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## APPENDIX A TO SUBPART B OF PART 53—OPTIONAL FORMS FOR REPORTING TEST RESULTS

### TABLE B–5—SYMBOLS AND ABBREVIATIONS

| | |
|---|---|
| $B_L$ | Analyzer reading at specified *LDL* concentration. |
| $B_z$ | Analyzer reading at 0 concentration for *LDL* test. |
| *DM* | Digital meter. |
| $C_{max}$ | Maximum analyzer reading during 12*ZD* test. |
| $C_{min}$ | Minimum analyzer reading during 12*ZD* test. |
| *i* | Subscript indicating the *i*-th quantity in a series. |
| *IE* | Interference equivalent. |
| $L_1$ | First analyzer zero reading for 24*ZD* test. |
| $L_2$ | Second analyzer zero reading for 24*ZD* test. |
| $M_n$ | Average of $P_1 \ldots P_6$ for the *n*-th test day. |
| $M'_n$ | Adjusted span reading at 20 percent of *URL* on the *n*-th test day. |
| *MSD* | Span drift at 20 percent of *URL*. |
| *n* | Subscript indicating the test day number. |
| *P* | Analyzer reading for precision test. |
| $P_i$ | The *i*-th analyzer reading for precision test. |
| $P_{20}$ | Precision at 20 percent of *URL*. |
| $P_{80}$ | Precision at 80 percent of *URL*. |
| *R* | Analyzer reading of pollutant alone for *IE* test. |
| $R_I$ | Analyzer reading with interferent added for *IE* test. |
| $r_i$ | The *i*-th *DM* reading for noise test. |
| *S* | Standard deviation of noise readings. |
| $S_0$ | Noise value (*S*) measured at 0 concentration. |
| $S_{80}$ | Noise value (*S*) measured at 80 percent of *URL*. |
| $S_n$ | Average of $P_7 \ldots P_{12}$ for the *n*-th test day. |
| $S'_n$ | Adjusted span reading at 80 percent of *URL* on the *n*-th test day. |
| *URL* | Upper range limit. |
| *USD* | Span drift at 80 percent o |
| *Z* | Average of $L_1$ and $L_2$. |
| $Z_n$ | Average of $L_1$ and $L_2$ on the *n*-th test day. |
| $Z'_n$ | Adjusted zero reading on the *n*-th test day. |
| *ZD* | Zero drift. |
| 12*ZD* | 12-hour zero drift. |
| 24*ZD* | 24-hour zero drift. |

Applicant _____ Date _____

Test No. _____

Analyzer _____ Range _____

| READING NUMBER (i) | TIME | 0% of URL | | 80% of URL | |
|---|---|---|---|---|---|
| | | DM READING | $r_i$, ppm | DM READING | $r_i$, ppm |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| $\sum_{i=1}^{25} r_i$ | | | | | |
| $\sum_{i=1}^{25} r_i^2$ | | | | | |
| S | | | $S_0$ = | | $S_{80}$ = |

Figure B-2. Form for noise data.

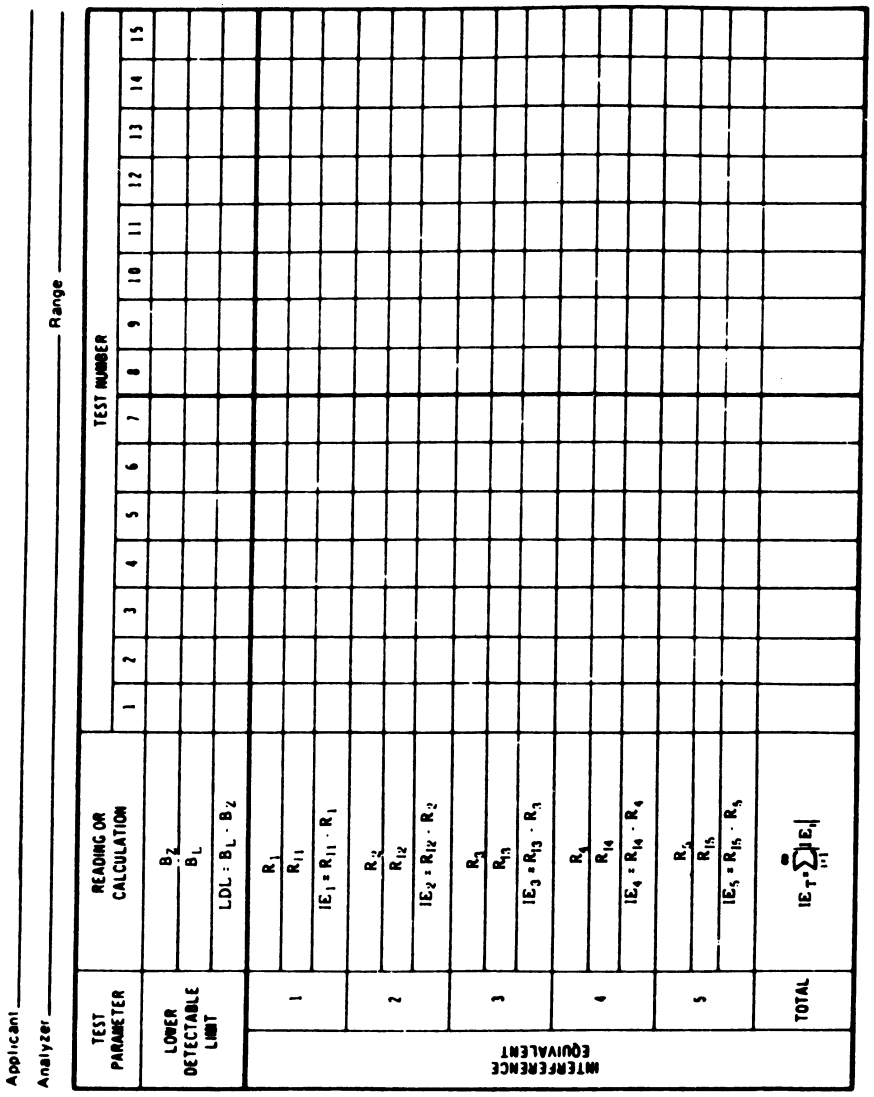



Figure B-3. Form for data and calculations for lower detectable limit and interference equivalent.

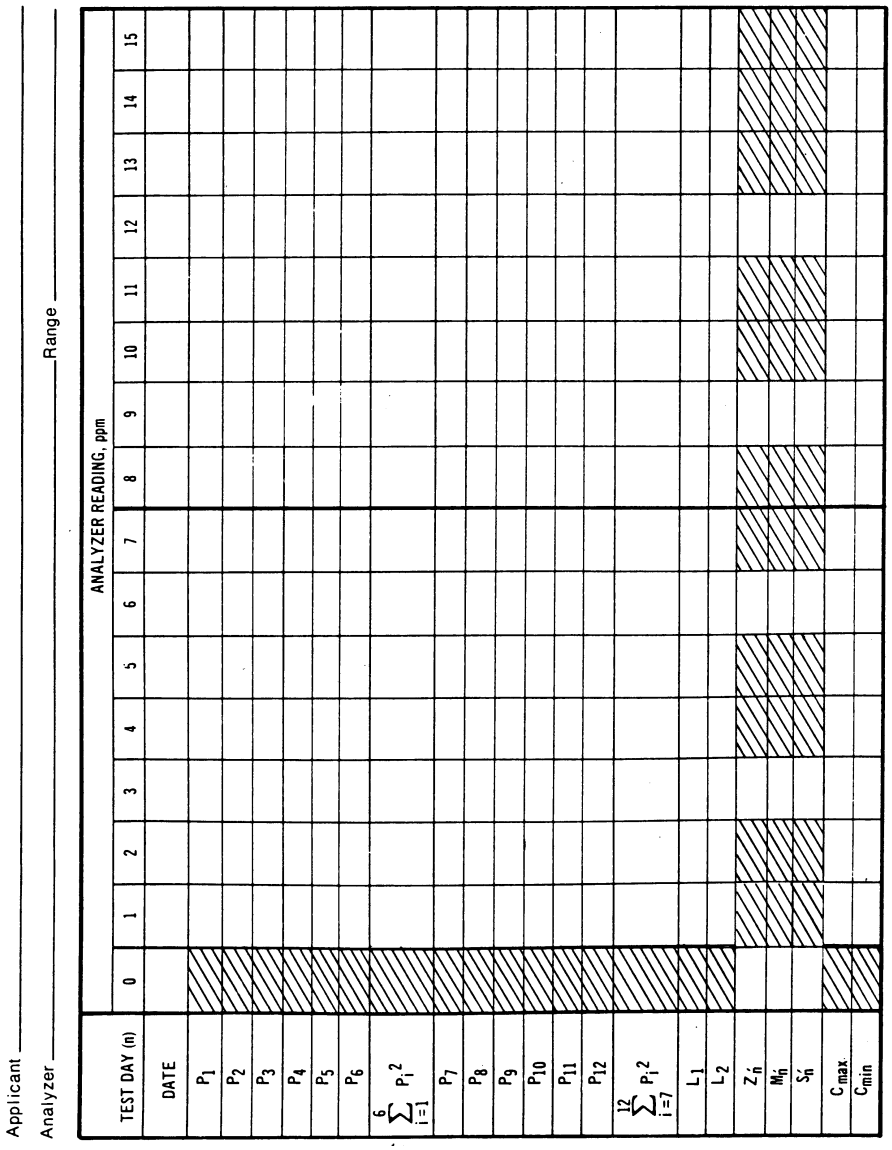



Figure B-4. Form recording data for drift and precision.

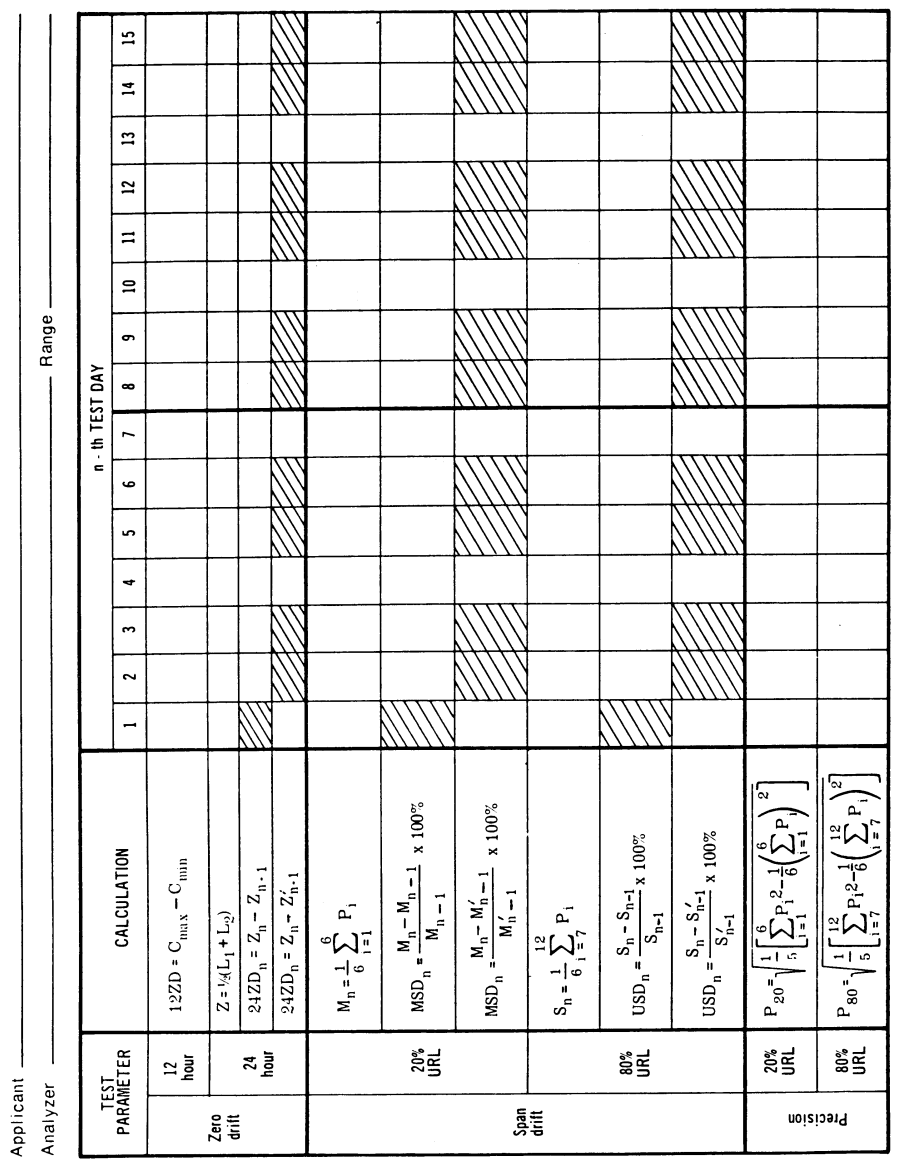
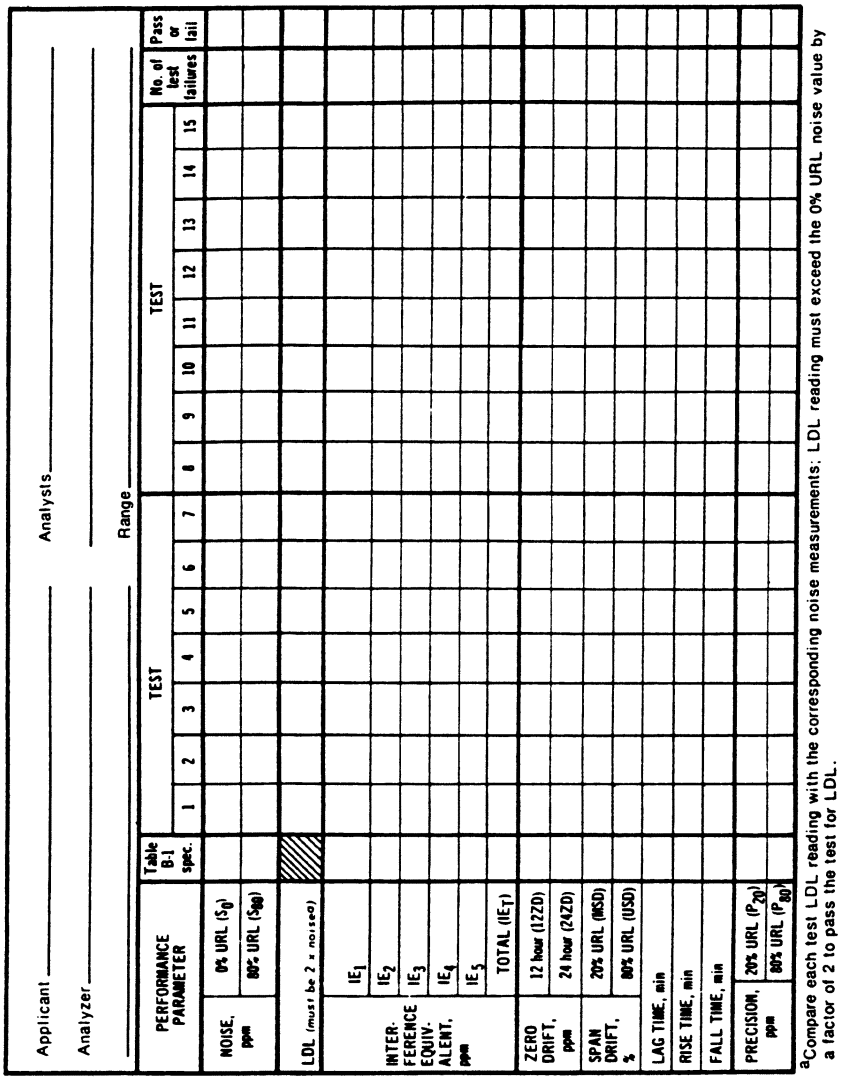



Figure B-5. Form for calculating zero drift, span drift and precision.



Applicant _____ Analysis _____

Analyzer _____ Range _____

| PERFORMANCE PARAMETER | | Table B-1 spec. | TEST 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | No. of test failures | Pass or fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NOISE, ppm | 0% URL ($S_0$) | | | | | | | | | | | | | | | | | | |
| | 80% URL ($S_{80}$) | | | | | | | | | | | | | | | | | | |
| LDL (must be 2 × noise) | | | | | | | | | | | | | | | | | | | |
| INTERFERENCE EQUIVALENT, ppm | $IE_1$ | | | | | | | | | | | | | | | | | | |
| | $IE_2$ | | | | | | | | | | | | | | | | | | |
| | $IE_3$ | | | | | | | | | | | | | | | | | | |
| | $IE_4$ | | | | | | | | | | | | | | | | | | |
| | $IE_5$ | | | | | | | | | | | | | | | | | | |
| | TOTAL ($IE_T$) | | | | | | | | | | | | | | | | | | |
| ZERO DRIFT, ppm | 12 hour (12ZD) | | | | | | | | | | | | | | | | | | |
| | 24 hour (24ZD) | | | | | | | | | | | | | | | | | | |
| SPAN DRIFT, % | 20% URL (MSD) | | | | | | | | | | | | | | | | | | |
| | 80% URL (USD) | | | | | | | | | | | | | | | | | | |
| LAG TIME, min | | | | | | | | | | | | | | | | | | | |
| RISE TIME, min | | | | | | | | | | | | | | | | | | | |
| FALL TIME, min | | | | | | | | | | | | | | | | | | | |
| PRECISION, ppm | 20% URL ($P_{20}$) | | | | | | | | | | | | | | | | | | |
| | 80% URL ($P_{80}$) | | | | | | | | | | | | | | | | | | |

[a]Compare each test LDL reading with the corresponding noise measurements; LDL reading must exceed the 0% URL noise value by a factor of 2 to pass the test for LDL.

Figure B-6. Form for summary of test results.

[40 FR 7049, Feb. 18, 1975, as amended at 40 FR 18169, Apr. 25, 1975]

## Subpart C—Procedures for Determining Comparability Between Candidate Methods and Reference Methods

SOURCE: 71 FR 61278, Oct. 17, 2006, unless otherwise noted.

### § 53.30 General provisions.

(a) *Determination of comparability.* The test procedures prescribed in this subpart shall be used to determine if a candidate method is comparable to a reference method when both methods measure pollutant concentrations in