOT OF PRED519*FIA SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 31 OBS HIDDEN

DEP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

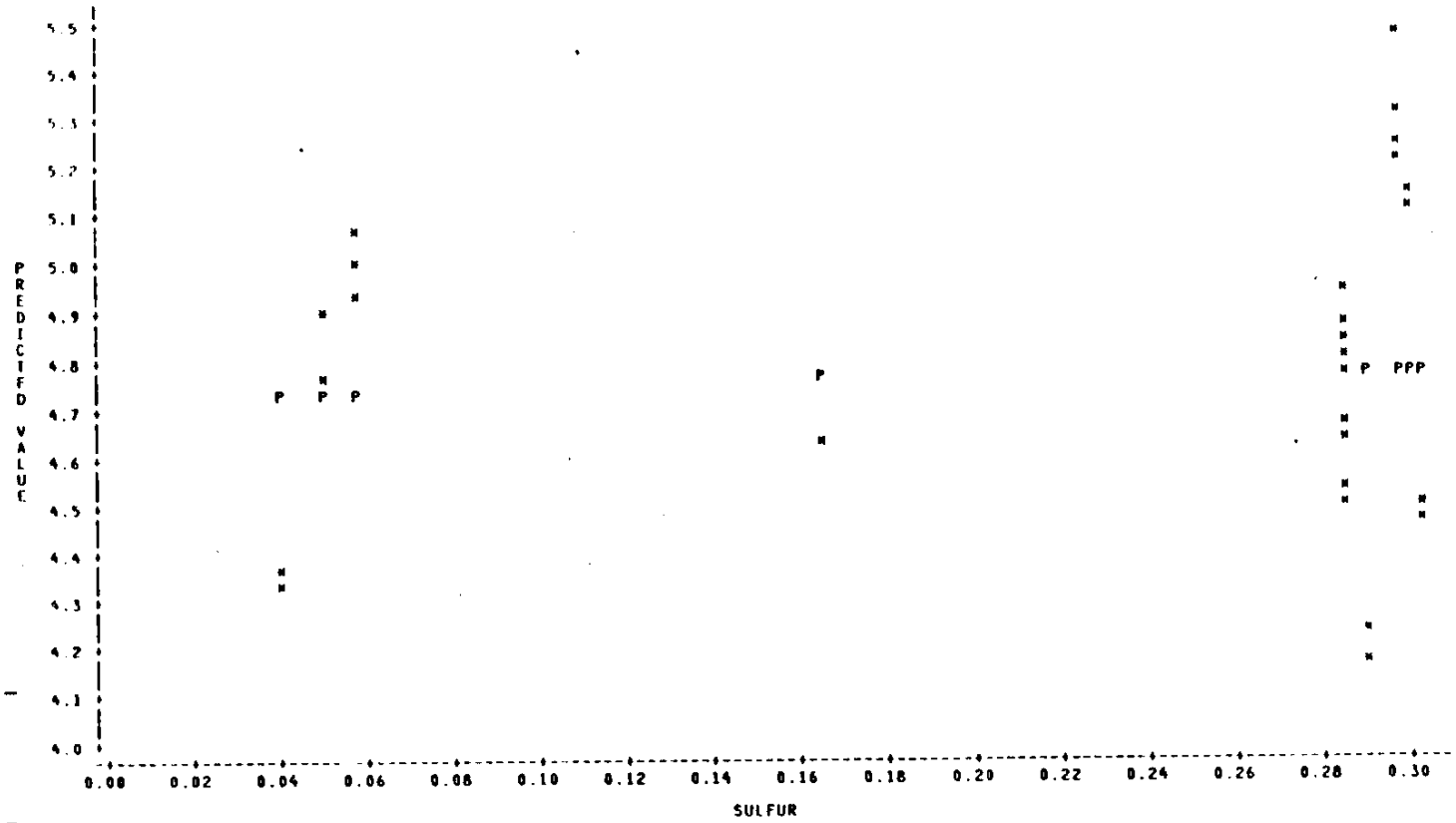
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 2.52997224 | 2.52997224 | 98.894 | 0.0001 |
| ERROR | 29 | 0.80719550 | 0.02783433 | | |
| C TOTAL | 30 | 3.33716774 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1668362 | R-SQUARE | 0.7581 |
| DEP MEAN | 4.764516 | ADJ R-SQ | 0.7498 |
| C.V. | 3.501641 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.84959033 | 0.10053554 | 38.291 | 0.0001 |
| FIA | 1 | 0.02788859 | 0.002925224 | 9.534 | 0.0001 |

PLOT OF NOXHS*SULFUR SYMBOL USED IS *
PLOT OF PRED529*SULFUR SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 30 OBS HIDDEN

DEP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

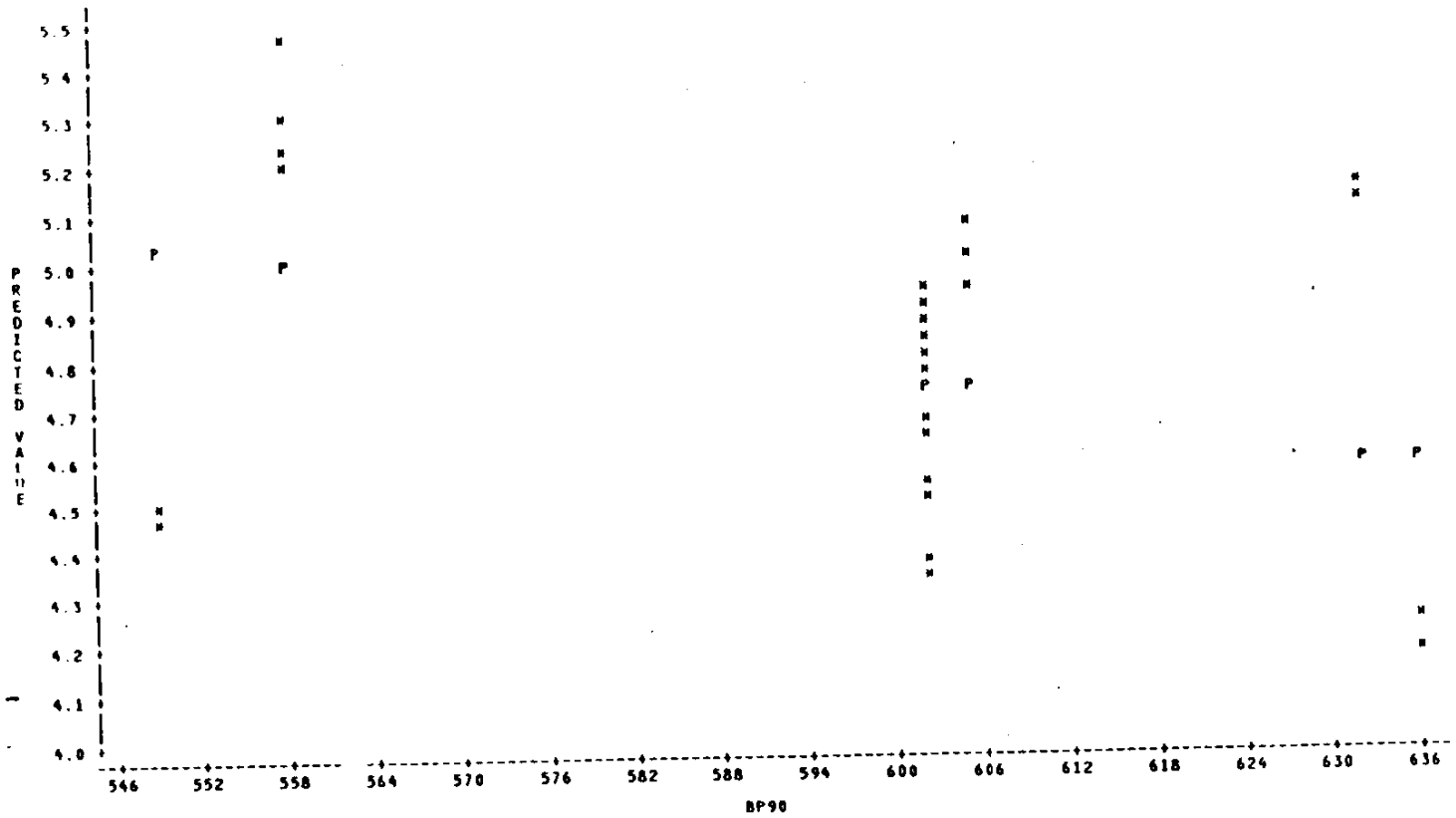
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.003009730 | 0.003009730 | 0.026 | 0.8726 |
| ERROR | 29 | 3.33415801 | 0.11497097 | | |
| C TOTAL | 30 | 3.33716774 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.3390737 | R-SQUARE | 0.0009 |
| DEP MEAN | 4.764516 | ADJ R-SQ | -0.0335 |
| C.V. | 7.116645 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.74385489 | 0.14147693 | 33.531 | 0.0001 |
| SULFUR | 1 | 0.09343523 | 0.57748541 | 0.162 | 0.8726 |

PLOT OF NOXH5*BP90 SYMBOL USED IS *
PLOT OF PRED533*BP90 SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 35 OBS HIDDEN

DEP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.53718010 | 0.53718010 | 5.564 | 0.0253 |
| ERROR | 29 | 2.79998764 | 0.09655130 | | |
| C TOTAL | 30 | 3.33716774 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.310727 | R-SQUARE | 0.1610 |
| DEP MEAN | 4.764516 | ADJ R-SQ | 0.1320 |
| C.V. | 6.521692 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 8.01030729 | 1.37719852 | 5.816 | 0.0001 |
| BP90 | 1 | -0.005423941 | 0.002299503 | -2.359 | 0.0253 |

EP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 2.54465706 | 1.27232853 | 44.952 | 0.0001 |
| ERROR | 28 | 0.79251069 | 0.02830395 | | |
| C TOTAL | 30 | 3.33716774 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1682378 | R-SQUARE | 0.7625 |
| DEP MEAN | 4.764516 | ADJ R-SQ | 0.7456 |
| C.V. | 3.531057 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.89777863 | 0.11440625 | 34.082 | 0.0001 |
| FIA | 1 | 0.02812420 | 0.00296787[illegible] | 9.476 | 0.0001 |
| SULFUR | 1 | -0.20765144 | 0.28828649 | -0.720 | 0.4773 |

> VARIABLE: NOXHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 2.86520541 | 1.43260471 | 84.993 | 0.0001 |
| ERROR | 28 | 0.47195633 | 0.01685565 | | |
| C TOTAL | 30 | 3.33716774 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1298293 | R-SQUARE | 0.8586 |
| DEP MEAN | 4.764516 | ADJ R-SQ | 0.8485 |
| C.V. | 2.724922 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 6.45922378 | 0.55034896 | 10.941 | 0.0001 |
| FTA | 1 | 0.02688327 | 0.00228749B | 11.752 | 0.0001 |
| RF90 | 1 | -0.004305764 | 0.000965488 | -4.460 | 0.0001 |

P VARIABLE: NOXHS

ANALYSIS OF VARIANCE

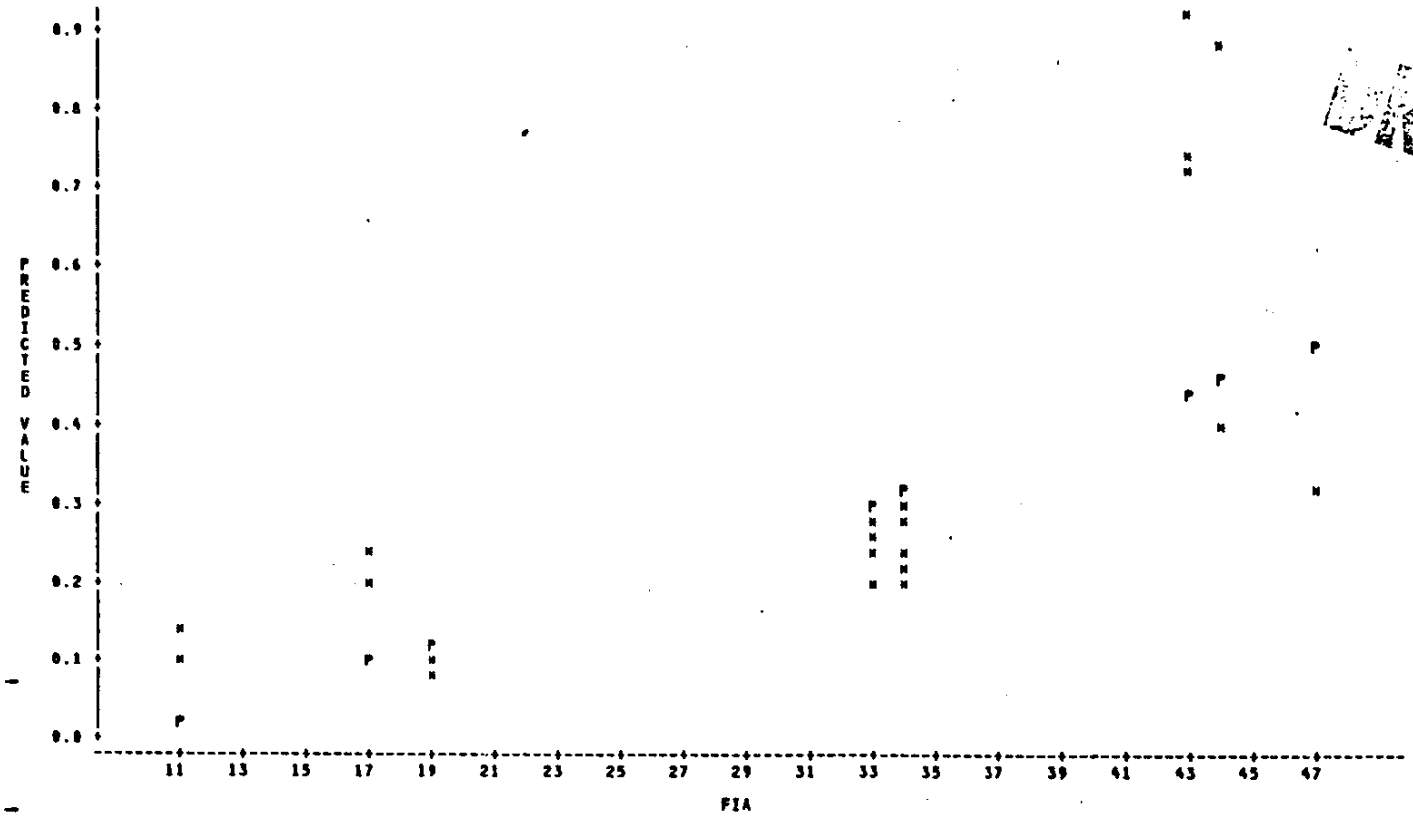
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 2.90615165 | 0.96871722 | 60.693 | 0.0001 |
| ERROR | 27 | 0.43101609 | 0.01596356 | | |
| C TOTAL | 30 | 3.33716774 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.126347 | R-SQUARE | 0.8708 |
| DEP MEAN | 4.764516 | ADJ R-SQ | 0.8565 |
| C.V. | 2.651832 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 6.64961896 | 0.58670539 | 11.334 | 0.0001 |
| FIA | 1 | 0.02723186 | 0.002236758 | 12.175 | 0.0001 |
| SULFUR | 1 | -0.35002068 | 0.21856119 | -1.601 | 0.1209 |
| RF90 | 1 | -0.704513697 | 0.000948520 | -4.759 | 0.0001 |

PLOT OF HCCS*FIA SYMBOL USED IS M
PLOT OF PRED*FIA SYMBOL USED IS P




NOTE: 133 OBS HAD MISSING VALUES 36 OBS HIDDEN

DRAFT

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.54502068 | 0.54502068 | 18.699 | 0.0002 |
| ERROR | 28 | 0.81612599 | 0.02914736 | | |
| C TOTAL | 29 | 1.36114667 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.170726 | R-SQUARE | 0.4004 |
| DEP MEAN | 0.3086667 | ADJ R-SQ | 0.3790 |
| C.V. | 55.31079 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | -0.13560496 | 0.10736475 | -1.263 | 0.2170 |
| FIA | 1 | 0.01335486 | 0.003088392 | 4.324 | 0.0002 |

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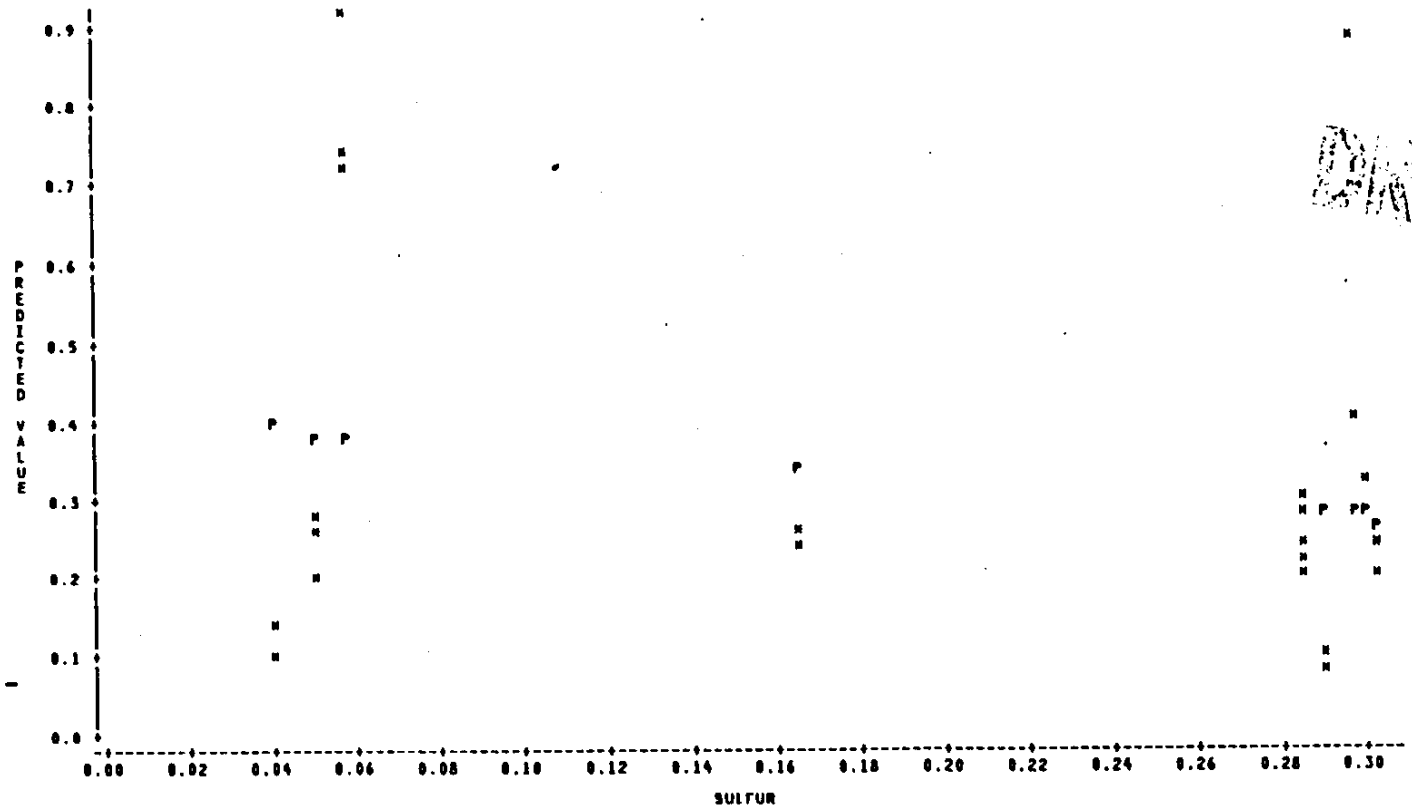
DDAD

PLOT OF HCCS*SULFUR SYMBOL USED IS M
PLOT OF PRED9*SULFUR SYMBOL USED IS P

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NOTE: 133 OBS HAD MISSING VALUES 34 OBS HIDDEN

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.07832484 | 0.07832484 | 1.710 | 0.2017 |
| ERROR | 28 | 1.28282182 | 0.04581507 | | |
| C TOTAL | 29 | 1.36114667 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.2140445 | R-SQUARE | 0.0575 |
| DEP MEAN | 0.3086667 | ADJ R-SQ | 0.0239 |
| C.V. | 69.34488 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.41372850 | 0.08935151 | 4.630 | 0.0001 |
| SULFUR | 1 | -0.48017290 | 0.36724174 | -1.308 | 0.2017 |

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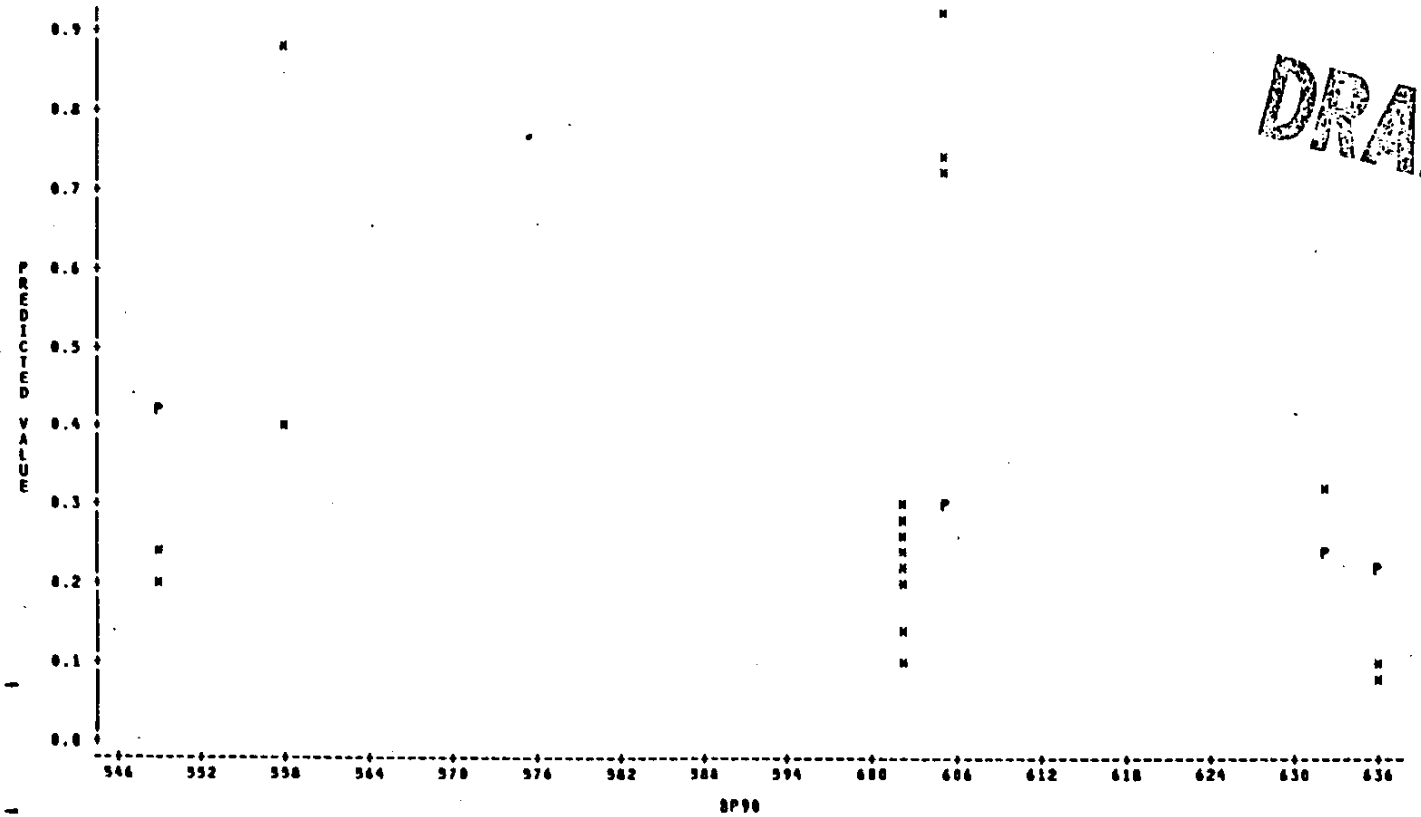
PLOT OF HCCS*BP90 SYMBOL USED IS H
PLOT OF PRED13*BP90 SYMBOL USED IS P

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NOTE: 133 OBS HAD MISSING VALUES 41 OBS HIDDEN

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.07647213 | 0.07647213 | 1.667 | 0.2073 |
| ERROR | 28 | 1.28467454 | 0.04588123 | | |
| C TOTAL | 29 | 1.36114667 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.2141991 | R-SQUARE | 0.0562 |
| DEP MEAN | 0.3086667 | ADJ R-SQ | 0.0225 |
| C.V. | 69.39494 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 1.58272807 | 0.98763629 | 1.603 | 0.1203 |
| BP90 | 1 | -0.002133511 | 0.001652573 | -1.291 | 0.2073 |

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DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.69824517 | 0.34912259 | 14.220 | 0.0001 |
| ERROR | 27 | 0.66290149 | 0.02455191 | | |
| C TOTAL | 29 | 1.36114667 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1566905 | R-SQUARE | 0.5130 |
| DEP MEAN | 0.3086667 | ADJ R-SQ | 0.4769 |
| C.V. | 50.76366 | | |

DRAFT

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | -0.02171850 | 0.10857278 | -0.200 | 0.8436 |
| FIA | 1 | 0.01439615 | 0.002864977 | 5.025 | 0.0001 |
| SULFUR | 1 | -0.67882483 | 0.27172915 | -2.498 | 0.0189 |

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.60935807 | 0.30467903 | 10.942 | 0.0003 |
| ERROR | 27 | 0.75178860 | 0.02784402 | | |
| C TOTAL | 29 | 1.36114667 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1668653 | R-SQUARE | 0.4477 |
| DEP MEAN | 0.3086667 | ADJ R-SQ | 0.4068 |
| C.V. | 54.06003 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 1.03833560 | 0.77938660 | 1.332 | 0.1939 |
| FIA | 1 | 0.01321177 | 0.003020020 | 4.375 | 0.0002 |
| BP90 | 1 | -0.001957880 | 0.001288013 | -1.520 | 0.1401 |

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DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.80896394 | 0.26965465 | 12.697 | 0.0001 |
| ERROR | 26 | 0.55219273 | 0.02123780 | | |
| C TOTAL | 29 | 1.36114667 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1457319 | R-SQUARE | 0.5943 |
| DEP MEAN | 0.3086667 | ADJ R-SQ | 0.5475 |
| C.V. | 47.21337 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 1.56440343 | 0.70197438 | 2.229 | 0.0347 |
| FIA | 1 | 0.01437363 | 0.002664626 | 5.394 | 0.0001 |
| SULFUR | 1 | -0.76870521 | 0.25726623 | -3.066 | 0.0050 |
| BF90 | 1 | -0.00261456 | 0.001145100 | -2.283 | 0.0308 |

DRAFT

DDAD

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.43325980 | 0.43325980 | 8.444 | 0.0069 |
| ERROR | 29 | 1.48791439 | 0.05130739 | | |
| C TOTAL | 30 | 1.92117419 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.2265114 | R-SQUARE | 0.2255 |
| DEP MEAN | 0.2451613 | ADJ R-SQ | 0.1988 |
| C.V. | 92.39279 | | |

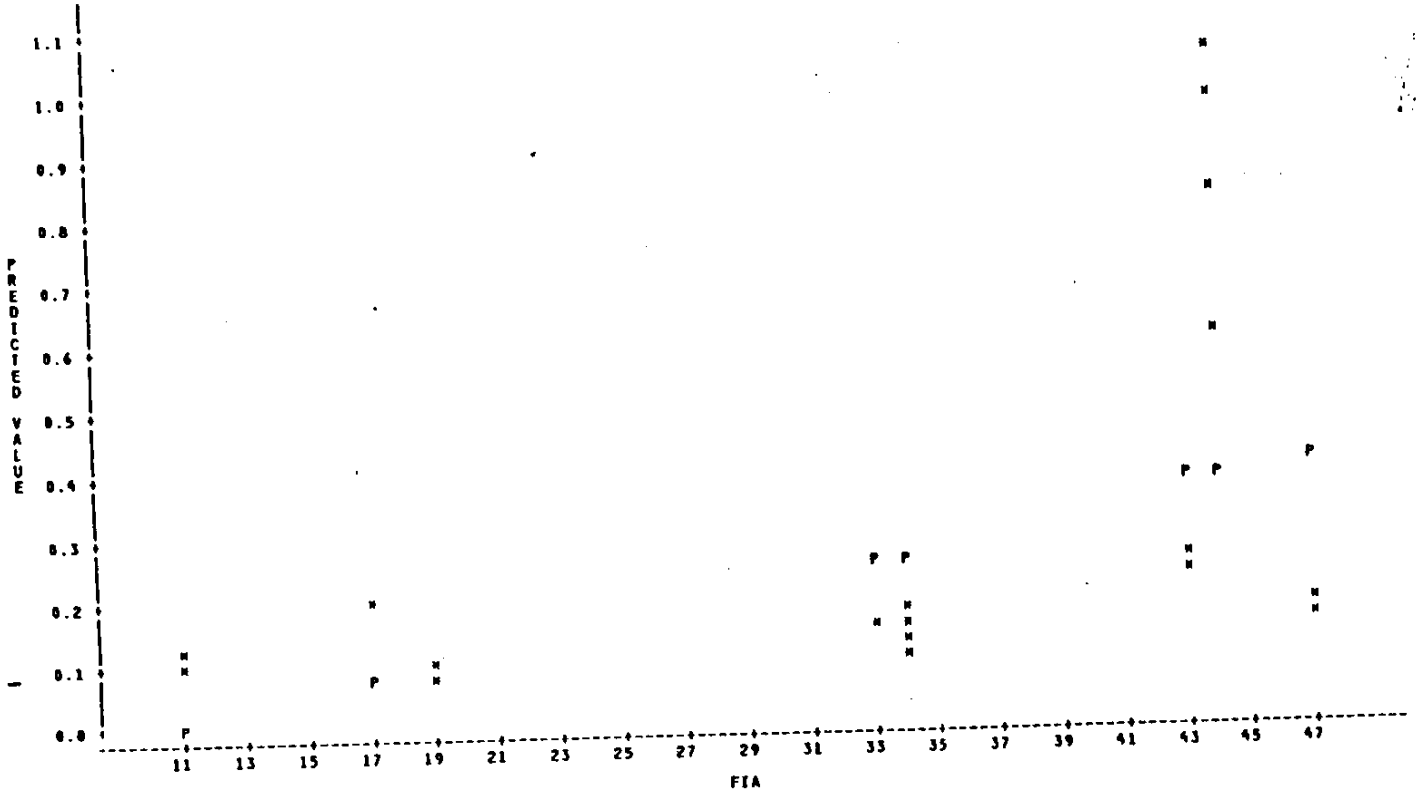
PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | -0.13345753 | 0.13649579 | -0.978 | 0.3363 |
| FIA | 1 | 0.01154099 | 0.003971538 | 2.906 | 0.0069 |

DRAFT

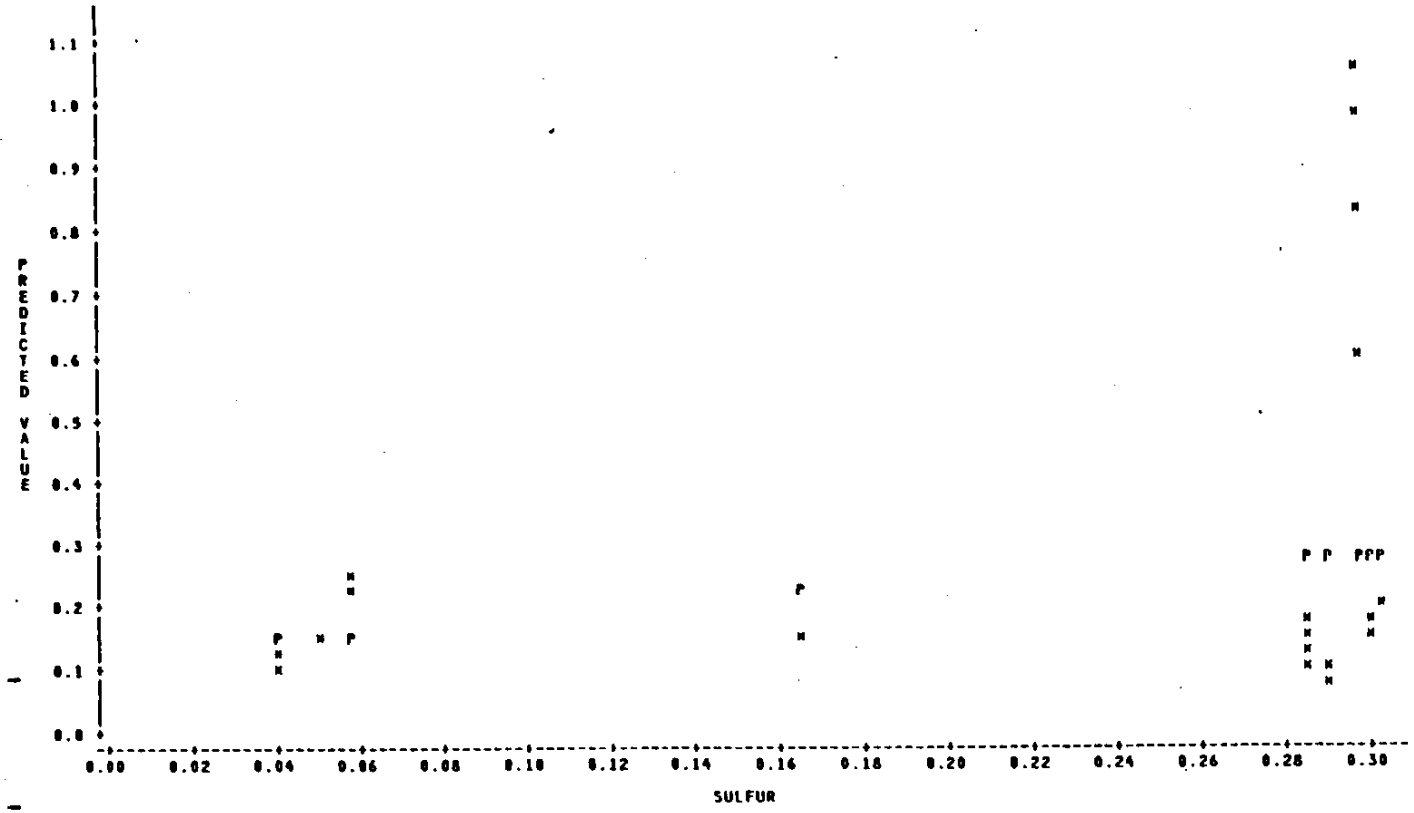
1/140

PLOT OF HCHS*FIA SYMBOL USED IS *
PLOT OF PRED19*FIA SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 40 OBS HIDDEN

PLOT OF HCHS*SULFUR SYMBOL USED IS *
PLOT OF PRID28*SULFUR SYMBOL USED IS P




NOTE: 132 OBS HAD MISSING VALUES 38 OBS HIDDEN

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

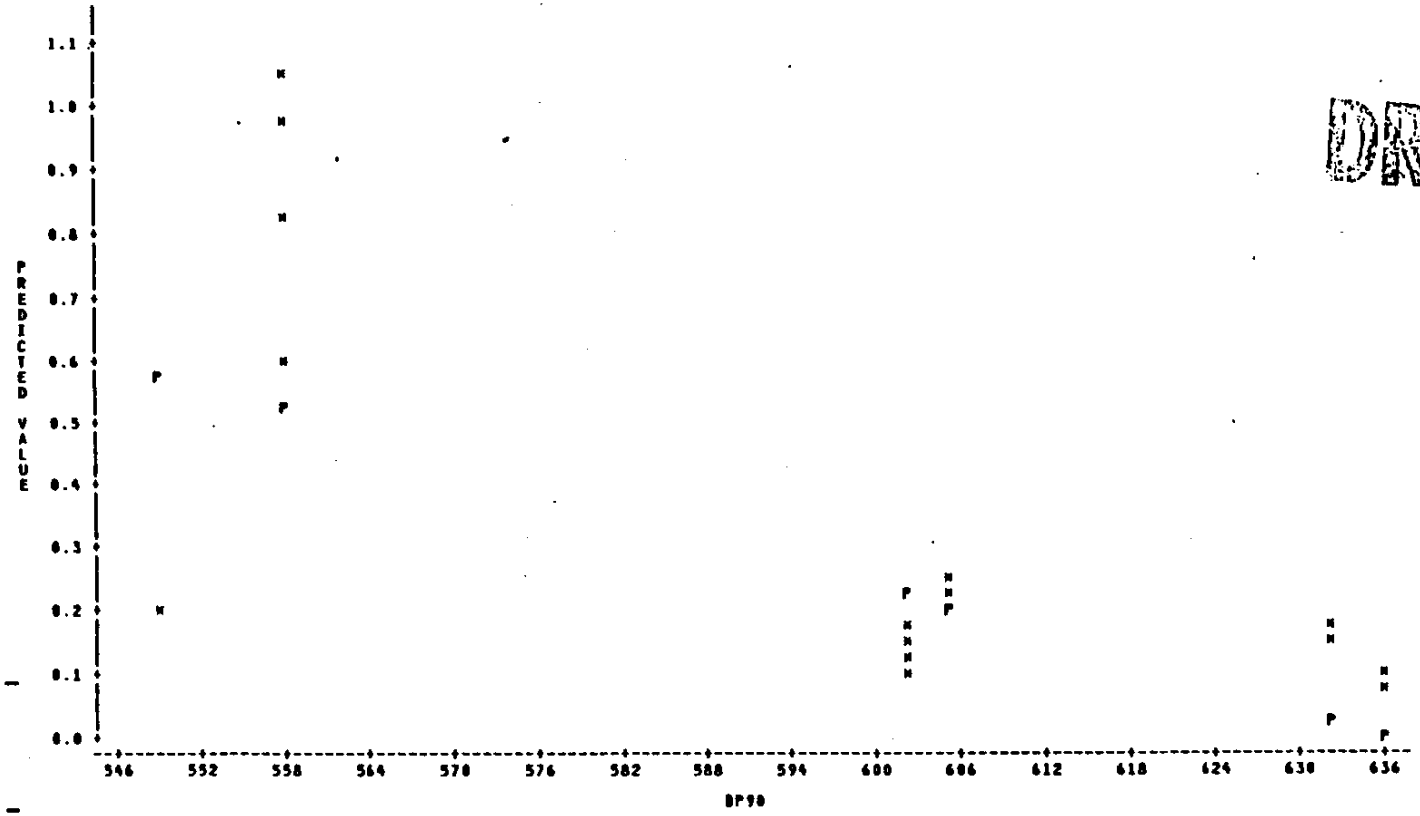
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.09278304 | 0.09278304 | 1.472 | 0.2349 |
| ERROR | 29 | 1.82839115 | 0.06304797 | | |
| C TOTAL | 30 | 1.92117419 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.2510935 | R-SQUARE | 0.0483 |
| DEP MEAN | 0.2451613 | ADJ R-SQ | 0.0155 |
| C.V. | 102.4197 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.13044450 | 0.10476762 | 1.245 | 0.2231 |
| SULFUR | 1 | 0.51877762 | 0.42764410 | 1.213 | 0.2349 |

PLOT OF NCHS*BP90 SYMBOL USED IS N
PLOT OF PRED32*BP90 SYMBOL USED IS P




DRAFT

NOTE: 132 OBS HAD MISSING VALUES 45 OBS HIDDEN

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.85786891 | 0.85786891 | 23.397 | 0.0001 |
| ERROR | 29 | 1.06330528 | 0.03666570 | | |
| C TOTAL | 30 | 1.92117419 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1914829 | R-SQUARE | 0.4465 |
| DEP MEAN | 0.2451613 | ADJ R-SQ | 0.4274 |
| C.V. | 78.10487 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.34692917 | 0.84868686 | 5.122 | 0.0001 |
| BP90 | 1 | -0.006854337 | 0.001417049 | -4.837 | 0.0001 |

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 1.18245288 | 0.59122644 | 22.409 | 0.0001 |
| ERROR | 28 | 0.73872131 | 0.02638290 | | |
| C TOTAL | 30 | 1.92117419 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1624292 | R-SQUARE | 0.6155 |
| DEP MEAN | 0.2451613 | ADJ R-SQ | 0.5880 |
| C.V. | 66.25359 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.76776126 | 0.73860458 | 5.101 | 0.0001 |
| FIA | 1 | 0.01003810 | 0.002861865 | 3.508 | 0.0016 |
| RF90 | 1 | -0.006436814 | 0.001207912 | -5.329 | 0.0001 |

DRAFT

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.48777294 | 0.24388647 | 4.764 | 0.0166 |
| ERROR | 28 | 1.43340125 | 0.05119290 | | |
| C TOTAL | 30 | 1.92117419 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.2262585 | R-SQUARE | 0.2539 |
| DEP MEAN | 0.2451613 | ADJ R-SQ | 0.2006 |
| C.V. | 92.28965 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | -0.20703531 | 0.15386190 | -1.346 | 0.1892 |
| FIA | 1 | 0.01108704 | 0.003991420 | 2.778 | 0.0097 |
| SULFUR | 1 | 0.40008414 | 0.38770877 | 1.032 | 0.3109 |

DRAFT

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 1.19592993 | 0.39864331 | 14.841 | 0.0001 |
| ERROR | 27 | 0.72524427 | 0.02686090 | | |
| C TOTAL | 30 | 1.92117419 | | | |

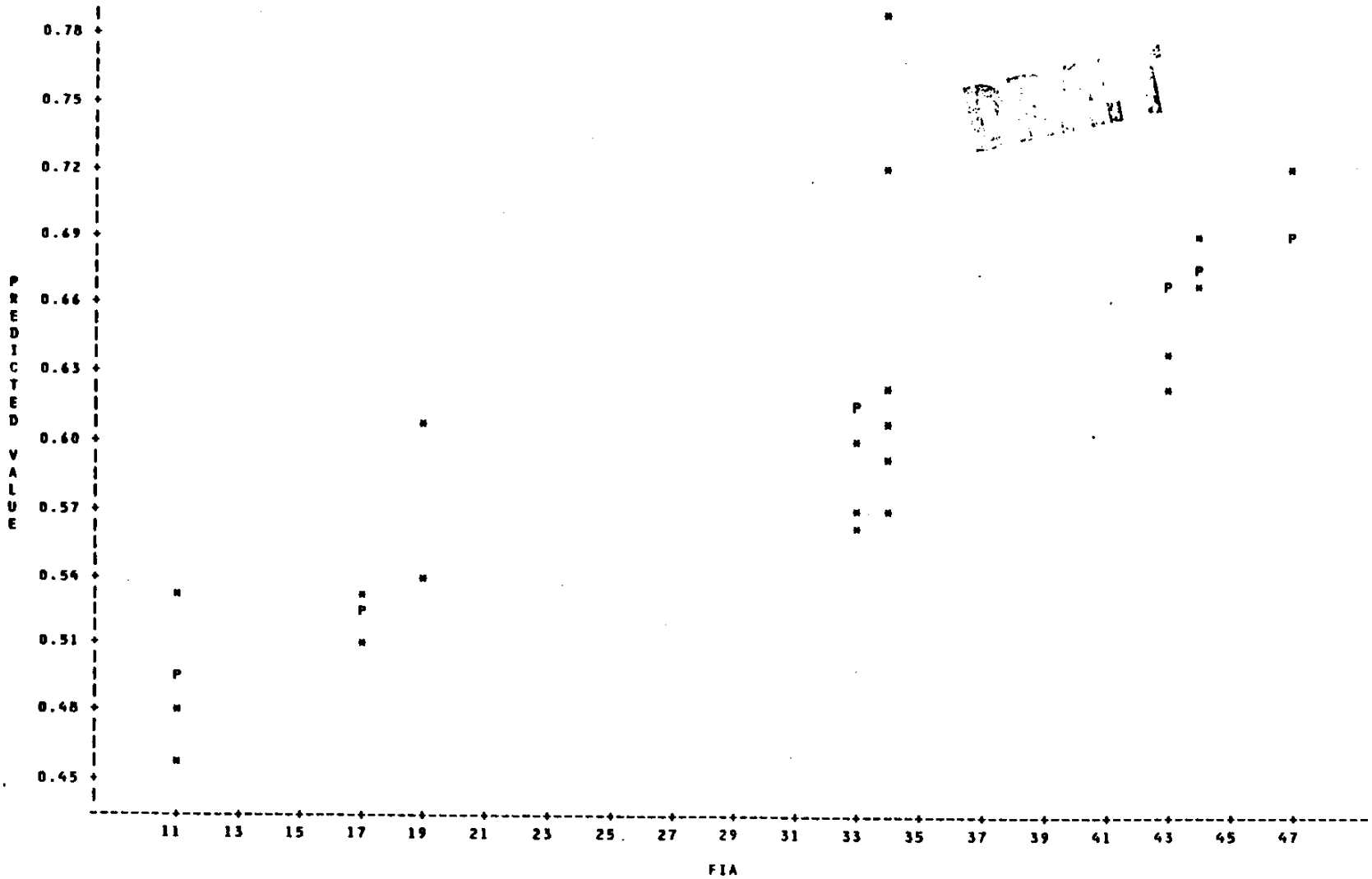
| | | | |
|---|---|---|---|
| ROOT MSE | 0.1638929 | R-SQUARE | 0.6225 |
| DEP MEAN | 0.2451613 | ADJ R-SQ | 0.5806 |
| C.V. | 66.85107 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.658524884 | 0.76105403 | 4.807 | 0.0001 |
| FIA | 1 | 0.009838096 | 0.002901445 | 3.391 | 0.0022 |
| SULFUR | 1 | 0.22081931 | 0.28351005 | 0.708 | 0.4848 |
| BP90 | 1 | -0.006317515 | 0.001230387 | -5.135 | 0.0001 |

Cummins NTCC 400

PLOT OF PMCS*FIA SYMBOL USED IS *
PLOT OF PRED800*FIA SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 27 OBS HIDDEN

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.08997608 | 0.08997608 | 32.889 | 0.0001 |
| ERROR | 24 | 0.06565854 | 0.002735772 | | |
| C TOTAL | 25 | 0.15563462 | | | |

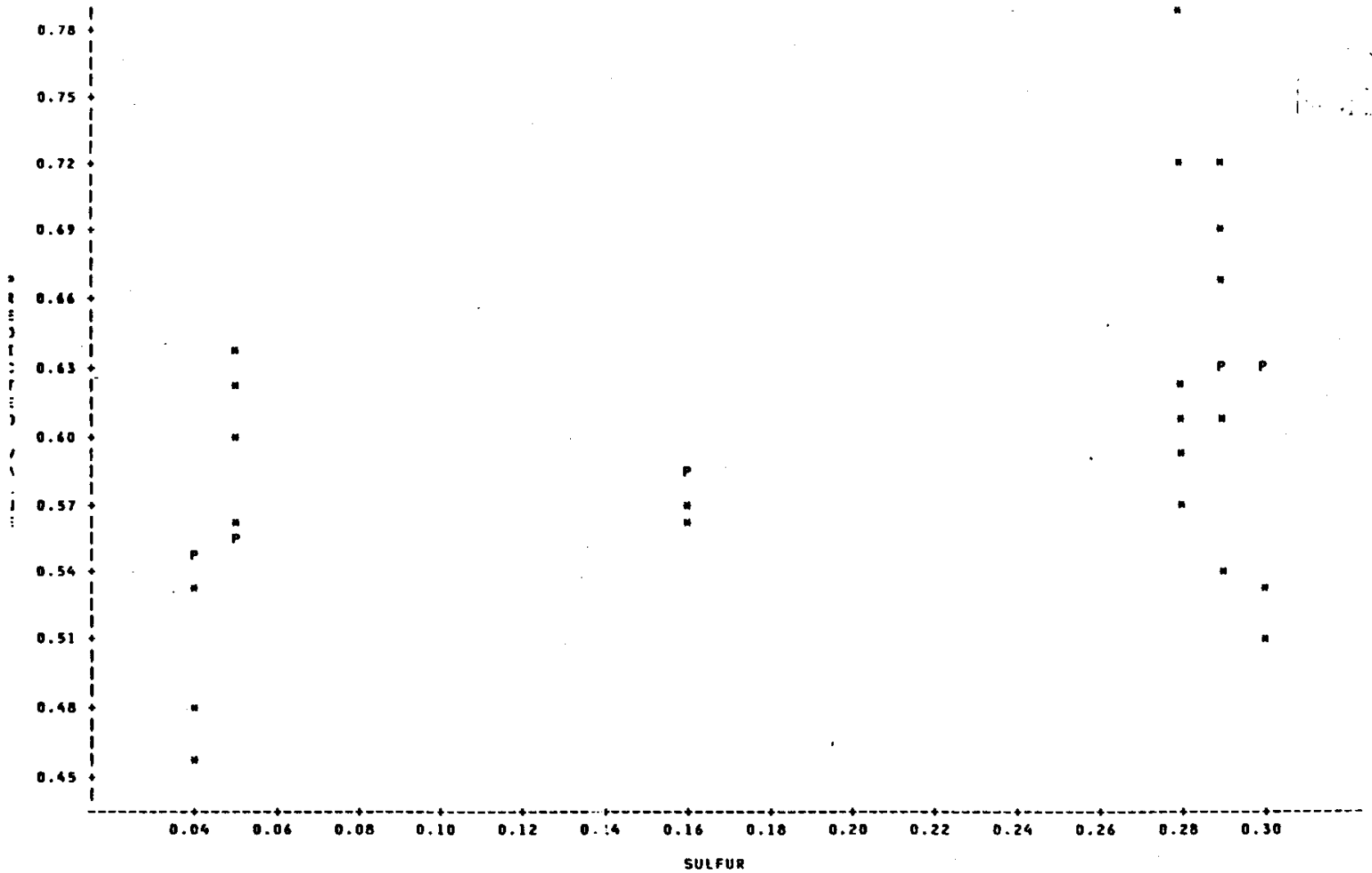
| | | | |
|---|---|---|---|
| ROOT MSE | 0.05230461 | R-SQUARE | 0.5781 |
| DEP MEAN | 0.6042308 | ADJ R-SQ | 0.5605 |
| C.V. | 8.656397 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.43656321 | 0.03098379 | 14.090 | 0.0001 |
| FIA | 1 | 0.005375286 | 0.000937299 | 5.735 | 0.0001 |

CUMMINS

PLOT OF PMCS*SULFU'  SYMBOL USED IS *
PLOT OF PRED809*SU .FUR  SYMBOL USED IS P




OTE: 118 OBS HAD MISSING VALUES 28 OBS HIDDEN

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

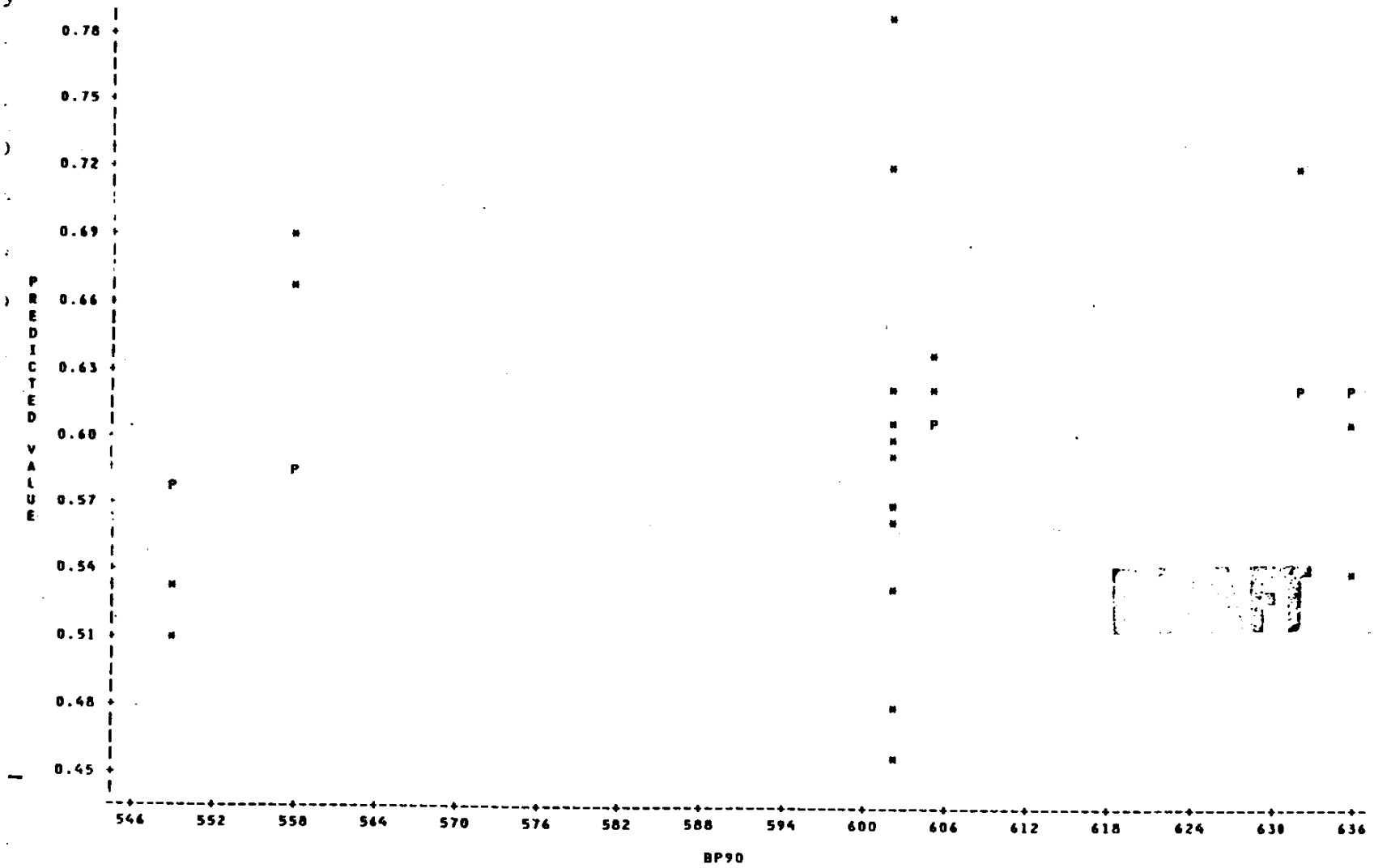
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.02818293 | 0.02818293 | 5.307 | 0.0302 |
| ERROR | 24 | 0.12745168 | 0.005310487 | | |
| C TOTAL | 25 | 0.15563462 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.07287309 | R-SQUARE | 0.1811 |
| DEP MEAN | 0.6042308 | ADJ. R-SQ | 0.1470 |
| C.V. | 12.06047 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.53859470 | 0.03187507 | 16.897 | 0.0001 |
| SULFUR | 1 | 0.31027959 | 0.13468749 | 2.304 | 0.0302 |

PLOT OF PMCS*BP90 SYMBOL USED IS *
PLOT OF PRED813*BP90 SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 30 OBS HIDDEN

DEP VARIABLE: PICS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.004033190 | 0.004033190 | 0.638 | 0.4321 |
| ERROR | 24 | 0.15160143 | 0.006316726 | | |
| C TOTAL | 25 | 0.15563462 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.07947783 | R-SQUARE | 0.0259 |
| DEP MEAN | 0.6042308 | ADJ R-SQ | -0.0147 |
| C.V. | 13.15356 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.27622378 | 0.41078789 | 0.672 | 0.5077 |
| BP90 | 1 | 0.000546959 | 0.000684504 | 0.799 | 0.4321 |

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.09908189 | 0.04954094 | 20.148 | 0.0001 |
| ERROR | 23 | 0.05655273 | 0.002456814 | | |
| C TOTAL | 25 | 0.15563462 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.04958643 | R-SQUARE | 0.6366 |
| DEP MEAN | 0.6042308 | ADJ R-SQ | 0.6050 |
| C.V. | 8.206539 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.41189007 | 0.03204984 | 12.852 | 0.0001 |
| FIA | 1 | 0.004930384 | 0.000916171 | 5.370 | 0.0001 |
| SULFUR | 1 | 0.18223936 | 0.09469909 | 1.924 | 0.0668 |

DEP VARIABLE: PMCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.09137312 | 0.04568656 | 16.352 | 0.0001 |
| ERROR | 23 | 0.06426150 | 0.002793978 | | |
| C TOTAL | 25 | 0.15563462 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.052859C9 | R-SQUARE | 0.5871 |
| DEP MEAN | 0.6042306 | ADJ R-SQ | 0.5512 |
| C.V. | 8.747998 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.24960834 | 0.27326093 | 0.895 | 0.3400 |
| FIA | 1 | 0.005316391 | 0.000950872 | 5.591 | 0.0001 |
| BP90 | 1 | 0.000323152 | 0.00045699A | 0.707 | 0.4866 |

DRAFT

:P VARIABLE: FMCS

ANALYSIS OF VARIANCE

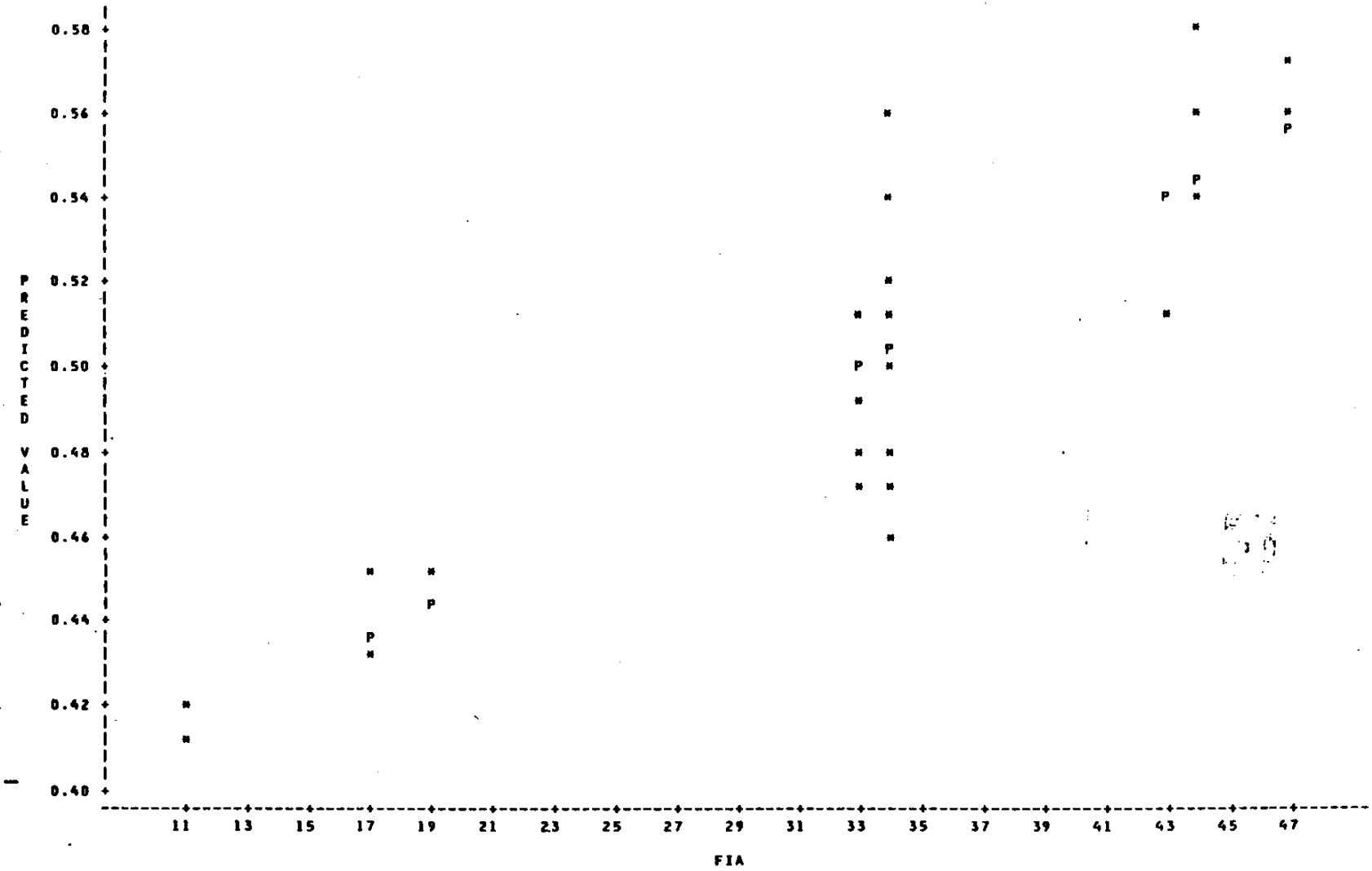
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.10172764 | 0.03390921 | 13.839 | 0.0001 |
| ERROR | 22 | 0.05390698 | 0.002450317 | | |
| C TOTAL | 25 | 0.15563462 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.04950068 | R-SQUARE | 0.6536 |
| DEP MEAN | 0.6042308 | ADJ R-SQ | 0.6064 |
| C.V. | 8.192347 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.14312271 | 0.26062180 | 0.549 | 0.5984 |
| FIA | 1 | 0.004814132 | 0.000923386 | 5.214 | 0.0001 |
| SULFUR | 1 | 0.19631977 | 0.09550152 | 2.056 | 0.0519 |
| PPM | 1 | 0.000449255 | 0.000432345 | 1.039 | 0.3100 |

PLOT OF PMHS*FIA SYMBOL USED IS *
PLOT OF PRED819*FIA SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 28 OBS HIDDEN

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

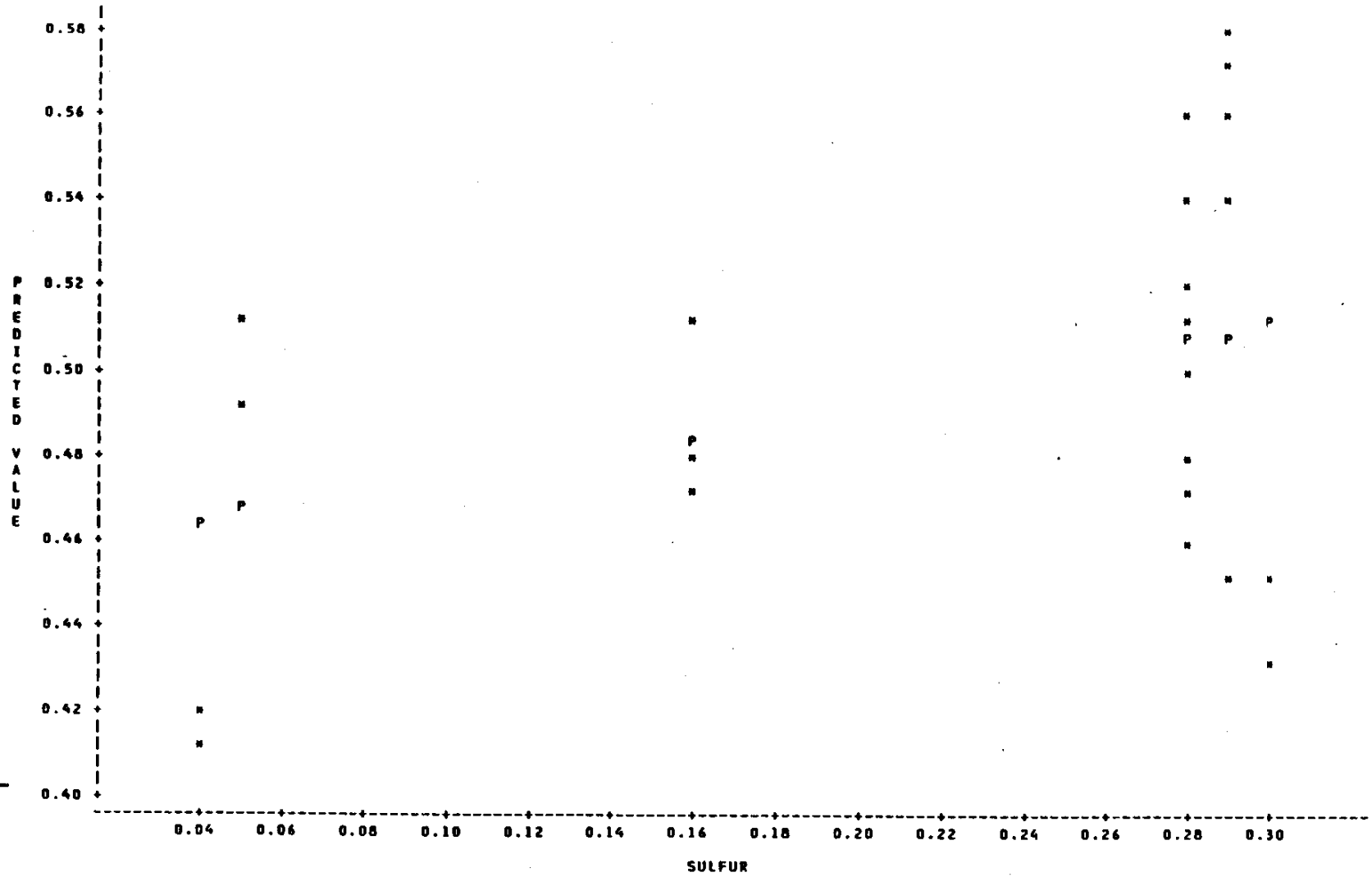
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.05109371 | 0.05109371 | 96.989 | 0.0001 |
| ERROR | 27 | 0.01422354 | 0.000526798 | | |
| C TOTAL | 28 | 0.06531724 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02295207 | R-SQUARE | 0.7822 |
| DEP MEAN | 0.4955172 | ADJ R-SQ | 0.7742 |
| C.V. | 4.631942 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.37001199 | 0.01343766 | 27.535 | 0.0001 |
| FIA | 1 | 0.003947562 | 0.000400836 | 9.848 | 0.0001 |

PLOT OF PMHS*SULFUR SYMBOL USED IS *
PLOT OF PRED828*SULFUR SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 31 OBS HIDDEN

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

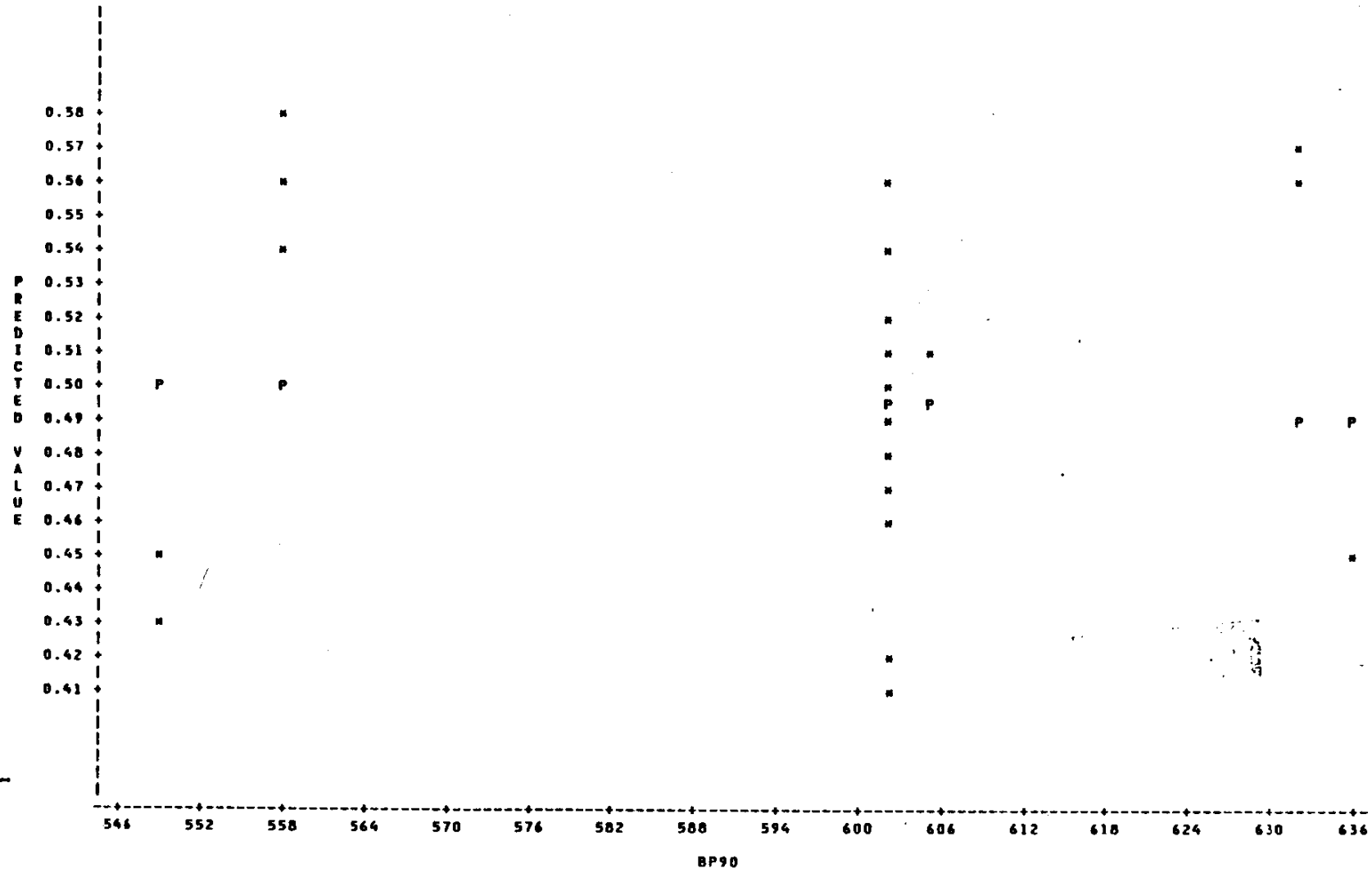
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.009471005 | 0.009471005 | 4.579 | 0.0416 |
| ERROR | 27 | 0.05584624 | 0.002068379 | | |
| C TOTAL | 28 | 0.06531724 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.04547944 | R-SQUARE | 0.1450 |
| DEP MEAN | 0.4955172 | ADJ R-SQ | 0.1133 |
| C.V. | 9.178174 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.45771816 | 0.01957942 | 23.378 | 0.0001 |
| SULFUR | 1 | 0.17595077 | 0.08222582 | 2.140 | 0.0416 |

PLOT OF PMHS*BP90 SYMBOL USED IS *
PLOT OF PRED833*BP90 SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 33 OBS HIDDEN

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.000141590 | 0.000141590 | 0.059 | 0.8105 |
| ERROR | 27 | 0.06517565 | 0.002413913 | | |
| C TOTAL | 28 | 0.06531724 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.04913159 | R-SQUARE | 0.0022 |
| DEP MEAN | 0.4955172 | ADJ R-SQ | -0.0348 |
| C.V. | 9.915213 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.55330532 | 0.23878133 | 2.317 | 0.0283 |
| BP90 | 1 | -0.000096569 | 0.000398732 | -0.242 | 0.8105 |

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.05252994 | 0.01750998 | 34.233 | 0.0001 |
| ERROR | 25 | 0.01278730 | 0.000511492 | | |
| C TOTAL | 28 | 0.06531724 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02261619 | R-SQUARE | 0.8042 |
| DEP MEAN | 0.4955172 | ADJ R-SQ | 0.7807 |
| C.V. | 4.564159 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.40160403 | 0.11297426 | 3.555 | 0.0016 |
| FIA | 1 | 0.003772117 | 0.000411163 | 9.174 | 0.0001 |
| SULFUR | 1 | 0.06702923 | 0.04306039 | 1.557 | 0.1321 |
| BP90 | 1 | -0.000067535 | 0.000185945 | -0.363 | 0.7195 |

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.05129054 | 0.02564527 | 47.536 | 0.0001 |
| ERROR | 26 | 0.01402670 | 0.00053949 | | |
| C TOTAL | 28 | 0.06531724 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02322689 | R-SQUARE | 0.7853 |
| DEP MEAN | 0.4955172 | ADJ R-SQ | 0.7667 |
| C.V. | 4.687404 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.43807654 | 0.11350217 | 3.860 | 0.0007 |
| FIA | 1 | 0.003949871 | 0.00040565 | 9.737 | 0.0001 |
| HP90 | 1 | -0.000113864 | 0.00018859 | -0.604 | 0.5511 |

DEP VARIABLE: PMHS

ANALYSIS OF VARIANCE

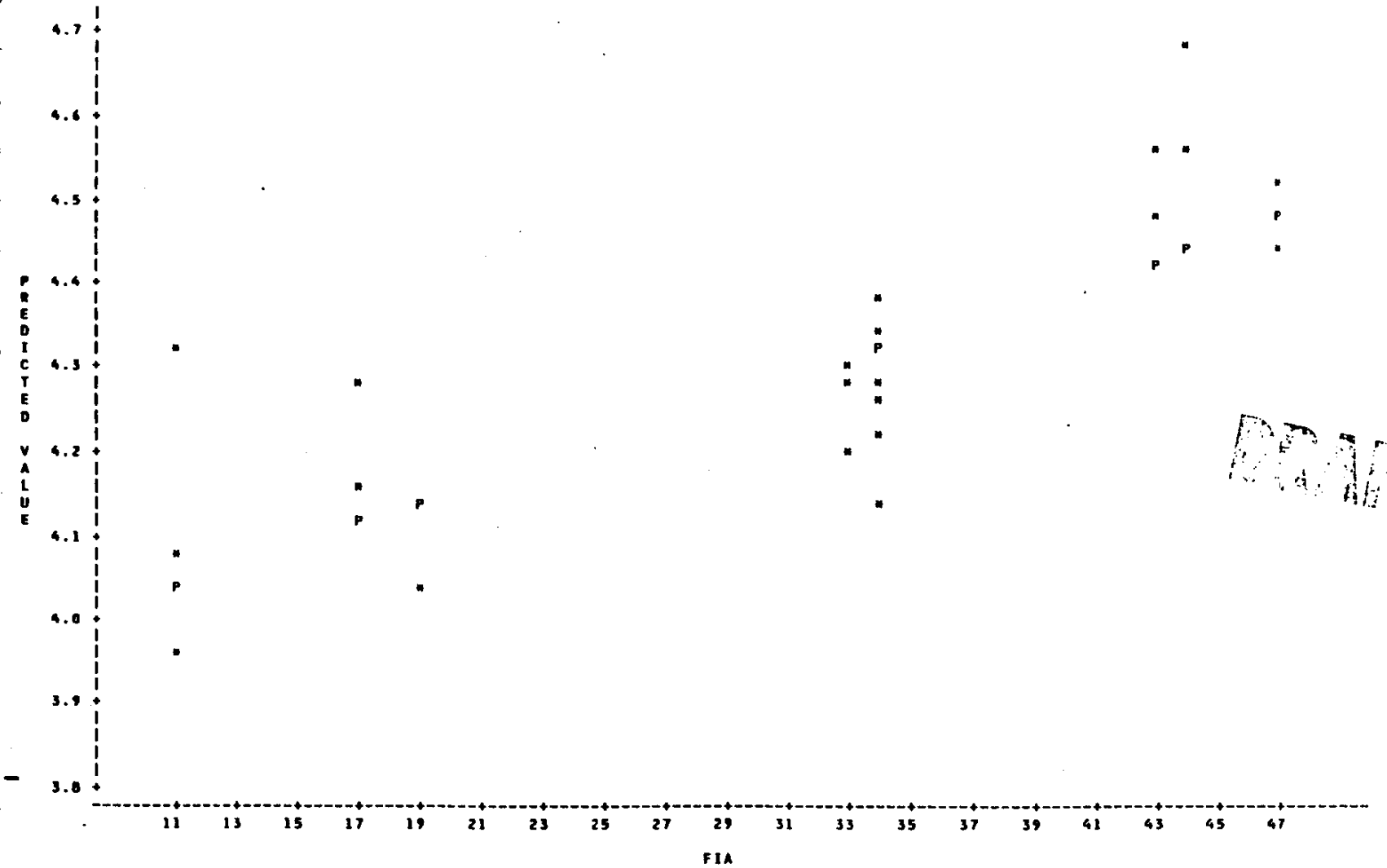
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.05246247 | 0.02623123 | 53.055 | 0.0001 |
| ERROR | 26 | 0.01285477 | 0.00049441 | | |
| C TOTAL | 28 | 0.06531724 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.02223543 | R-SQUARE | 0.8032 |
| DEP MEAN | 0.4955172 | ADJ R-SQ | 0.7881 |
| C.V. | 4.487317 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.36090594 | 0.01412170 | 25.557 | 0.0001 |
| FIA | 1 | 0.003764144 | 0.00040366[illegible] | 9.325 | 0.0001 |
| SULFUR | 1 | 0.06953238 | 0.04176963 | 1.664 | 0.1[illegible] |

PLOT OF NOXCS*FIA SYMBOL USED IS *
PLOT OF PRED500*FIA SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 27 OBS HIDDEN

DRAFT

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.44025293 | 0.44025293 | 30.674 | 0.0001 |
| ERROR | 24 | 0.34445861 | 0.01435244 | | |
| C TOTAL | 25 | 0.78471154 | | | |

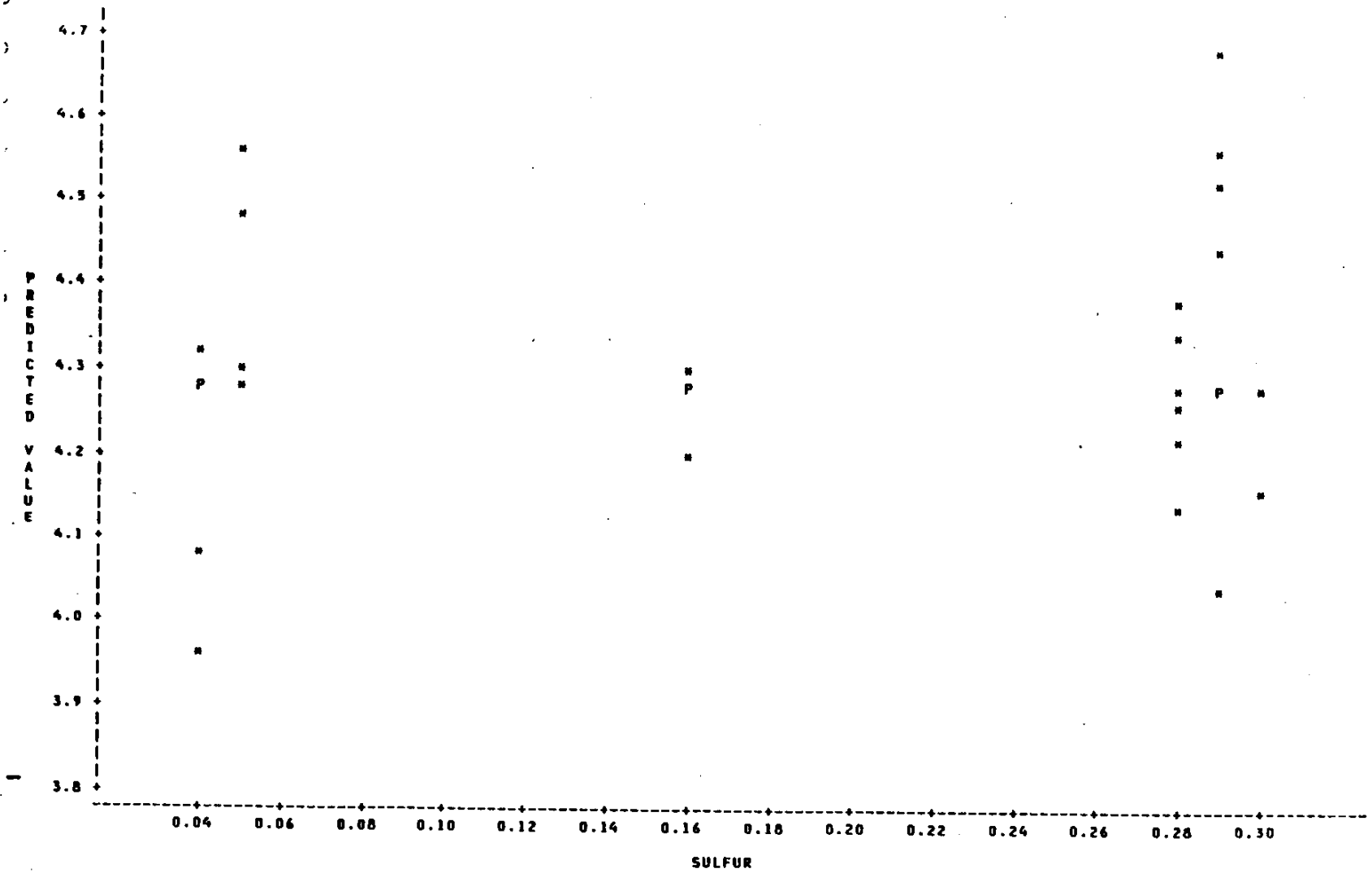
| | | | |
|---|---|---|---|
| ROOT MSE | 0.1198017 | R-SQUARE | 0.5610 |
| DEP MEAN | 4.282692 | ADJ R-SQ | 0.5427 |
| C.V. | 2.797345 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.91180955 | 0.07096717 | 55.121 | 0.0001 |
| FIA | 1 | 0.01189020 | 0.002146846 | 5.538 | 0.0001 |

CUMMINS

PLOT OF NOXCS*SULFUR SYMBOL USED IS *
PLOT OF PRED509*SULFUR SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 28 OBS HIDDEN

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

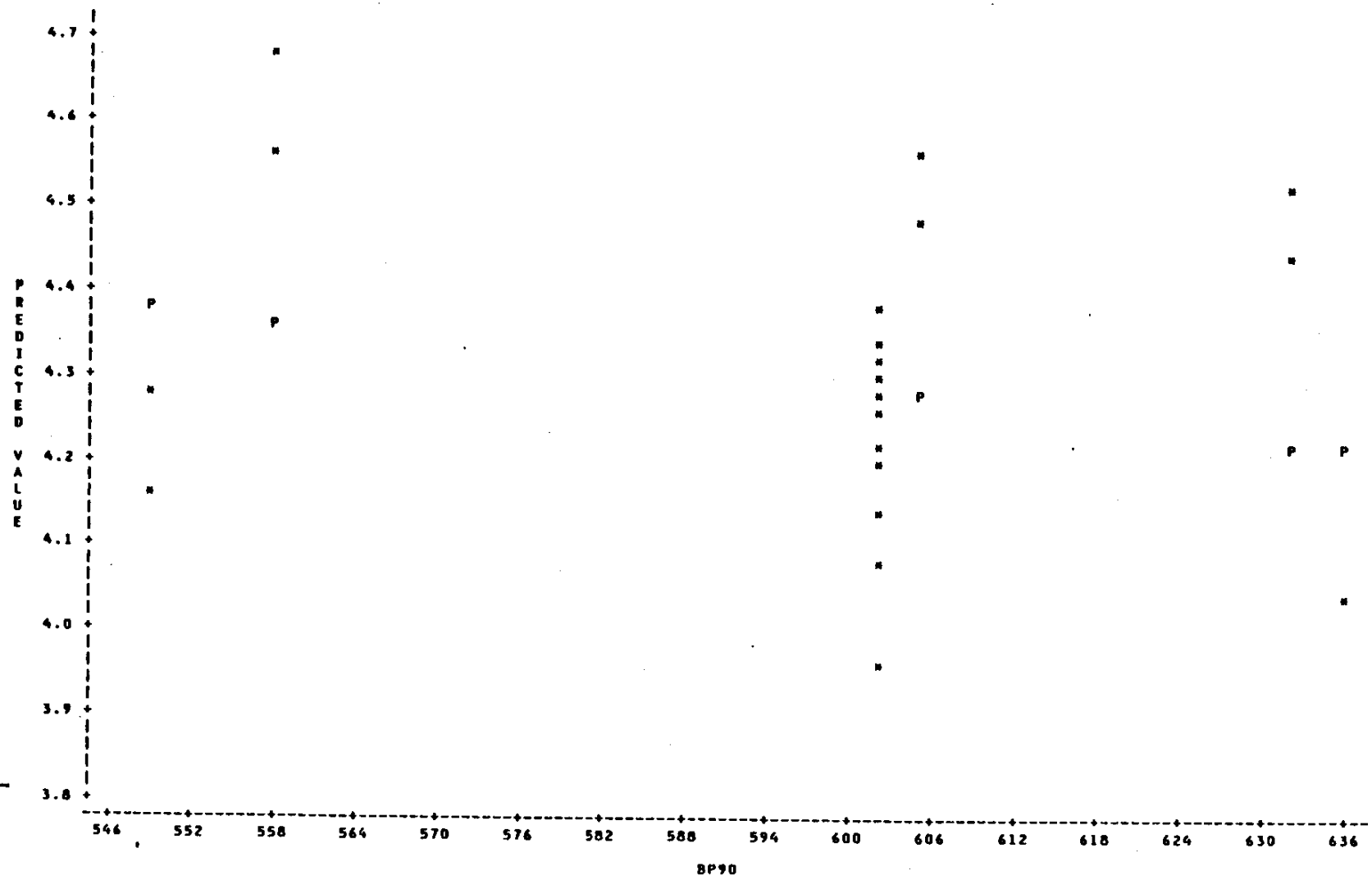
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.001548694 | 0.001548694 | 0.047 | 0.8294 |
| ERROR | 24 | 0.78316284 | 0.03263179 | | |
| C TOTAL | 25 | 0.78471154 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1806427 | R-SQUARE | 0.0020 |
| DEP MEAN | 4.282692 | ADJ R-SQ | -0.0396 |
| C.V. | 4.217971 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.26730608 | 0.07901406 | 54.007 | 0.0001 |
| SULFUR | 1 | 0.07273492 | 0.33387240 | 0.218 | 0.8294 |

PLOT OF NOXCS*BP90 SYMBOL USED IS *
PLOT OF PRED513*BP90 SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 30 OBS HIDDEN

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.04864380 | 0.04864380 | 1.586 | 0.2200 |
| ERROR | 24 | 0.73606774 | 0.03066949 | | |
| C TOTAL | 25 | 0.78471154 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1751271 | R-SQUARE | 0.0620 |
| DEP MEAN | 4.282692 | ADJ R-SQ | 0.0229 |
| C.V. | 4.089182 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 5.42182027 | 0.90515901 | 5.990 | 0.0001 |
| BP90 | 1 | -0.001899521 | 0.001508285 | -1.259 | 0.2200 |

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.45766820 | 0.22883410 | 16.093 | 0.0001 |
| ERROR | 23 | 0.32704334 | 0.01421928 | | |
| C TOTAL | 25 | 0.78471154 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1192446 | R-SQUARE | 0.5832 |
| DEP MEAN | 4.282692 | ADJ R-SQ | 0.5470 |
| C.V. | 2.784337 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 3.94593121 | 0.07707290 | 51.197 | 0.0001 |
| FIA | 1 | 0.01250547 | 0.002208003 | 5.664 | 0.0001 |
| SULFUR | 1 | -0.25202756 | 0.22773076 | -1.107 | 0.2799 |

DEP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.51851141 | 0.25925570 | 22.400 | 0.0001 |
| ERROR | 23 | 0.26620013 | 0.01157392 | | |
| C TOTAL | 25 | 0.78471154 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1075821 | R-SQUARE | 0.6608 |
| DEP MEAN | 4.282692 | ADJ R-SQ | 0.6313 |
| C.V. | 2.512021 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 5.34849044 | 0.55616651 | 9.617 | 0.0001 |
| FIA | 1 | 0.01233100 | 0.001935311 | 6.372 | 0.0001 |
| PP90 | 1 | -0.002418624 | 0.000930128 | -2.600 | 0.0160 |

EP VARIABLE: NOXCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.54858374 | 0.18286125 | 17.037 | 0.0001 |
| ERROR | 22 | 0.23612779 | 0.01073308 | | |
| C TOTAL | 25 | 0.78471154 | | | |

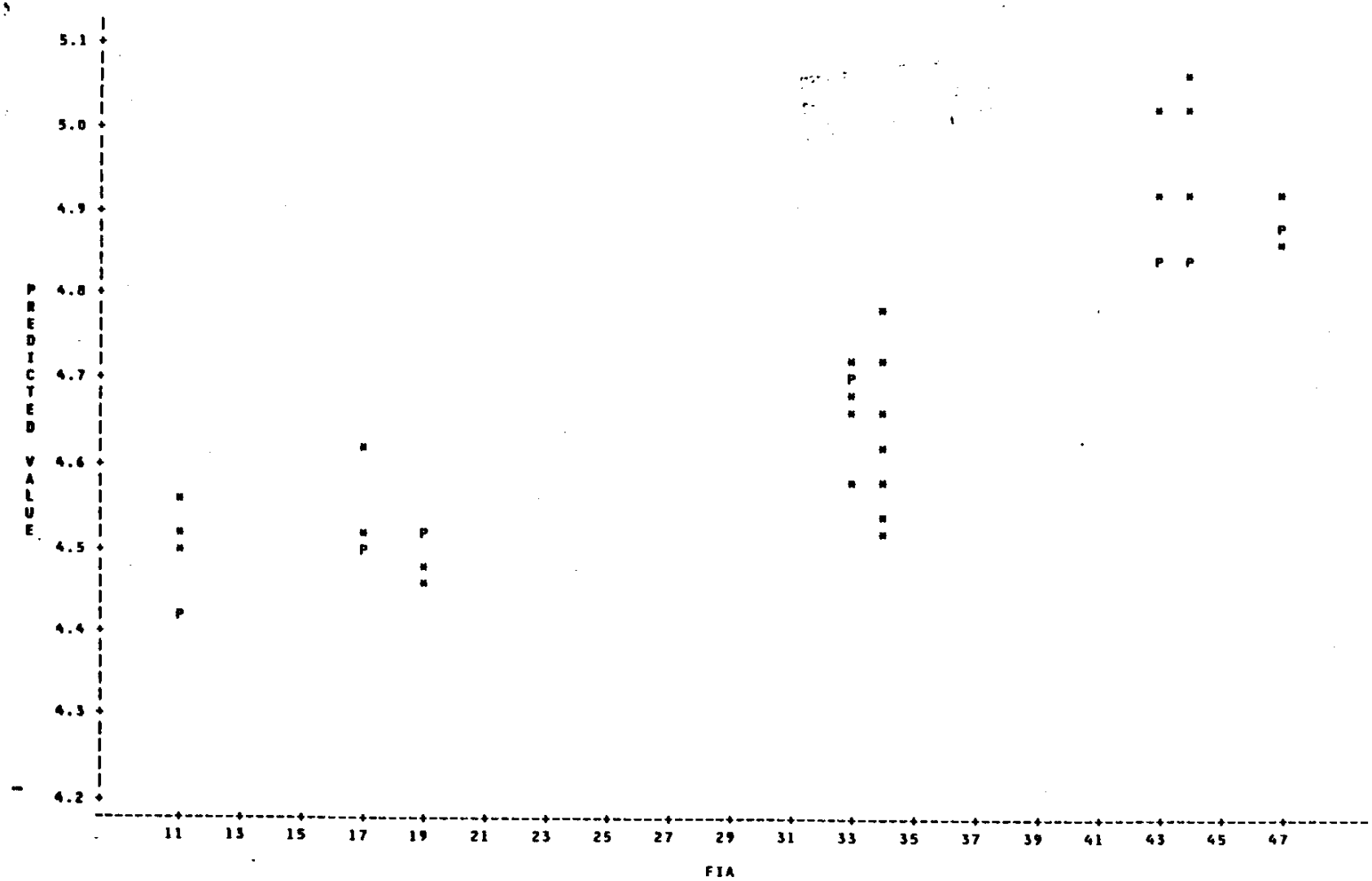
| | | | |
|---|---|---|---|
| ROOT MSE | 0.1036006 | R-SQUARE | 0.6991 |
| DEP MEAN | 4.282692 | ADJ R-SQ | 0.6581 |
| C.V. | 2.419053 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 5.52144151 | 0.54545861 | 10.123 | 0.0001 |
| FIA | 1 | 0.01318694 | 0.001932566 | 6.824 | 0.0001 |
| SULFUR | 1 | -0.33456673 | 0.19987632 | -1.674 | 0.1083 |
| BP90 | 1 | -0.002633528 | 0.000904859 | -2.910 | 0.0041 |

CUMMING

PLOT OF NOXHS*FIA SYMBOL USED IS *
PLOT OF PRED519*FIA SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 26 OBS HIDDEN

VARIABLE: NOXHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.53662241 | 0.53662241 | 45.539 | 0.0001 |
| ERROR | 27 | 0.31816380 | 0.01178384 | | |
| C TOTAL | 28 | 0.85478621 | | | |

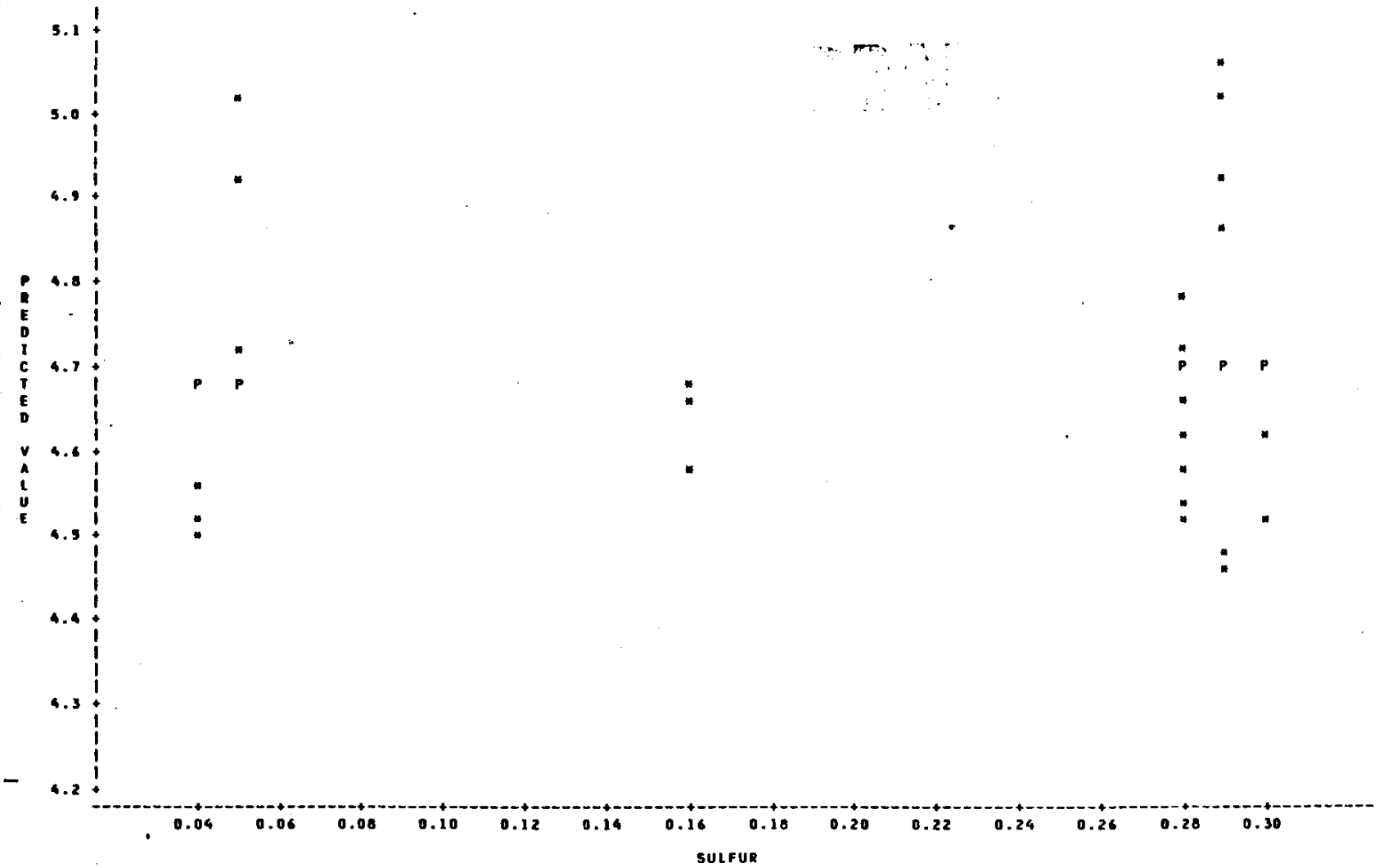
| | | | |
|---|---|---|---|
| ROOT MSE | 0.1085534 | R-SQUARE | 0.6278 |
| DEP MEAN | 4.68931 | ADJ R-SQ | 0.6140 |
| C.V. | 2.314912 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.28257436 | 0.06355435 | 67.384 | 0.0001 |
| FIA | 1 | 0.01279321 | 0.001895784 | 6.748 | 0.0001 |

CUMMINS

PLOT OF NOXHS*SULFUR SYMBOL USED IS *
PLOT OF PRED529*SULFUR SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 29 OBS HIDDEN

DEP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

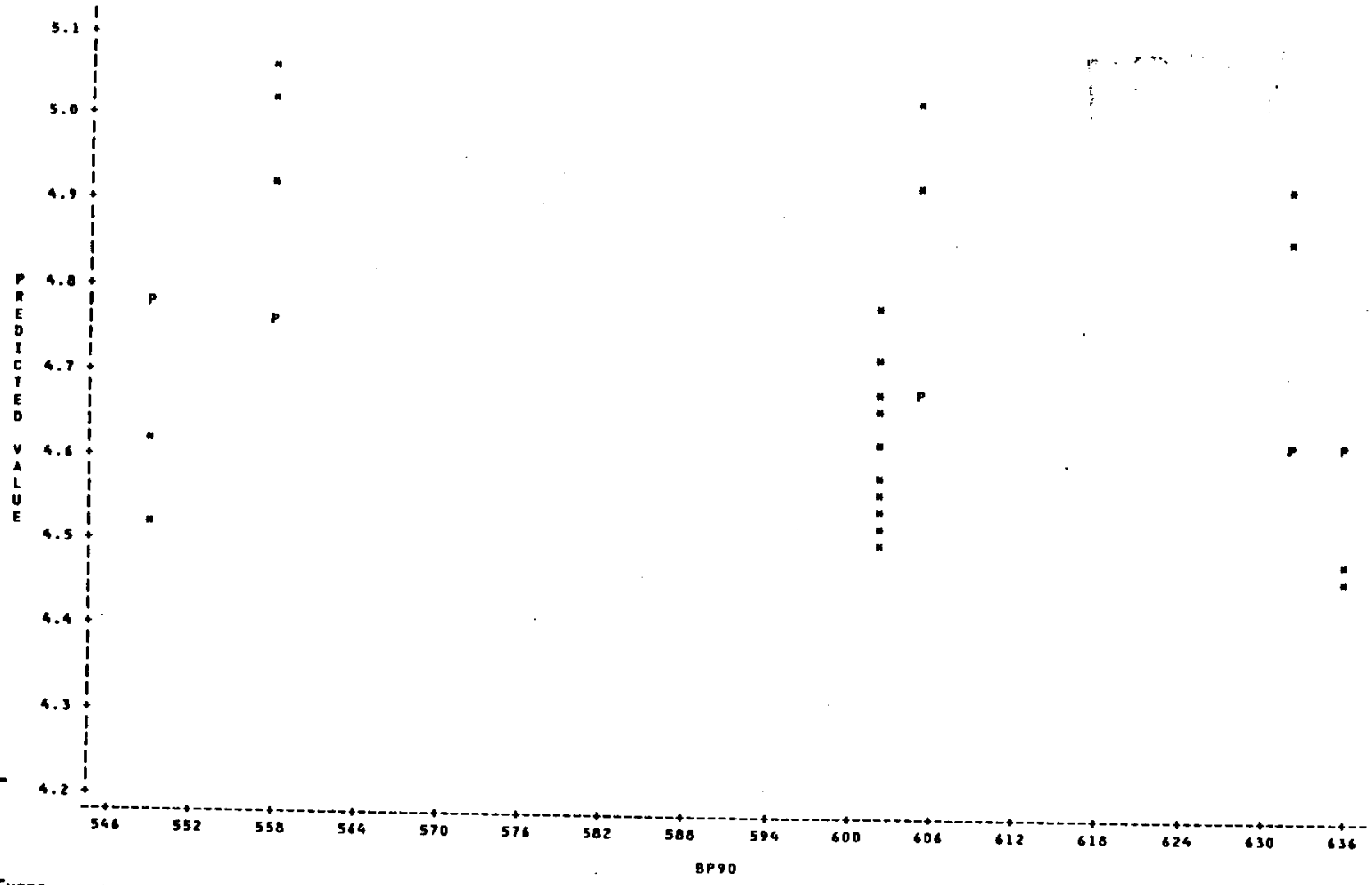
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.000367042 | 0.000367042 | 0.012 | 0.9150 |
| ERROR | 27 | 0.85441917 | 0.03164515 | | |
| C TOTAL | 28 | 0.85478621 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1778908 | R-SQUARE | 0.0004 |
| DEP MEAN | 4.68931 | ADJ R-SQ | -0.0366 |
| C.V. | 3.79354 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.68186918 | 0.07658404 | 61.134 | 0.0001 |
| SULFUR | 1 | 0.03463784 | 0.32162273 | 0.108 | 0.9150 |

PLOT OF NOXHS*BP90 SYMBOL USED IS *
PLOT OF PRED533*BP90 SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 32 OBS HIDDEN

DEP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.05647220 | 0.05647220 | 1.910 | 0.1783 |
| ERROR | 27 | 0.79831401 | 0.02956719 | | |
| C TOTAL | 28 | 0.85478621 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1719511 | R-SQUARE | 0.0661 |
| DEP MEAN | 4.68931 | ADJ R-SQ | 0.0315 |
| C.V. | 3.666874 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 5.84340030 | 0.83568873 | 6.992 | 0.0001 |
| BP[illegible] | 1 | -0.001928582 | 0.001395487 | -1.382 | 0.1783 |

DEP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.57198087 | 0.28599043 | 26.293 | 0.0001 |
| ERROR | 26 | 0.28280534 | 0.01067713 | | |
| C TOTAL | 28 | 0.85478621 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1042935 | R-SQUARE | 0.6692 |
| DEP MEAN | 4.68931 | ADJ R-SQ | 0.6437 |
| C.V. | 2.224068 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 4.32885640 | 0.06623670 | 65.354 | 0.0001 |
| FIA | 1 | 0.01372545 | 0.001893356 | 7.249 | 0.0001 |
| SULFUR | 1 | -0.35340254 | 0.19601045 | -1.803 | 0.0830 |

EP VARIABLE: NONES

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.59642819 | 0.29821409 | 30.011 | 0.0001 |
| ERROR | 26 | 0.25835802 | 0.009936847 | | |
| C TOTAL | 28 | 0.85478621 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.09968373 | R-SQUARE | 0.6978 |
| DEP MEAN | 4.68931 | ADJ R-SQ | 0.6745 |
| C.V. | 2.125765 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 5.46901239 | 0.48712153 | 11.227 | 0.0001 |
| FIA | 1 | 0.01283346 | 0.001740960 | 7.371 | 0.0001 |
| BP90 | 1 | -0.031984776 | 0.00C809029 | -2.453 | 0.0212 |

EP VARIABLE: NOXHS

ANALYSIS OF VARIANCE

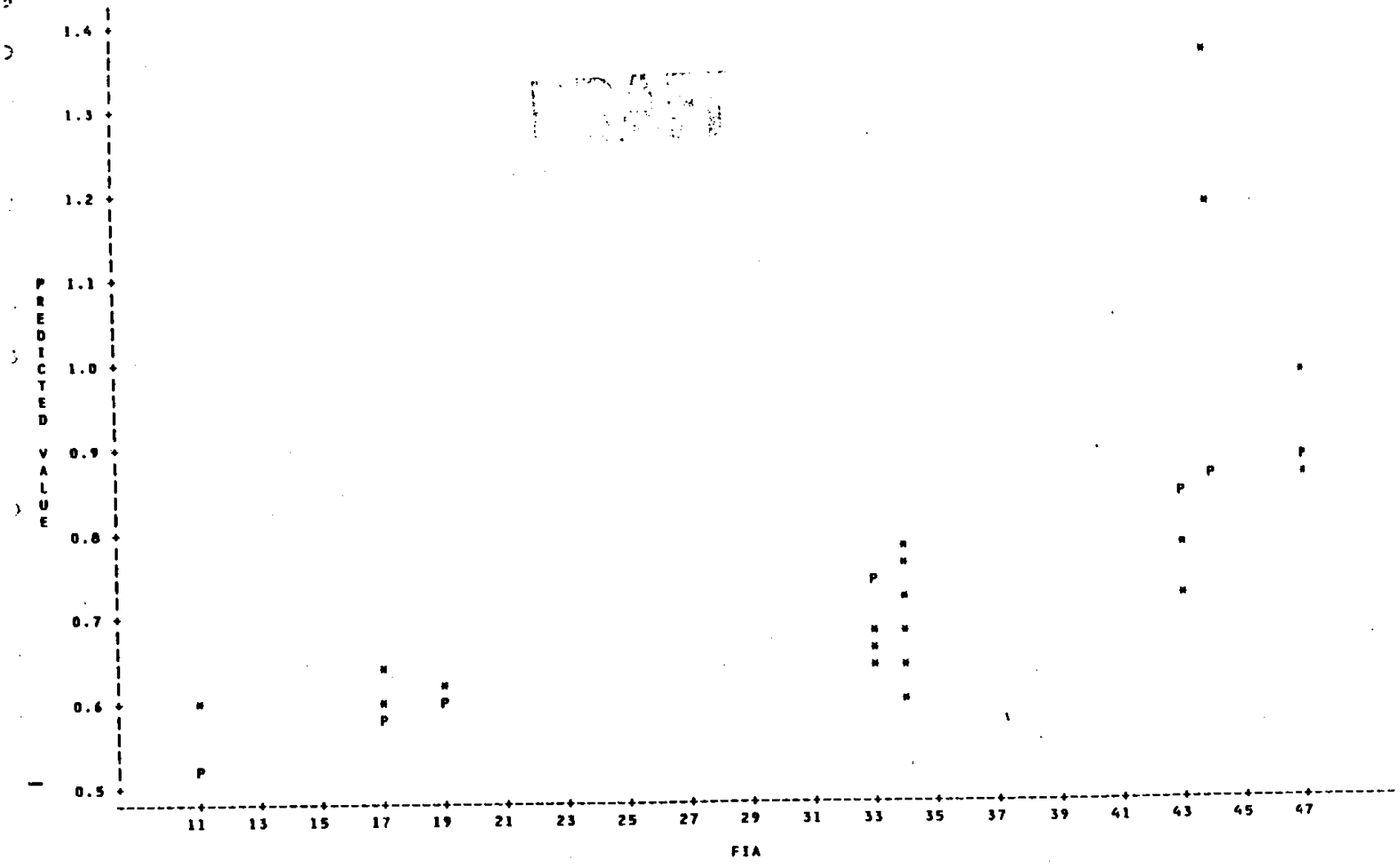
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.64939626 | 0.21646542 | 26.348 | 0.0001 |
| ERROR | 25 | 0.20538995 | 0.008215598 | | |
| C TOTAL | 28 | 0.85478621 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.09063994 | R-SQUARE | 0.7597 |
| DEP MEAN | 4.68931 | ADJ R-SQ | 0.7309 |
| C.V. | 1.932905 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 5.75744567 | 0.45277203 | 12.606 | 0.0001 |
| FIA | 1 | 0.01399550 | 0.001647838 | 8.493 | 0.0001 |
| SULFUR | 1 | -0.43819367 | 0.17257506 | -2.539 | 0.0177 |
| BF90 | 1 | -0.002287647 | 0.000745238 | -3.070 | 0.0051 |

PLOT OF HCCS*FIA SYMBOL USED IS *
PLOT OF PRED*FIA SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 29 OBS HIDDEN

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.33824311 | 0.33824311 | 15.802 | 0.0006 |
| ERROR | 24 | 0.51371073 | 0.02140461 | | |
| C TOTAL | 25 | 0.85195385 | | | |

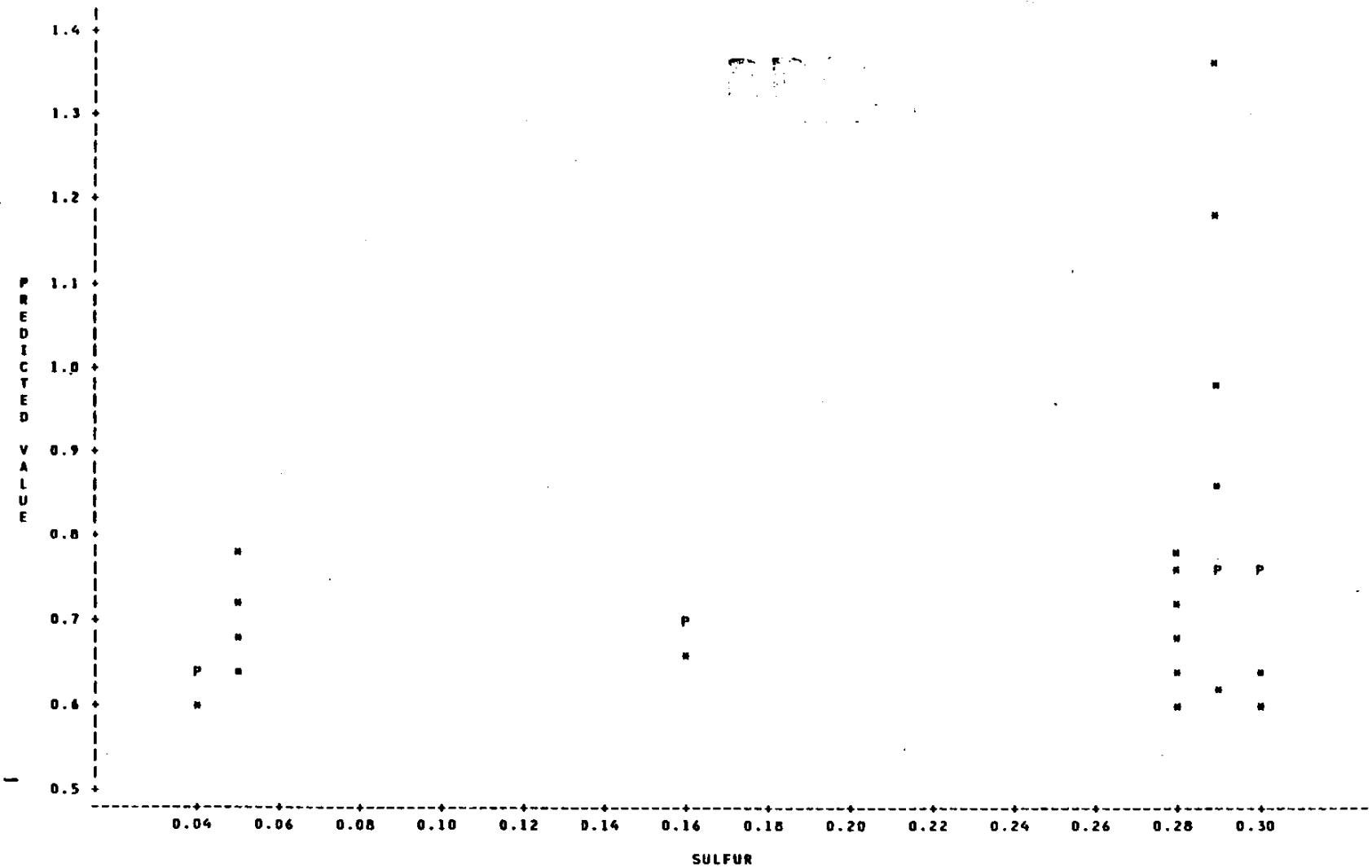
| | | | |
|---|---|---|---|
| ROOT MSE | 0.1463032 | R-SQUARE | 0.3970 |
| DEP MEAN | 0.7230769 | ADJ R-SQ | 0.3719 |
| C.V. | 20.23342 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.39798963 | 0.08666591 | 4.592 | 0.0001 |
| FIA | 1 | 0.01042203 | 0.002621753 | 3.975 | 0.0006 |

CUMMINS

PLOT OF HCCS*SULFUR SYMBOL USED IS *
PLOT OF PRED9*SULFUR SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 31 OBS HIDDEN

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

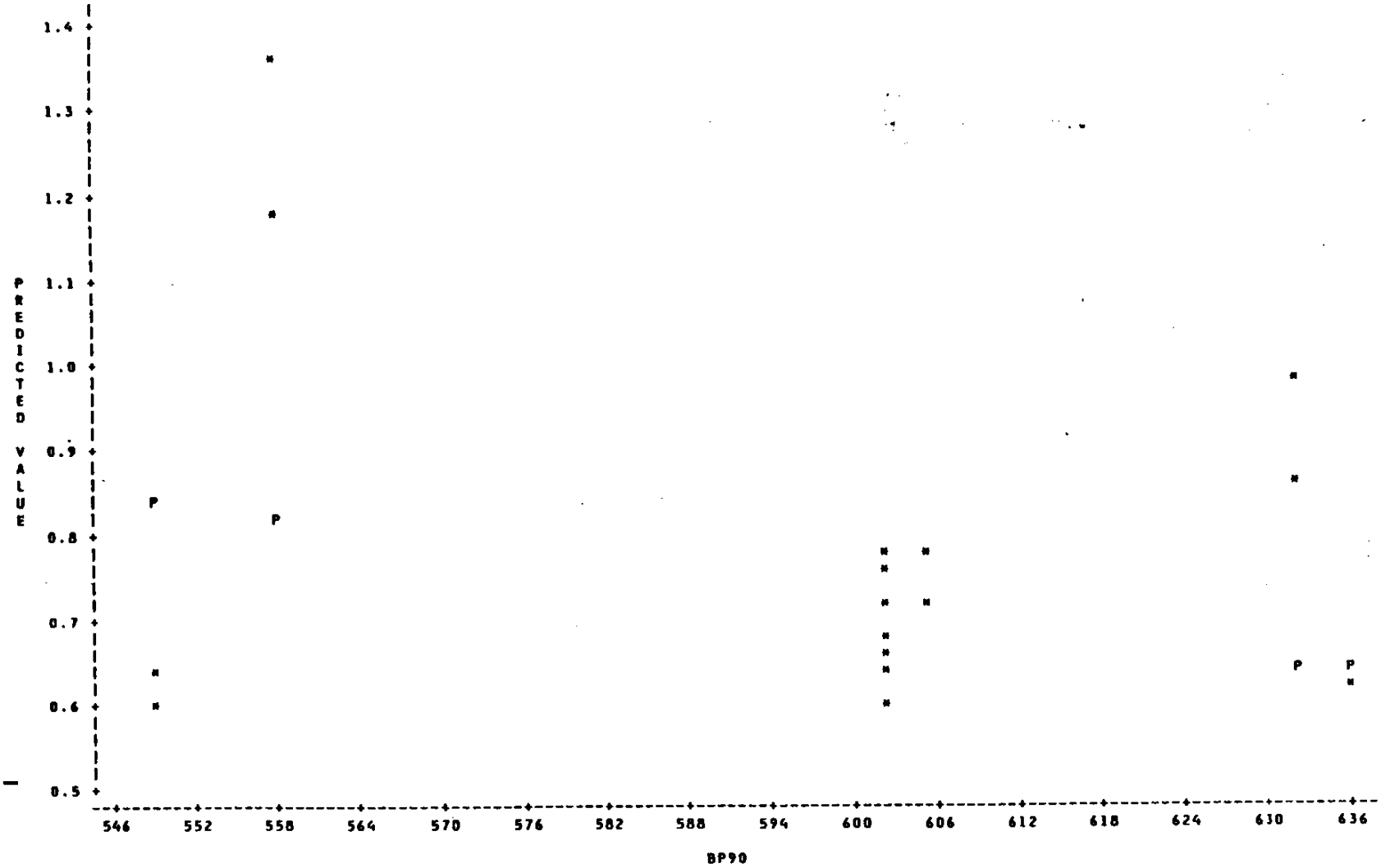
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.06362659 | 0.06362659 | 1.937 | 0.1768 |
| ERROR | 24 | 0.78832725 | 0.03284697 | | |
| C TOTAL | 25 | 0.85195385 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1812373 | R-SQUARE | 0.0747 |
| DEP MEAN | 0.7230769 | ADJ R-SQ | 0.0361 |
| C.V. | 25.06474 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.62445606 | 0.07927415 | 7.877 | 0.0001 |
| SULFUR | 1 | 0.46620769 | 0.33497142 | 1.392 | 0.1768 |

PLOT OF HCCS*BP90 SYMBOL USED IS *
PLOT OF PRED13*BP90 SYMBOL USED IS P




NOTE: 118 OBS HAD MISSING VALUES 34 OBS HIDDEN

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.07475181 | 0.07475181 | 2.308 | 0.1417 |
| ERROR | 24 | 0.77720203 | 0.03238342 | | |
| C TOTAL | 25 | 0.85195385 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1799539 | R-SQUARE | 0.0877 |
| DEP MEAN | 0.7230769 | ADJ R-SQ | 0.0497 |
| C.V. | 24.88725 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 2.13519046 | 0.93010709 | 2.296 | 0.0307 |
| BP90 | 1 | -0.002354730 | 0.001549857 | -1.519 | 0.1417 |

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.35019530 | 0.17509765 | 6.026 | 0.0023 |
| ERROR | 23 | 0.50175855 | 0.02181559 | | |
| C TOTAL | 25 | 0.85195385 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.147701 | R-SQUARE | 0.4110 |
| DEP MEAN | 0.7230769 | ADJ R-SQ | 0.3596 |
| C.V. | 20.42674 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.36972204 | 0.05546550 | 3.873 | 0.0008 |
| FIA | 1 | 0.00991231B | 0.00273491B | 3.624 | 0.0014 |
| SULFUR | 1 | 0.20678851 | 0.28207619 | 0.740 | 0.4667 |

DEP VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.44425944 | 0.22212972 | 12.531 | 0.0002 |
| ERROR | 23 | 0.40769441 | 0.01772584 | | |
| C TOTAL | 25 | 0.85195385 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.1331394 | R-SQUARE | 0.5215 |
| DEP MEAN | 0.7230769 | ADJ R-SQ | 0.4798 |
| C.V. | 18.41276 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 2.07016183 | 0.68828463 | 3.008 | 0.0063 |
| FIA | 1 | 0.01093509 | 0.002395046 | 4.566 | 0.0001 |
| BP90 | 1 | -0.002915069 | 0.001151042 | -2.446 | 0.0225 |

P VARIABLE: HCCS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.44832640 | 0.14944213 | 8.145 | 0.0004 |
| ERROR | 22 | 0.40362345 | 0.01834670 |  |  |
| C TOTAL | 25 | 0.85195385 |  |  |  |

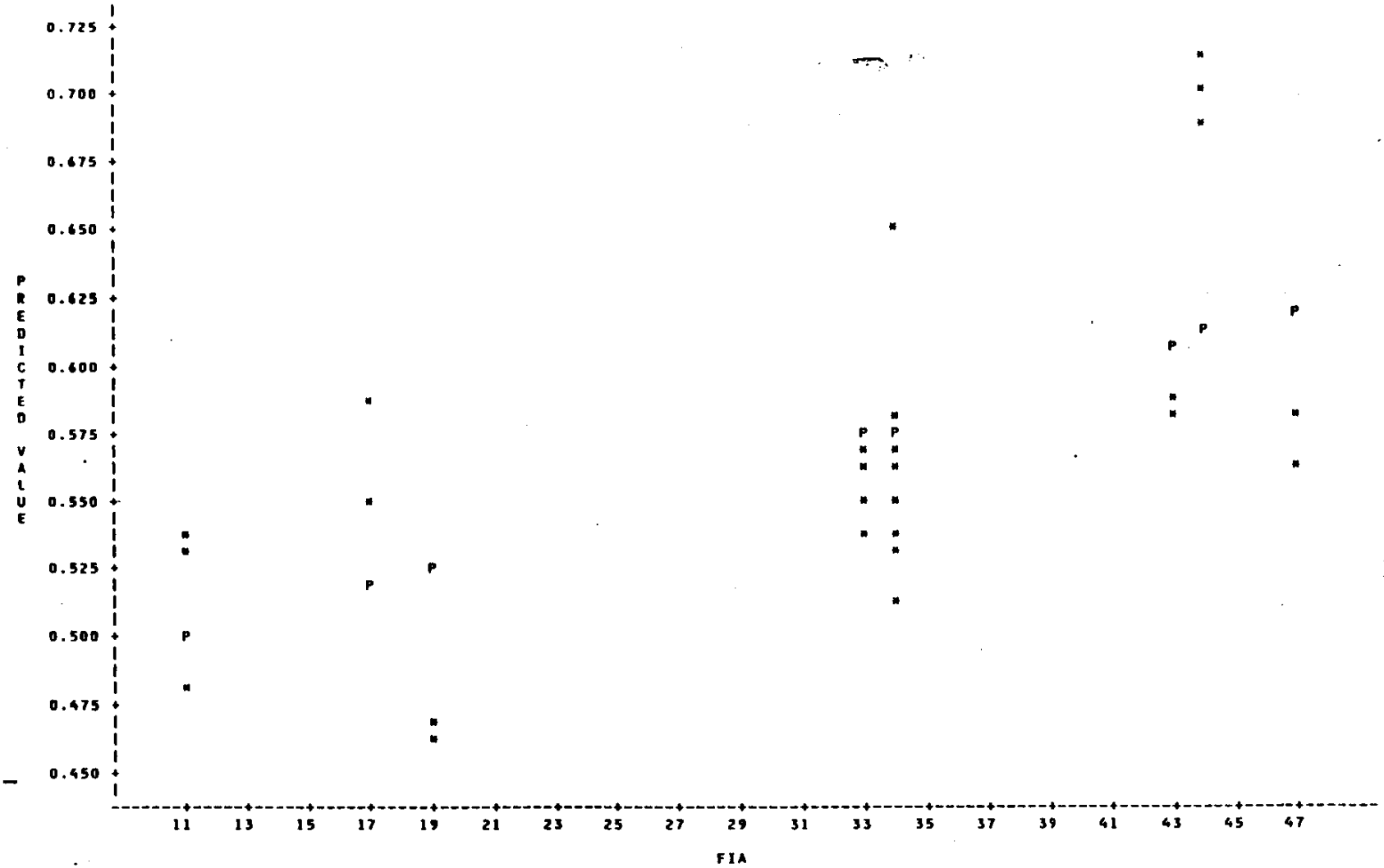
| | | | |
|---|---|---|---|
| ROOT MSE | 0.13545 | R-SQUARE | 0.5262 |
| DEP MEAN | 0.7230769 | ADJ R-SQ | 0.4616 |
| C.V. | 18.73245 |  |  |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 2.03655929 | 0.71314623 | 2.814 | 0.0101 |
| FIA | 1 | 0.01062031 | 0.00252668 5 | 4.203 | 0.0004 |
| SULFUR | 1 | 0.12303650 | 0.26132371 | 0.471 | 0.6424 |
| BP90 | 1 | -0.002736039 | 0.001183036 | -2.313 | 0.0335 |

CONTINUING

PLOT OF HCHS*FIA SYMBOL USED IS *
PLOT OF PRED19*FIA SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 25 OBS HIDDEN

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.03671473 | 0.03671473 | 13.995 | 0.0009 |
| ERROR | 27 | 0.07083010 | 0.002623337 | | |
| C TOTAL | 28 | 0.10754483 | | | |

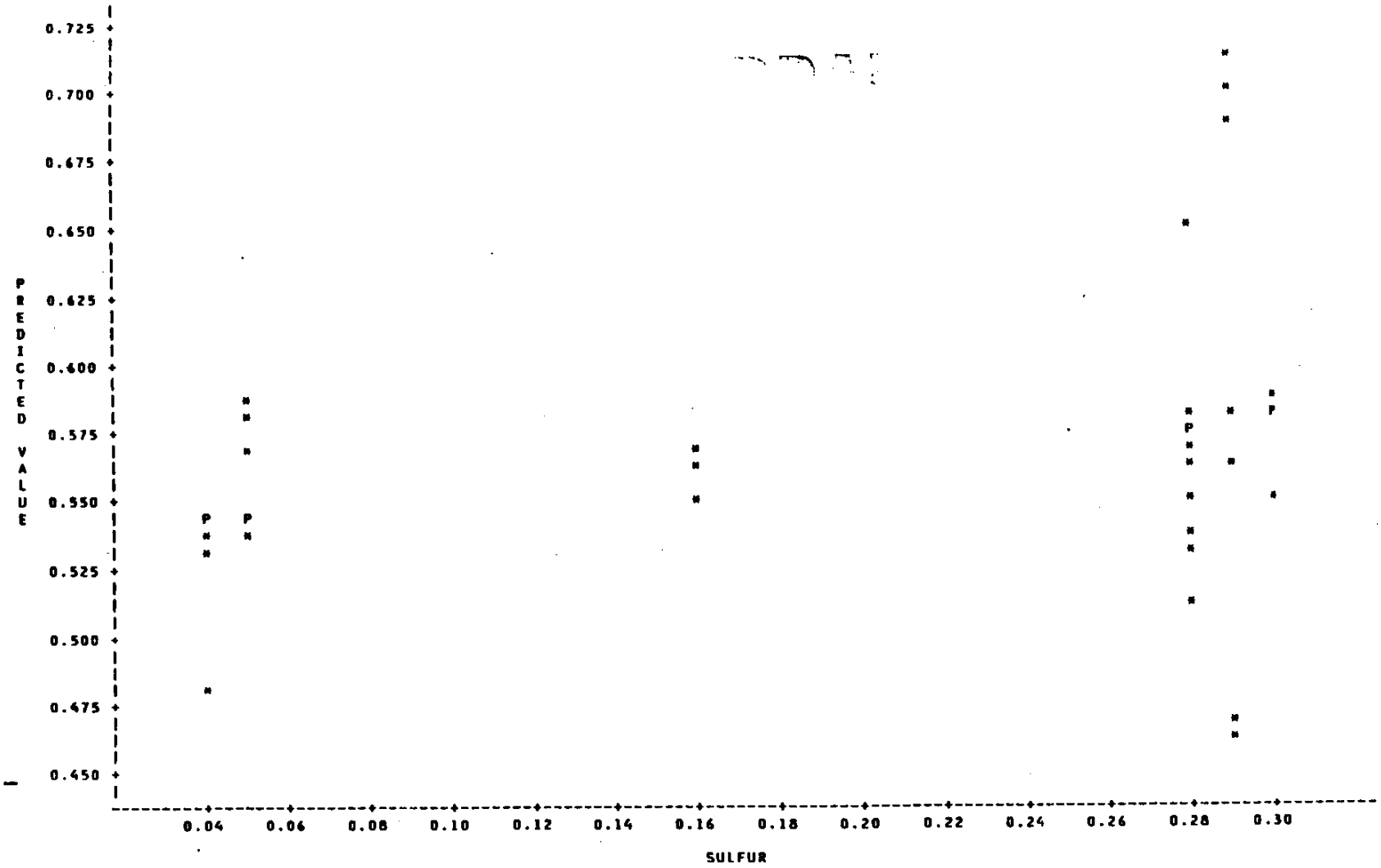
| | | | |
|---|---|---|---|
| ROOT MSE | 0.05121852 | R-SQUARE | 0.3414 |
| DEP MEAN | 0.5686207 | ADJ R-SQ | 0.3170 |
| C.V. | 9.007502 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.46223129 | 0.02998671 | 15.415 | 0.0001 |
| FIA | 1 | 0.003346304 | 0.000894483 | 3.741 | 0.0009 |

CUMMING

PLOT OF HCH5*SULFUR SYMBOL USED IS *
PLOT OF PRED28*SULFUR SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 26 OBS HIDDEN

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

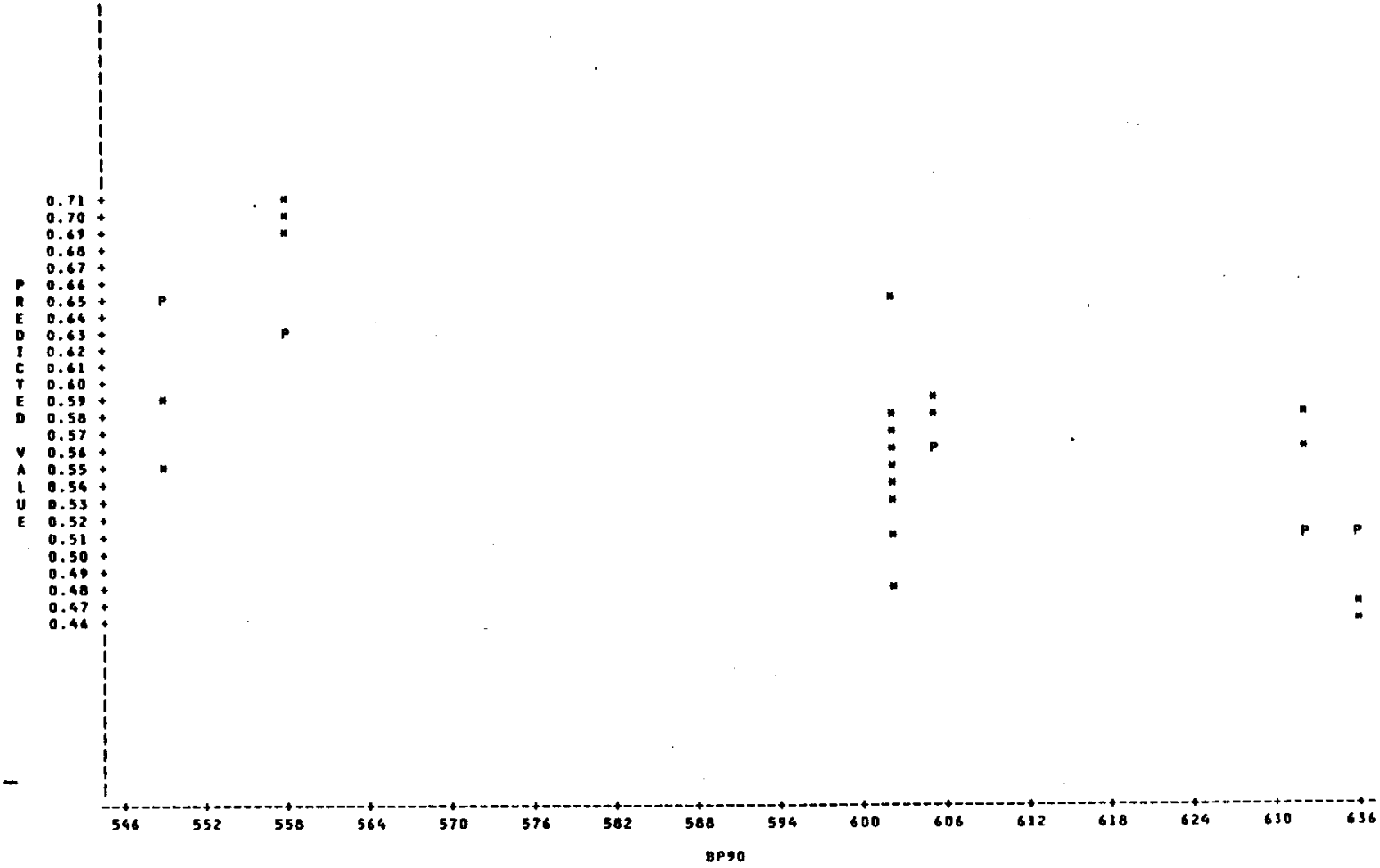
| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.005546708 | 0.005546708 | 1.468 | 0.2361 |
| ERROR | 27 | 0.10199812 | 0.003777708 | | |
| C TOTAL | 28 | 0.10754483 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.06146306 | R-SQUARE | 0.0516 |
| DEP MEAN | 0.5686207 | ADJ R-SQ | 0.0164 |
| C.V. | 10.80915 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.53969386 | 0.02646055 | 20.396 | 0.0001 |
| SULFUR | 1 | 0.13465137 | 0.11112386 | 1.212 | 0.2361 |

PLOT OF HCHS*BP90 SYMBOL USED IS *
PLOT OF PRED32*BP90 SYMBOL USED IS P




NOTE: 115 OBS HAD MISSING VALUES 33 OBS HIDDEN

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 1 | 0.03906271 | 0.03906271 | 15.401 | 0.0005 |
| ERROR | 27 | 0.06848212 | 0.002536375 | | |
| C TOTAL | 28 | 0.10754483 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.05036243 | R-SQUARE | 0.3632 |
| DEP MEAN | 0.5686207 | ADJ R-SQ | 0.3396 |
| C.V. | 8.856947 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 1.52847093 | 0.24476328 | 6.245 | 0.0001 |
| BP90 | 1 | -0.001603991 | 0.000408721 | -3.924 | 0.0005 |

DEP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.03724487 | 0.01862243 | 6.887 | 0.0040 |
| ERROR | 26 | 0.07029996 | 0.002703845 | | |
| C TOTAL | 28 | 0.10754483 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.05199851 | R-SQUARE | 0.3463 |
| DEP MEAN | 0.5686207 | ADJ R-SQ | 0.2960 |
| C.V. | 9.144673 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 0.45656418 | 0.03302421 | 13.825 | 0.0001 |
| FIA | 1 | 0.003232155 | 0.000943987 | 3.424 | 0.0021 |
| SULFUR | 1 | 0.04327317 | 0.09772684 | 0.443 | 0.6616 |

DEP VARIABLE: MCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 2 | 0.07649791 | 0.03824896 | 32.031 | 0.0001 |
| ERROR | 26 | 0.03104692 | 0.001194112 | | |
| C TOTAL | 28 | 0.10754483 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.03455503 | R-SQUARE | 0.7113 |
| DEP MEAN | 0.5686207 | ADJ R-SQ | 0.6891 |
| C.V. | 6.077149 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 1.42989231 | 0.16886342 | 8.468 | 0.0001 |
| FIA | 1 | 0.003379128 | 0.000603514 | 5.599 | 0.0001 |
| RR90 | 1 | -0.001616787 | 0.000280455 | -5.772 | 0.0001 |

EP VARIABLE: HCHS

ANALYSIS OF VARIANCE

| SOURCE | DF | SUM OF SQUARES | MEAN SQUARE | F VALUE | PROB>F |
|---|---|---|---|---|---|
| MODEL | 3 | 0.07657920 | 0.02552640 | 20.609 | 0.0001 |
| ERROR | 25 | 0.03096563 | 0.001238625 | | |
| C TOTAL | 28 | 0.10754483 | | | |

| | | | |
|---|---|---|---|
| ROOT MSE | 0.03519411 | R-SQUARE | 0.7121 |
| DEP MEAN | 0.5686207 | ADJ R-SQ | 0.6775 |
| C.V. | 6.189362 | | |

PARAMETER ESTIMATES

| VARIABLE | DF | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|---|
| INTERCEP | 1 | 1.43923290 | 0.17580448 | 8.187 | 0.0001 |
| FIA | 1 | 0.003424651 | 0.000639830 | 5.352 | 0.0001 |
| SULFUP | 1 | -0.01716615 | 0.06700826 | -0.256 | 0.7999 |
| BP90 | 1 | -0.001630652 | 0.000289365 | -5.635 | 0.0001 |