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REPORT DRXTH-TE-CR-82179

SURFACE SAMPLING TECHNIQUES

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Robert P. O'Neil
Margaret A. Randel
Emmett M. Smith

ARTHUR D. LITTLE, INC.
CAMBRIDGE, MA 02140

SEPTEMBER, 1982

FINAL REPORT
Volume II
Certification Testing Data

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prepared for

U.S. Army Toxic and Hazardous Materials Agency,
Aberdeen Proving Ground, Maryland 21010

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ABBREVIATIONS

Abbreviation	Chemical Name
DNP	2,4-Dinitrophenol
RDX	Cyclotrimethylenetrinitramine
TNB	1,3,5-Trinitrobenzne
2,4-DNT	2,4-Dinitrotoluene
2,4,6-TNT	2,4,6-Trinitrotoluene
Tetryl	2,4,6-Trinitrophenylmethylnitramine
DPA	Diphenylamine
2,6-DNT	2,6-Dinitrotoluene
NG	Nitroglycerine
PETN	Pentaerythritetetranitrate

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II-135	PETN on Brick - Graph of Target-Found Concentration Points	333
II-136	PETN on Transite - Graph of Target-Found Concentration Points	337

Table I-1. Semiquantitative Certification Testing
Analytical Method Conditions

Analyte	Instrument	Column	Precolumn	Program Temp or Solvent	Retention Time	Solvent System/ Carrier Gas	Flow Rate
PETN	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18, 40μ, 50 x 4.6 mm	isocratic	6.2 min	65/35 CH_3Cl/H_2O	1 mL/min
2,6-DNT	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18, 40μ, 50 x 4.6 mm	isocratic	24.6 min	35/65 CH_3CN/ .005M t-butyl	1 mL/min
NG	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18 40μ 50 x 4.6 mm	isocratic	30.5 min	ammonium hydroxide	1 mL/min
2,4-DNT	GC	3% OV-225 on 100/120 Gas ChromQ ¼" x 2 mm ID x 6' glass column	None	100C for 6 min 15C/min to 165C;	19.90 min	5% Methane/argon	30 mL/min
2,6-DNT	GC	3% OV-225 on 100/120 Gas ChromQ ¼" x 2 mm ID x 6' glass column	None	hold 8 min 15C/min to 200 C;	16.20 min	5% Methane/argon	30 mL/min
1,3,5-TNB	GC	3% OV-225 on 100/120 Gas ChromQ ¼" x 2 mm ID x 6' glass column	None	hold 6 min	30.95 min	5% Methane/argon	30 mL/min
2,4,6-TNT	GC	3% OV-225 on 100/120 Gas ChromQ ¼" x 2 mm ID x 6" glass column	None	"	28.14 min	5% Methane/argon	30 mL/min
DPA	HPLC	U Bondpack C18 4mm x 30 cm	None	isocratic	230 sec	90/10 methanol/H_2O	1 mL/min
Tetryl	HPLC	U Bondpack C18 4mm x 30 cm	None	isocratic	416 sec	60/40 methanol/H_2O	1 mL/min
DNP	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18,40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	12.5 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min
RDX	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18, 40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	13.5 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min
TNB	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18,40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	17.2 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min
2,4-DNT	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18, 40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	24.3 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min
TNT	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18, 40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	25.6 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min
Tetryl	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18, 40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	26.7 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min
DPA	HPLC	Spherisorb ODS, 5μ, 250 x 4.6 mm	Pellicular LC-18,40μ 50 x 4.6 mm	Initial: 30% CH_3CN Final: 50% CH_3CN Time: 35 min Gradient: linear	39.2 min	0.08M acetic acid adjusted to pH 3.1 with ammonium hydroxide/CH_3CN	1.0 mL/min

Table I-2. Semiquantitative Certification Testing
Statistical Data Summary

Analyte	Detector	Attn.	Chart Speed	Inj. Volume	USATHAMA Method	Det. Limit	Corr. Coeff.	Slope	Int.	MPR Reference
PETN	UV at 230 nm	0.01 AUFS	0.1 in/min	70 uL	none	1.77 ug/mL	0.996	1.046	0.450	9
2,6-DNT	UV at 230 nm	0.01 AUFS	0.1 in/min	70 uL	MRI Method	0.26 ug/mL	0.998	1.061	9.888	8
NG	UV at 230 nm	0.01 AUFS	0.1 in/min	70 uL	MRI Method	4.54 ug/mL	0.999	0.989	2119.5	8
2,4-DNT	ECD @300C	$1x10^{-11}x8$	0.5 cm/min	1 uL	246 TNT-WA-02	0.11 ug/mL	0.967	0.743	0.034	5
2,6-DNT	ECD @300C	$1x10^{-11}x8$	0.5 cm/min	1 uL	246 TNT-WA-02	0.09 ug/mL	0.989	1.069	-0.012	5
1,3,5-TNB	ECD @300C	$1x10^{-11}x8$	0.5 cm/min	1 uL	246 TNT-WA-02	0.12 ug/mL	0.999	1.058	0.007	5
2,4,6-TNT	ECD @300C	$1x10^{-11}x8$	0.5 cm/min	1 uL	246 TNT-WA-02	0.12 ug/mL	0.979	1.054	-0.009	5
DPA	UV at 254 nm	0.1 AUFS	0.5 cm/min	200 uL	DPA-WA-01	12.25 ug/mL	0.997	0.796	-0.634	3
Tetryl	UV at 254 nm	0.1 AUFS	0.5 cm/min	200 uL	TETRYL-WA-02	0.08 ug/mL	0.995	0.862	-0.004	5
DNP	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	30 ng/mL	0.998	0.971	5.397	10
RDX	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	70 ng/mL	0.998	1.009	9.698	10
TNB	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	25 ng/mL	0.999	0.994	0.674	10
2,4-DNT	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	24 ng/mL	0.999	0.990	1.585	10
TNT	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	24 ng/mL	0.999	1.012	0.269	10
Tetryl	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	25 ng/mL	0.999	1.050	-5.410	10
DPA	UV at 254 nm	0.01 AUFS	0.1 in/min	100 uL	MRI Method	51 ng/mL	0.999	0.993	7.745	10

Table I-3. DNP - Found Concentrations

ARMY CERTIFICATION
DNP
FOUND CONC
(1) 26 24 (2) 26 28

(3) 26 29 (4) 52 52

(5) 52 52 (6) 52 53

(7) 104 104 (8) 104 126

(9) 104 111 (10) 260 254

(11) 260 261 (12) 260 264

(13) 520 495 (14) 520 533

(15) 520 498

Table I-4. DNP - Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION
DNP
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 192.4   SD   189.231830605

FOUND CONC
MEAN= 192.266666667   SD= 184.077804461

NO. RUNS : TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 5.39670981661
SLOPE= 0.971257571986
 USE FOR ACCURACY
R= 0.998451979989
MEAN SQR DEV OF POINTS FROM REGRESSION= 112.898610738
ST ERROR EST= 10.6249993288
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 2
y(c)= 19.6057488586
x(d)= 29.1259198183
```

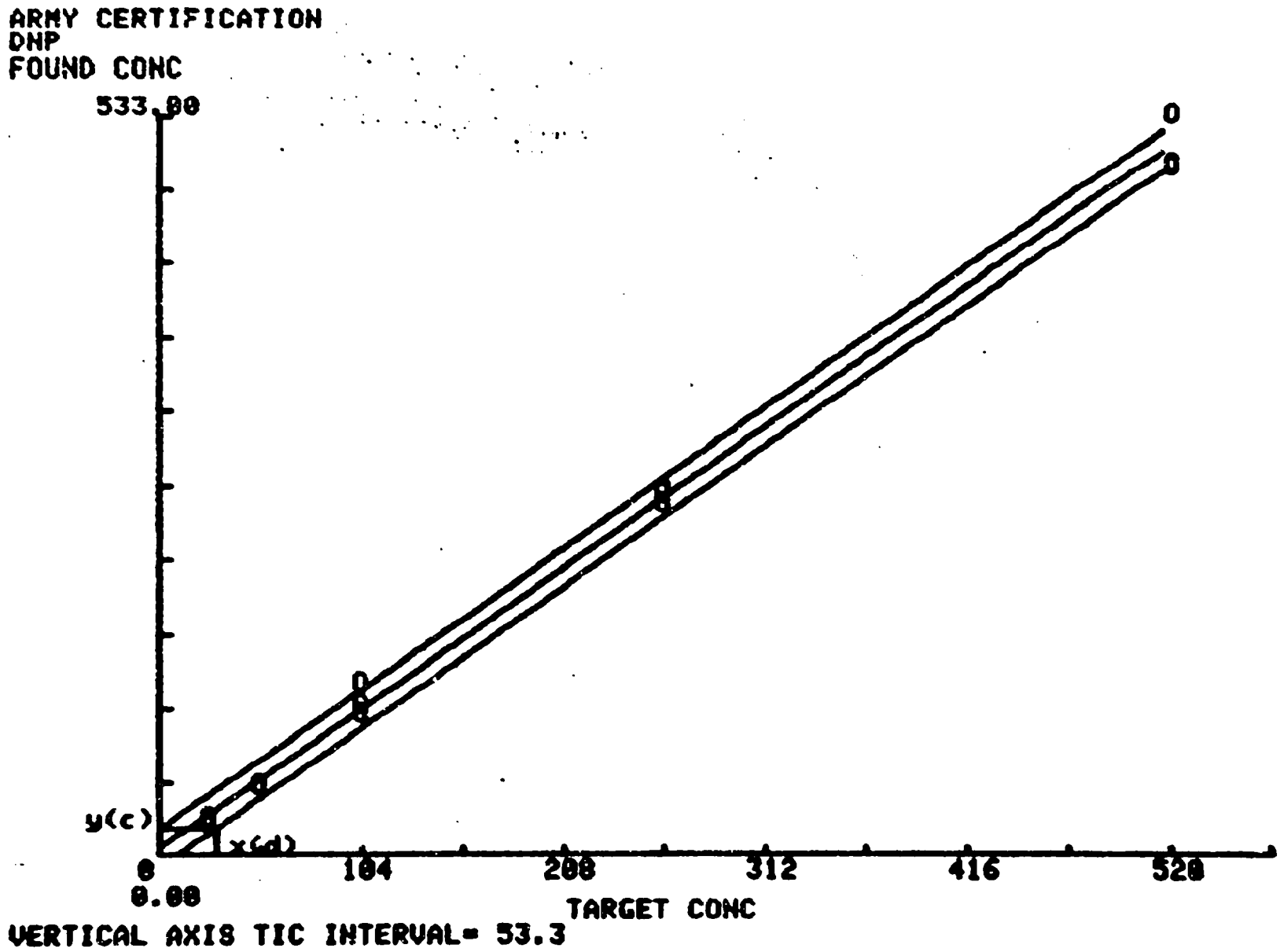

Figure I-1. DNP - Graph of Target-Found Concentration Points

Table I-5. RDX - Found Concentrations

ARMY CERTIFICATION
RDX
FOUND CONC
(1) 50 44 (2) 50 44

(3) 50 60 (4) 100 95

(5) 100 107 (6) 100 110

(7) 200 235 (8) 200 193

(9) 200 271 (10) 500 500

(11) 500 516 (12) 500 521

(13) 1000 1000 (14) 1000 1066

(15) 1000 984

Table I-6. RDX - Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION
RDX
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 370  SD= 363.987366549

FOUND CONC
MEAN= 383.066666667  SD= 368.11963635

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 9.69795037756
SLOPE= 1.00910463862
 USE FOR ACCURACY
R= 0.997557791953
MEAN SQR DEV OF POINTS FROM REGRESSION= 711.942079499
ST ERROR EST= 26.6822427749
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093178942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 2
y(c)= 45.3806848026
x(d)= 70.3255803599
```

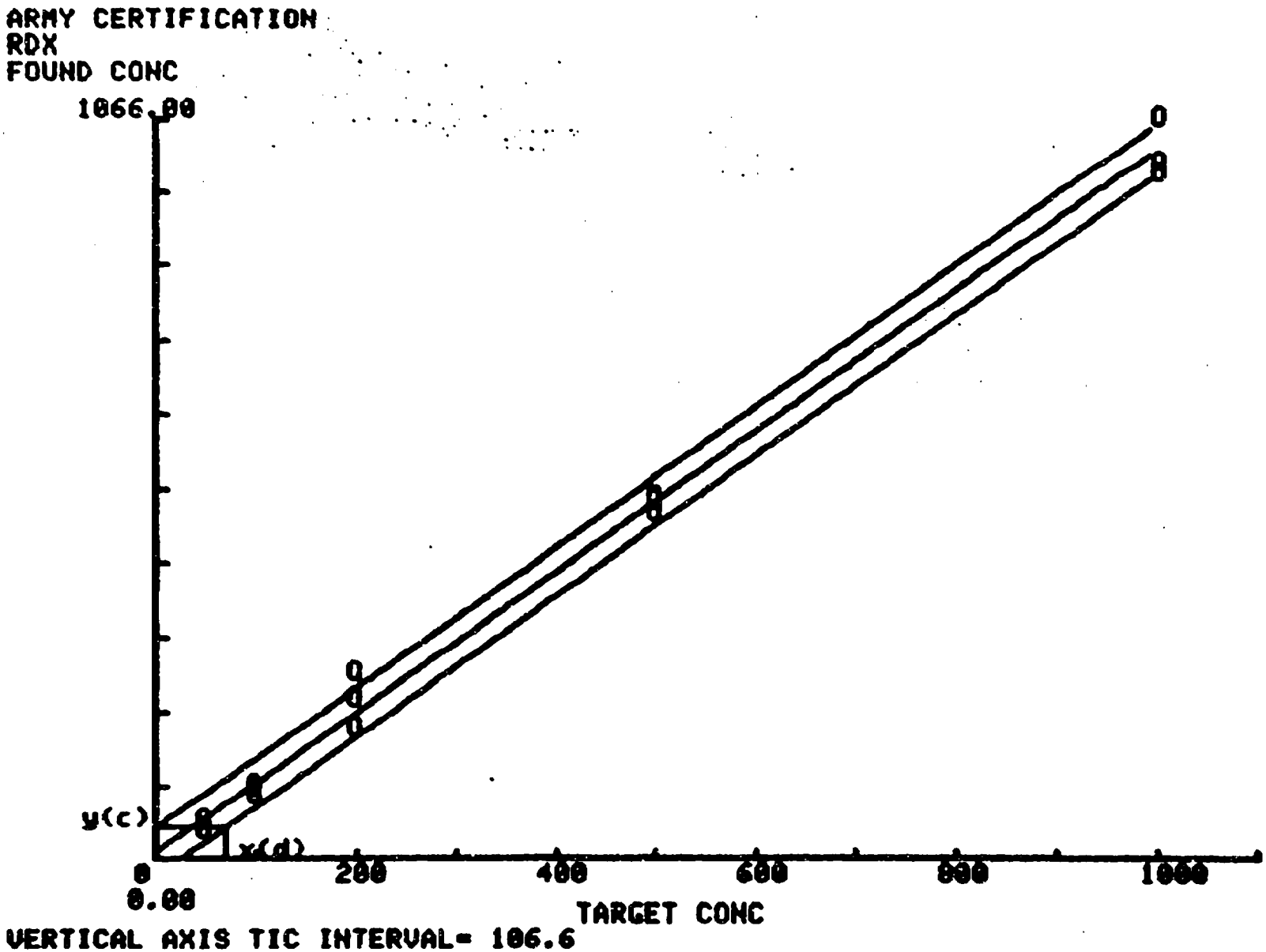

Figure I-2. RDX - Graph of Target-Found Concentration Points

Table I-7. TNB - Found Concentrations - HPLC Method

ARMY CERTIFICATION
TNB
FOUND CONC

(1) 25 25 (2) 25 26

(3) 25 28 (4) 50 49

(5) 50 50 (6) 50 52

(7) 100 96 (8) 100 99

(9) 100 104 (10) 250 243

(11) 250 253 (12) 250 250

(13) 500 486 (14) 500 518

(15) 500 491

Table I-8. TNB - Analysis of Target-Found Concentration Points - HPLC Method

```
ARMY CERTIFICATION
TNB
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 185  SD= 181.953683274

FOUND CONC
MEAN= 184.666666667  SD= 181.09889432

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.674487594391
SLOPE= 0.99455231931
 USE FOR ACCURACY
R= 0.999246618194
MEAN SQR DEV OF POINTS FROM REGRESSION= 53.1983030461
ST ERROR EST= 7.2937166826
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77893170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 2
y(c)= 10.4285310439
x(d)= 19.5511771834
```

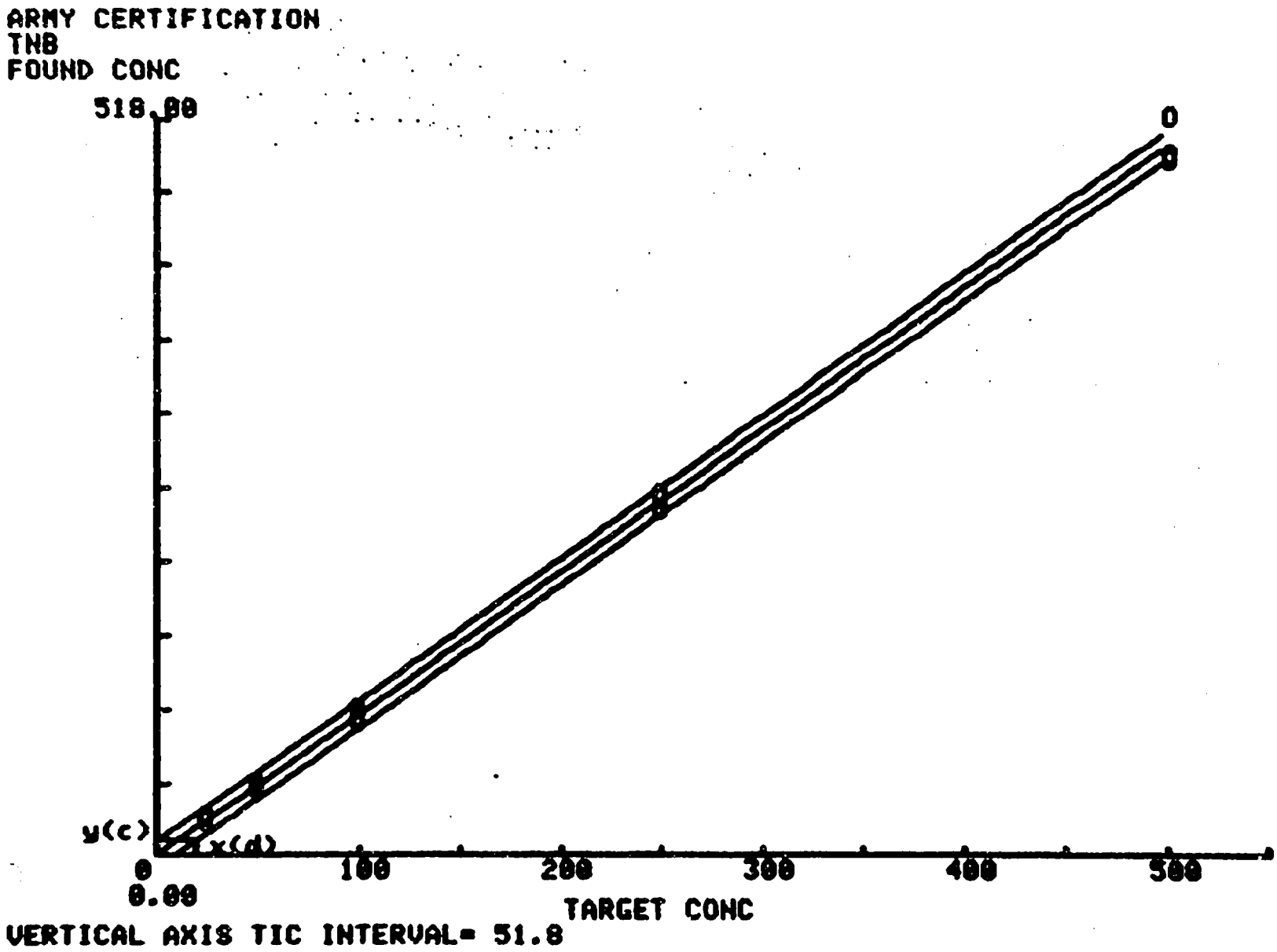

Figure 1-3. TNB - Graph of Target-Found Concentration Points - HPLC Method

Table I-9. TNB-Found Concentrations - GC/ECD Method

ARMY CERTIFICATION GC/ECD METHOD
1,3,5 TNB
FOUND CONC
(1) 0.12 0.09 (2) 0.12 0.1

(3) 0.12 0.09 (4) 0.12 0.17

(5) 0.23 0.22 (6) 0.23 0.31

(7) 0.23 0.25 (8) 0.46 0.53

(9) 0.46 0.55 (10) 0.46 0.48

(11) 0.46 0.49 (12) 1.16 1.23

(13) 1.16 1.27 (14) 1.16 1.26

(15) 2.31 2.42 (16) 2.31 2.44

(17) 2.31 2.46 (18) 0 0

(19) 0 0 (20) 0 0

(21) 0 0

Table I-10. TNB - Analysis of Target-Found Concentration Points - GC/ECD Method

```
ARMY CERTIFICATION  GC/ECD METHOD
1,3,5 TNB
ANALYSIS OF 21 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 0.639047619048  SD= 0.791573779012

FOUND CONC
MEAN= 0.68380952381  SD= 0.838793634874

NO. RUNS 1 TOTAL X-Y ALL RUNS 21 NO. CONCENTR 21
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.00709276388941
SLOPE= 1.05894575088
R= 0.999332439997
MEAN SQR DEV OF POINTS FROM REGRESSION (ST ERROR EST)= 9.884665286E-4
COMPUTE T
D.F.= 19
ENTER 2 TAIL P LEVEL (USUALLY .1, EACH CONFID BAND IS
.05 SO TOTAL P= .1)
.1
t= 1.729129474
REPLICATES ON UNKNOWN SAMPLE 3
y(c)= 0.0420524389847
x(d)= 0.0657723484472
```

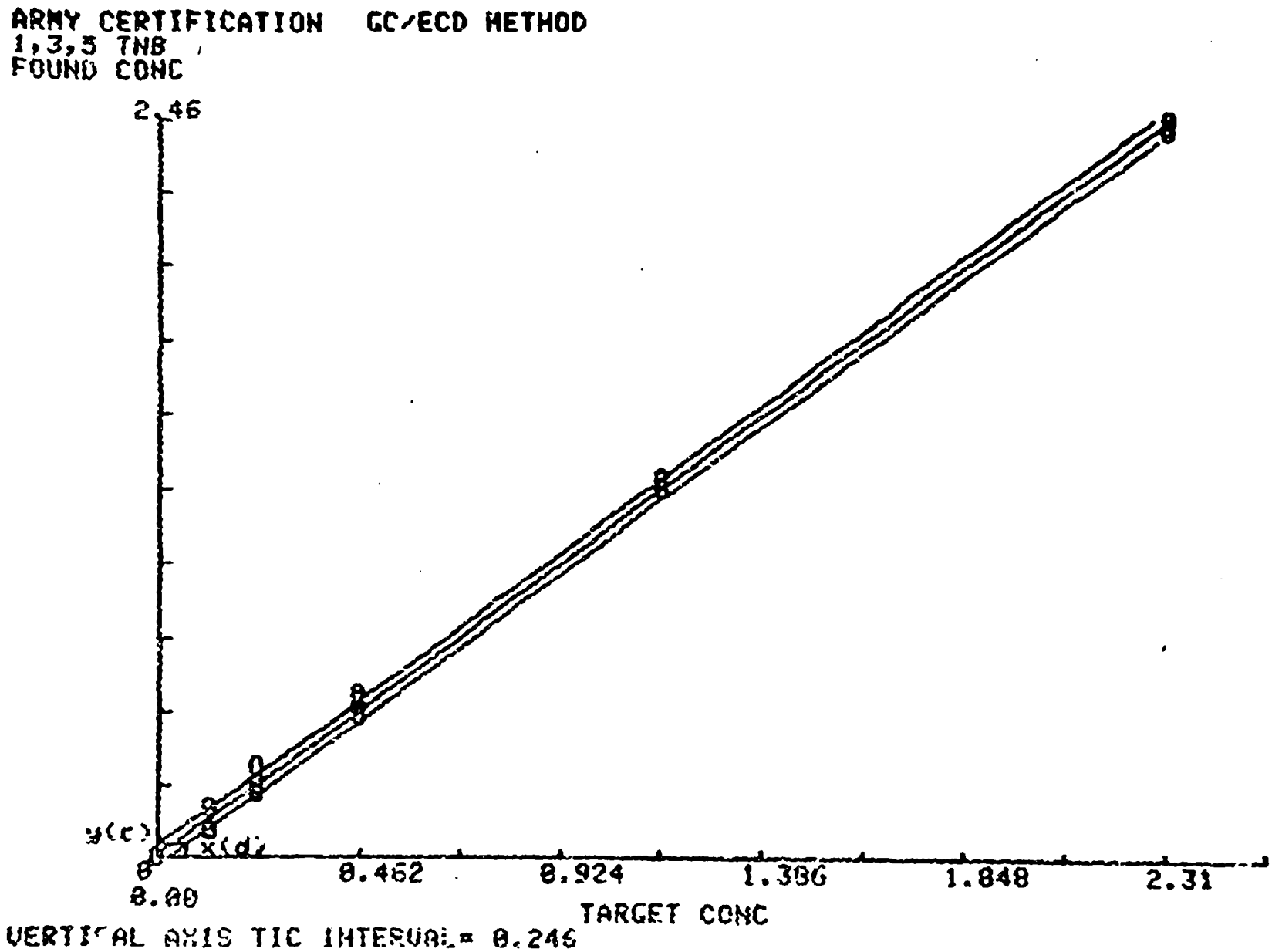

Figure I-4. TNB - Graph of Target-Found Concentration Points - GC/ECD Method

Table I-11. 2,4-DNT - Found Concentrations - HPLC Method

ARMY CERTIFICATION
24DNT
FOUND CONC
(1) 24 26 (2) 24 26

(3) 24 27 (4) 48 50

(5) 48 48 (6) 48 50

(7) 96 91 (8) 96 94

(9) 96 100 (10) 240 238

(11) 240 241 (12) 240 240

(13) 480 471 (14) 480 492

(15) 480 468

Table I-12. 2,4-DNT - Analysis of Target-Found Concentration Points - HPLC Method

```
ARMY CERTIFICATION
24DNT
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 177.6  SD= 174.675535943

FOUND CONC
MEAN= 177.466666667  SD= 173.068882516

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 1.58495145631
SLOPE= 0.990324973031
 USE FOR ACCURACY
R= 0.999518474424
MEAN SQR DEV OF POINTS FROM REGRESSION= 31.057567837
ST ERROR EST= 5.57293170935
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 2
y(c)= 9.03775232583
x(d)= 15.8116760434
```

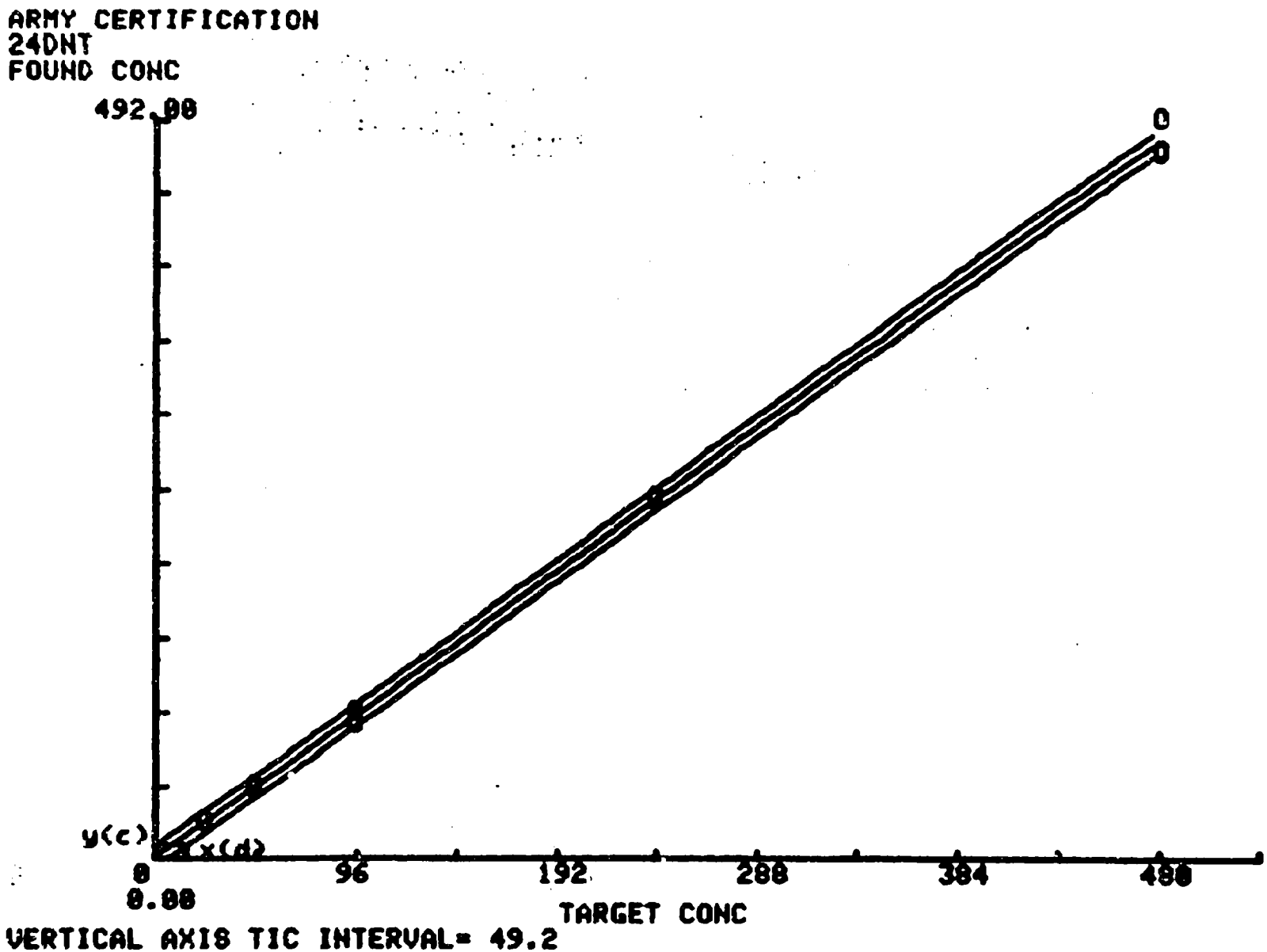

Figure I-5. 2,4-DNT - Graph of Target-Found Concentration Points - HPLC Method

Table I-13. 2,4-DNT-Found Concentrations - GC/ECD Method

ARMY CERTIFICATION GC/ECD METHOD
2,4 DNT
FOUND CONC

(1) 0.03 0.05 (2) 0.03 0.04

(3) 0.03 0.06 (4) 0.06 0.06

(5) 0.06 0.08 (6) 0.06 0.08

(7) 0.11 0.1 (8) 0.11 0.11

(9) 0.11 0.14 (10) 0.11 0.21

(11) 0.28 0.2 (12) 0.28 0.27

(13) 0.28 0.31 (14) 0.28 0.31

(15) 0.56 0.43 (16) 0.56 0.42

(17) 0.56 0.42 (18) 0.03 0.07

(19) 0 0 (20) 0 0

(21) 0 0.01 (22) 0 0

Table I-14. 2,4-DNT - Analysis of Target-Found Concentration Points - GC/ECD Method

```
ARMY CERTIFICATION   GC/ECD METHOD
2,4 DNT
ANALYSIS OF 22 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 0.168909090909  SD= 0.188677328259

FOUND CONC
MEAN= 0.153181818182  SD= 0.144992162798

NO. RUNS 1 TOTAL X-Y ALL RUNS 22 NO. CONCENTR 22
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.0336084831092
SLOPE= 0.74311112192
R= 0.367885515185
MEAN SQR DEV OF POINTS FROM REGRESSION (ST ERROR EST)= 0.0014326011139
COMPUTE T
D.F.= 20
ENTER 2 TAIL P LEVEL (USUALLY .1, EACH CONFID BAND IS
.05 SO TOTAL P= .1)
.1
t= 1.72471716621
REPLICATES ON UNKNOWN SAMPLE 3
y(c)= 0.0755821824279
x(d)= 0.110789286561
```

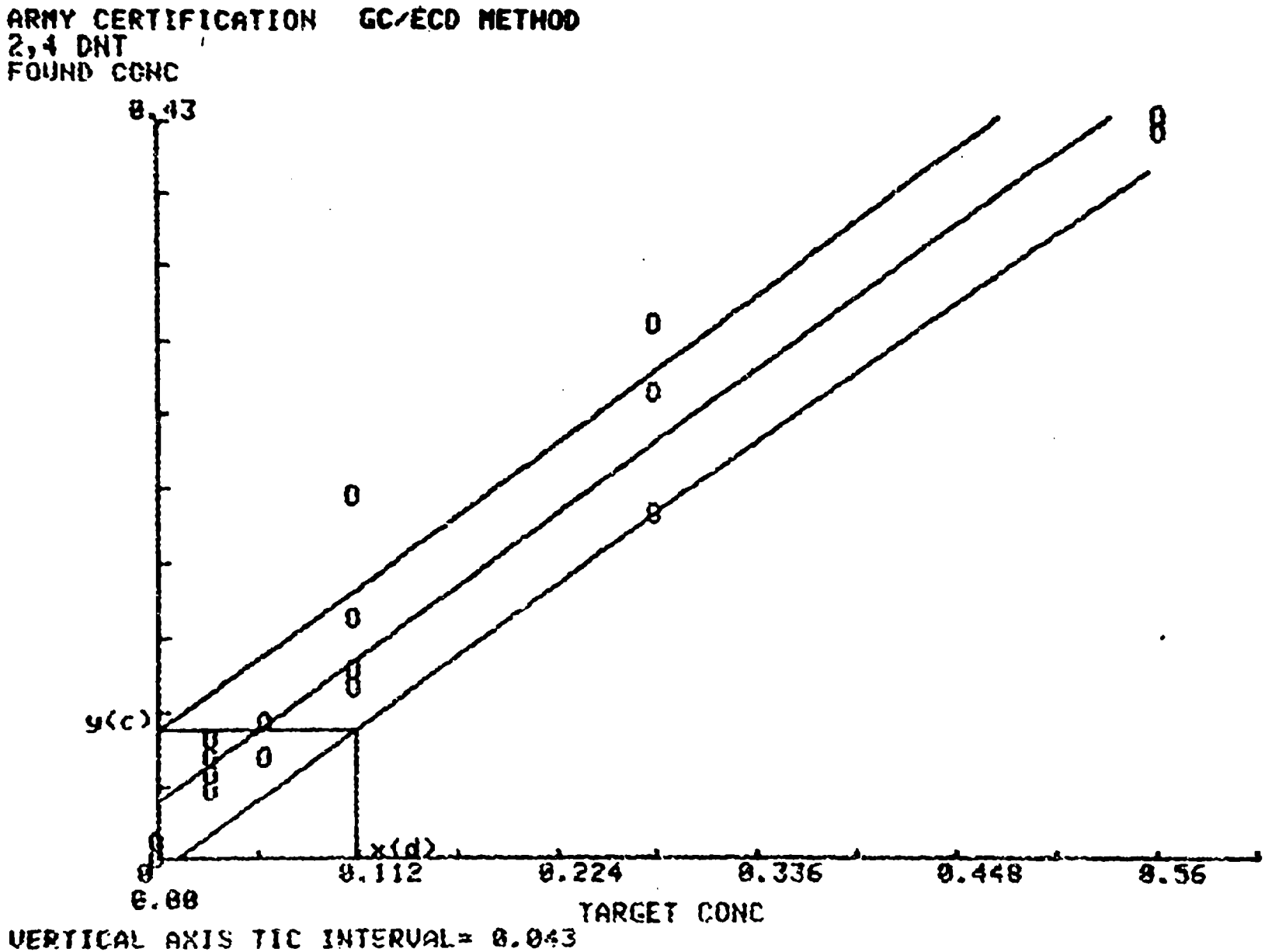

Figure I-6. 2,4-DNT - Graph of Target-Found Concentration Points - GC/ECD Method

Table I-15. TNT - Found Concentrations - HPLC Method

ARMY CERTIFICATION
TNT
FOUND CONC
(1) 24 25 (2) 24 26

(3) 24 26 (4) 48 48

(5) 48 49 (6) 48 50

(7) 96 89 (8) 96 98

(9) 96 102 (10) 244 242

(11) 244 248 (12) 244 250

(13) 488 490 (14) 488 507

(15) 488 487

Table I-16. TNT - Analysis of Target-Found Concentration Points - HPLC Method

```
ARMY CERTIFICATION
TNT
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 180  SD= 177.950233814

FOUND CONC
MEAN= 182.466666667  SD= 180.195475869

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.269286848564
SLOPE= 1.01220766566
 USE FOR ACCURACY
R= 0.999595522042
MEAN SQR DEV OF POINTS FROM REGRESSION= 28.2819574468
ST ERROR EST= 5.31807836035
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 2
y(c)= 7.3789869858
x(d)= 14.0139688505
```

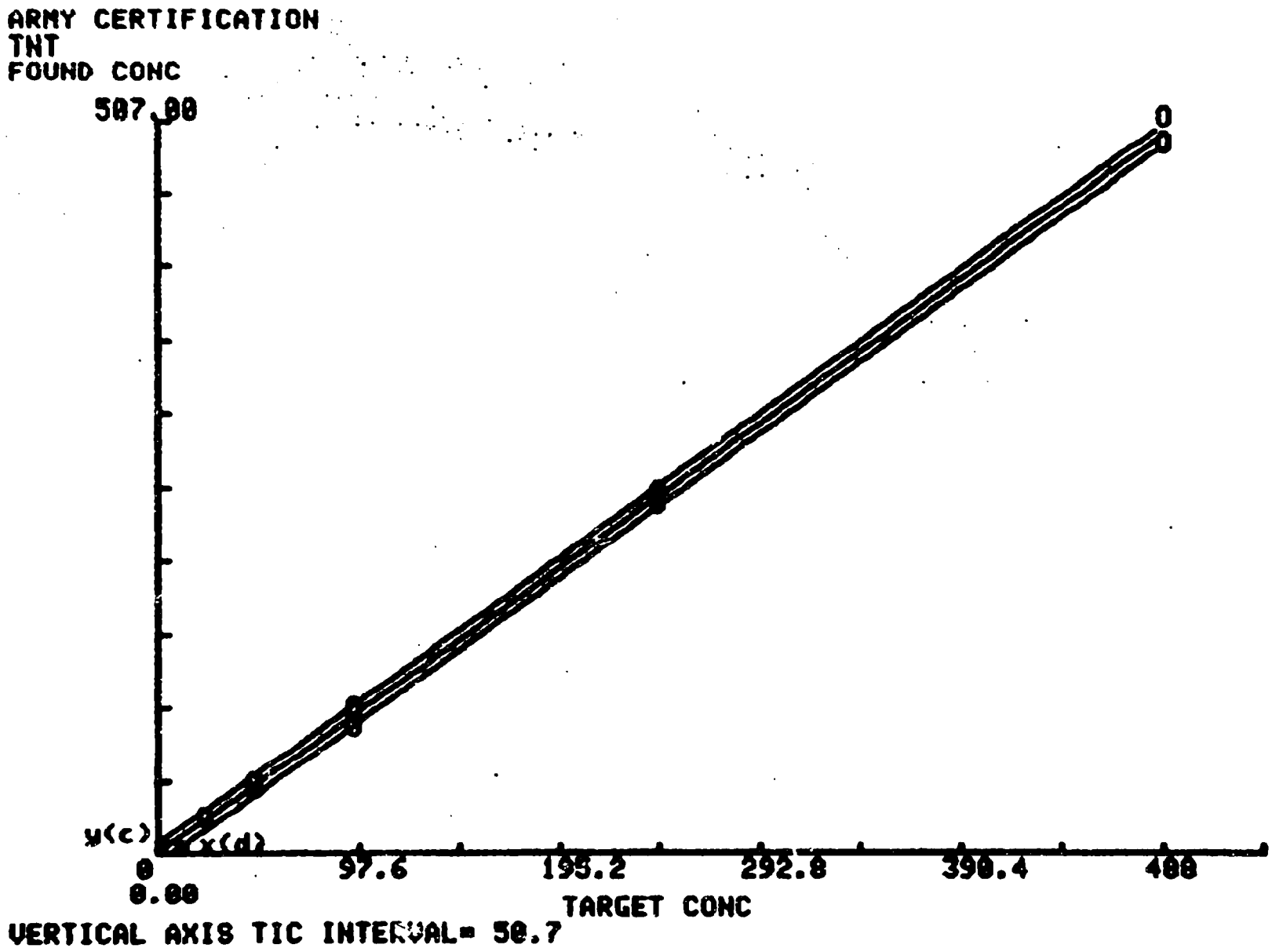

Figure I-7. TNT - Graph of Target-Found Concentration Points - HPLC Method

Table I-17. TNT - Found Concentrations - GC/ECD Method

ARMY CERTIFICATION GC/ECD METHOD
2,4,6 TNT
FOUND CONC
(1) 0.04 0.02 (2) 0.04 0.03

(3) 0.04 0.1 (4) 0.04 0.08

(5) 0.08 0.12 (6) 0.08 0

(7) 0.08 0.06 (8) 0.08 0.15

(9) 0.15 0.11 (10) 0.15 0.14

(11) 0.15 0.08 (12) 0.15 0.08

(13) 0.37 0.51 (14) 0.37 0.32

(15) 0.37 0.34 (16) 0.37 0.34

(17) 0.75 0.92 (18) 0.75 0.77

(19) 0.75 0.73 (20) 0.75 0.74

(21) 0 0 (22) 0 0

(23) 0 0 (24) 0 0

Table I-18. TNT - Analysis of Target Found Concentration Points - GC/ECD Method

```
ARMY CERTIFICATION   GC/ECD METHOD
2,4,6 TNT
ANALYSIS OF 24 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 0.231666666667  SD= 0.266338566272

FOUND CONC
MEAN= 0.235  SD= 0.286720583121

NO. RUNS 1 TOTAL X-Y ALL RUNS 24 NO. CONCENTR 24
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.08911473269162
SLOPE= 1.053732685
R= 0.978826300535
MEAN SQR DEV OF POINTS FROM REGRESSION (ST ERROR EST)= 0.00360103498674
COMPUTE T
D.F.= 22
ENTER 2 TAIL P LEVEL (USUALLY .1  [illegible] CONFID BAND IS
.05 SO TOTAL P= .1)
.1
t= 1.71713909197
REPLICATES ON UNKNOWN SAMPLE 3
y(c)= 0.0566954873641
x(d)= 0.122913743297
```

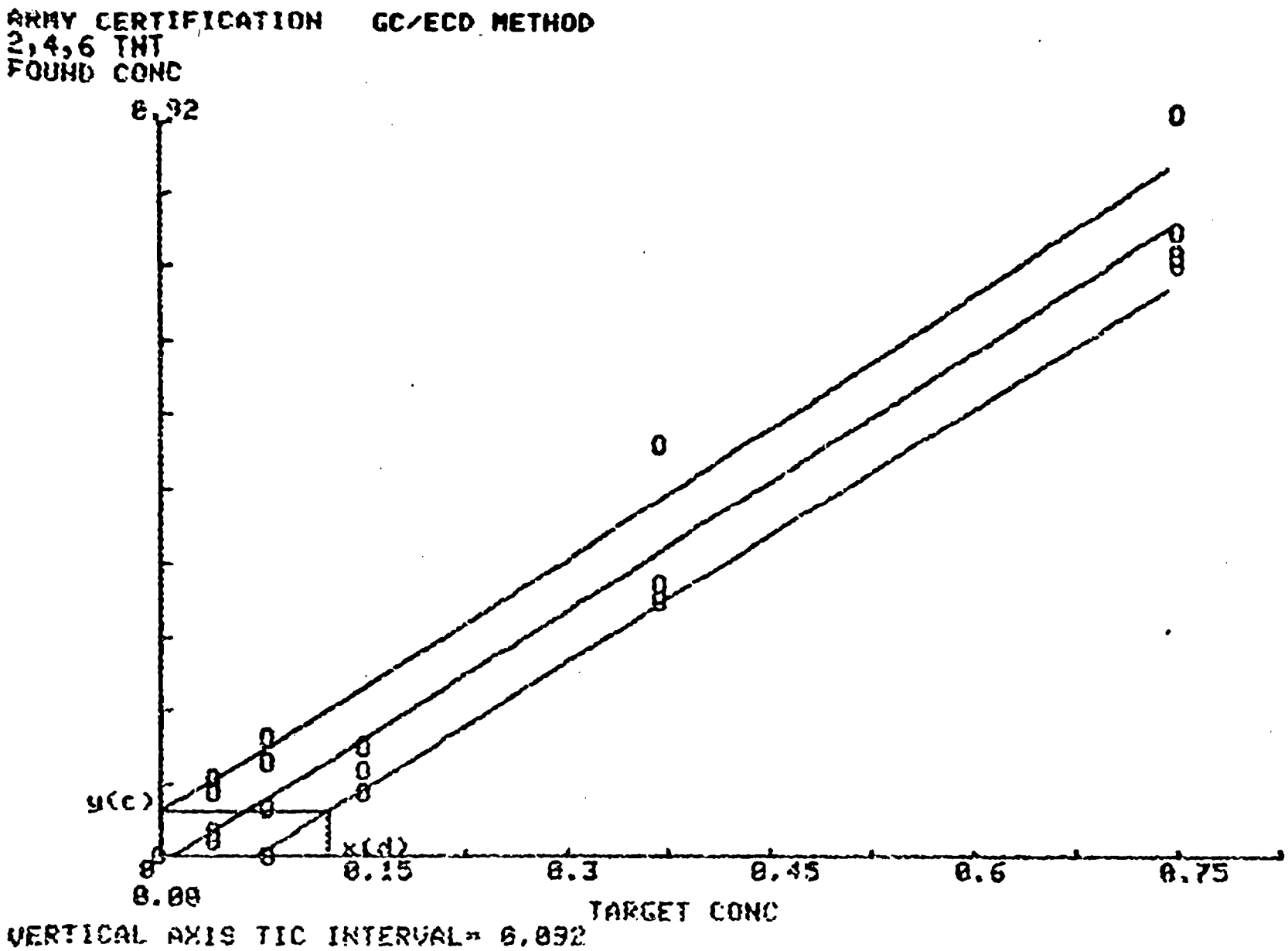

Figure I-8. Graph of Target-Found Concentration Points - GC/ECD Method

Table I-19. Tetryl-Found Concentrations

ARMY CERTIFICATION
TETRYL
FOUND CONC
RUN 2

(14) 0 0 (15) 0 0

(16) 0 0 (17) 0 0

(18) 0.05 0.042 (19) 0.05 0.039

(20) 0.05 0.039 (21) 0.05 0.036

(22) 0.1 0.086 (23) 0.1 0.086

(24) 0.1 0.083 (25) 0.1 0.083

(26) 0.2 0.172 (27) 0.2 0.179

(28) 0.2 0.166 (29) 0.2 0.256

(30) 0.5 0.367 (31) 0.5 0.383

(32) 0.5 0.364 (33) 0.5 0.37

(34) 1 0.874 (35) 1 0.888

(36) 1 0.872 (37) 1 0.885

Table I-20. Tetryl - Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION
TETRYL
ANALYSIS OF 24 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 0.308333333333  SD= 0.356817657326

FOUND CONC
MEAN= 0.26125  SD= 0.309147108643

NO. RUNS 1 TOTAL X-Y ALL RUNS 24 NO. CONCENTR 24
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.00450455321571
SLOPE= 0.861906659078
R= 0.994812845018
MEAN SQR DEV OF POINTS FROM REGRESSION (ST ERROR EST)= 0.00103387217364
COMPUTE T
D.F.= 22
ENTER 2 TAIL P LEVEL (USUALLY .1, EACH CONFID BAND IS
.05 SO TOTAL P= .1)
.1
t= 1.71713909197
REPLICATES ON UNKNOWN SAMPLE 3
y(c)= 0.0387393706507
x(d)= 0.0010387514615
```

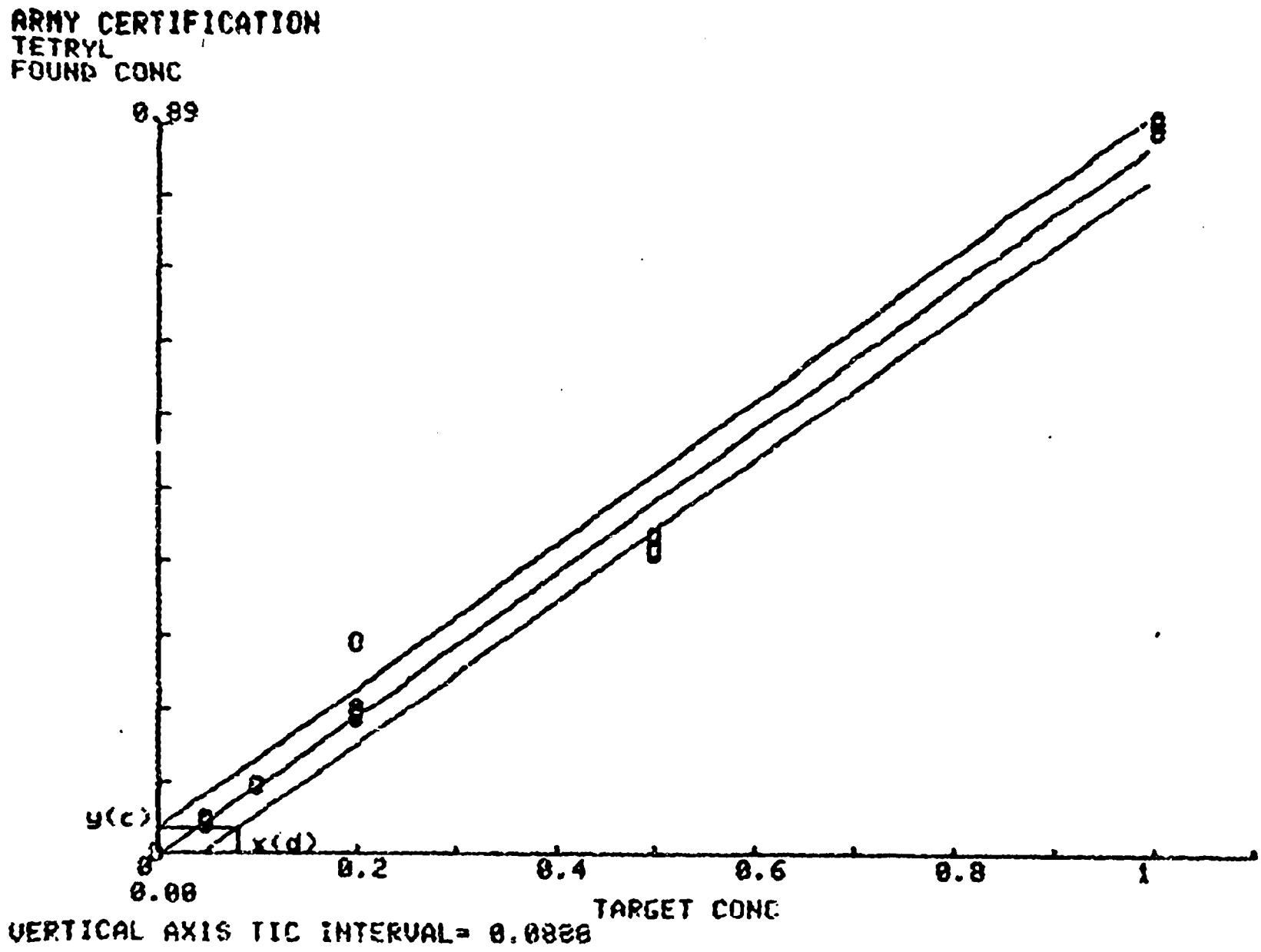

Figure I-9. Tetryl - Graph of Target-Found Concentration Points

Table I-21. DPA - Found Concentrations

ARMY CERTIFICATION
DPA
FOUND CONC
(1) 5 4.31 (2) 5 4.3

(3) 10 7.5 (4) 10 7.6

(5) 20 15.93 (6) 20 16.96

(7) 50 35.01 (8) 50 35.1

(9) 100 79.74 (10) 100 81.62

Table I-22. DPA- Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION
DPA
ANALYSIS OF 10 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 37   SD= 37.0585122925

FOUND CONC
MEAN= 28.807   SD= 29.5748620923

NO. RUNS 1 TOTAL X-Y ALL RUNS 10 NO. CONCENTR 10
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.633624595469
SLOPE= 0.795692556634
 USE FOR ACCURACY
R= 0.997035330176
MEAN SQR DEV OF POINTS FROM REGRESSION= 5.82586021445
ST ERROR EST= 2.4136818793
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 8
TWO TAIL P LEVEL IS .1
t= 1.85954407943
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 1
y(c)= 4.30510937047
x(d)= 12.2547388662
```

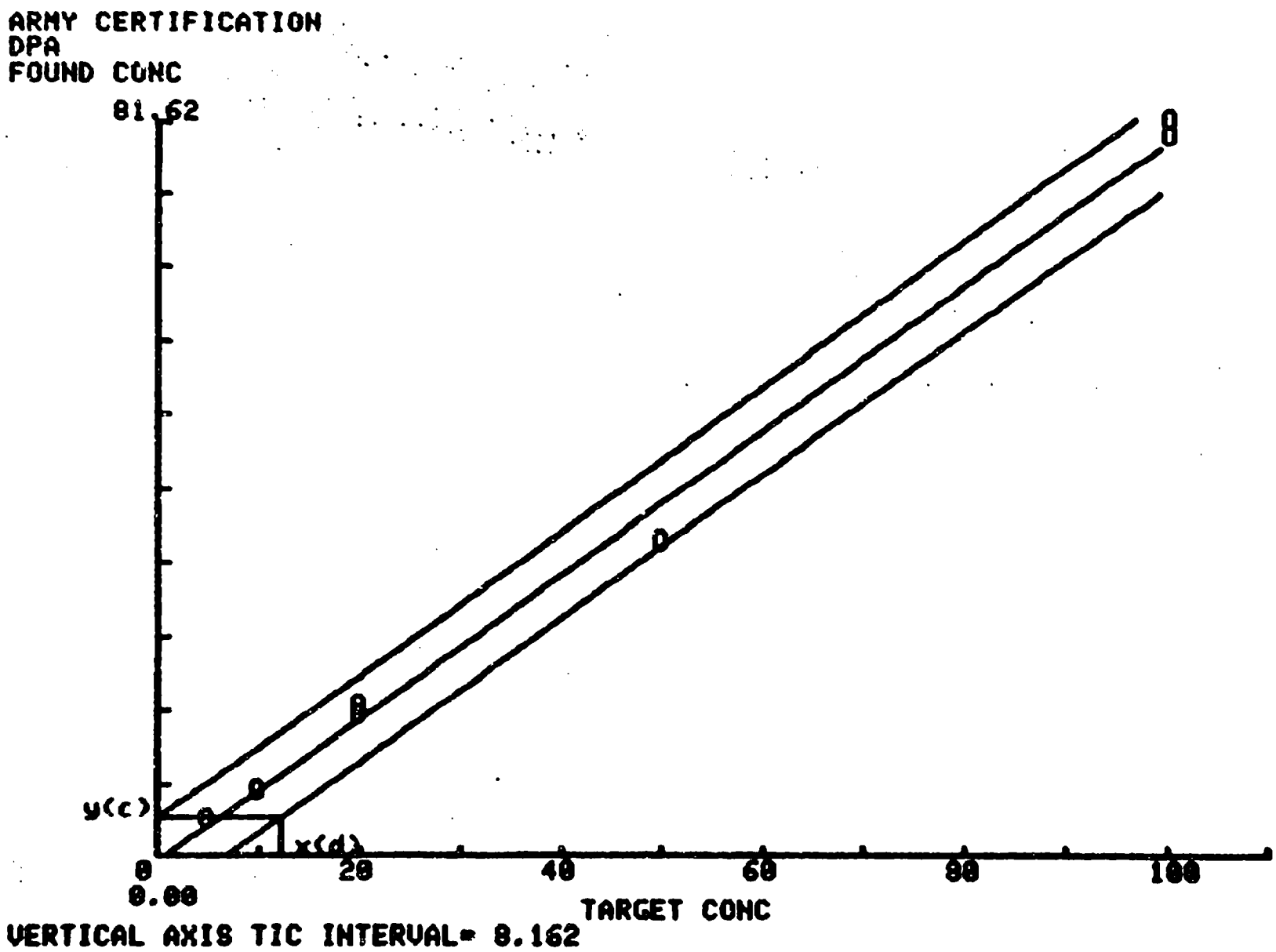

Figure I-10. DPA -- Graph of Target-Found Concentration Points

Table I-23. 2,6-DNT - Found Concentrations - HPLC Method

ARMY CERTIFICATION
26DNT
FOUND CONC
(1) 0 0 (2) 0 0

(3) 258 338 (4) 258 302

(5) 515 460 (6) 515 512

(7) 1030 1246 (8) 1030 1222

(9) 2575 2660 (10) 2575 2560

(11) 5156 5760 (12) 5158 5280

Table I-24. 2,6-DNT - Analysis of Target-Found Concentration Points - HPLC Method

```
ARMY CERTIFICATION
26DNT
ANALYSIS OF 12 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 1588  SD= 1878.84635784

FOUND CONC
MEAN= 1695  SD= 1998.49698069

NO. RUNS 1 TOTAL X-Y ALL RUNS 12 NO. CONCENTR 12
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 9.88879232945
SLOPE= 1.86115315974
 USE FOR ACCURACY
R= 0.997621596989
MEAN SQR DEV OF POINTS FROM REGRESSION= 20873.6483813
ST ERROR EST= 144.477155223
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 10
TWO TAIL P LEVEL IS .1
t= 1.81245868646
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 290.49049589
x(d)= 524.704244692 NG/2ML
```

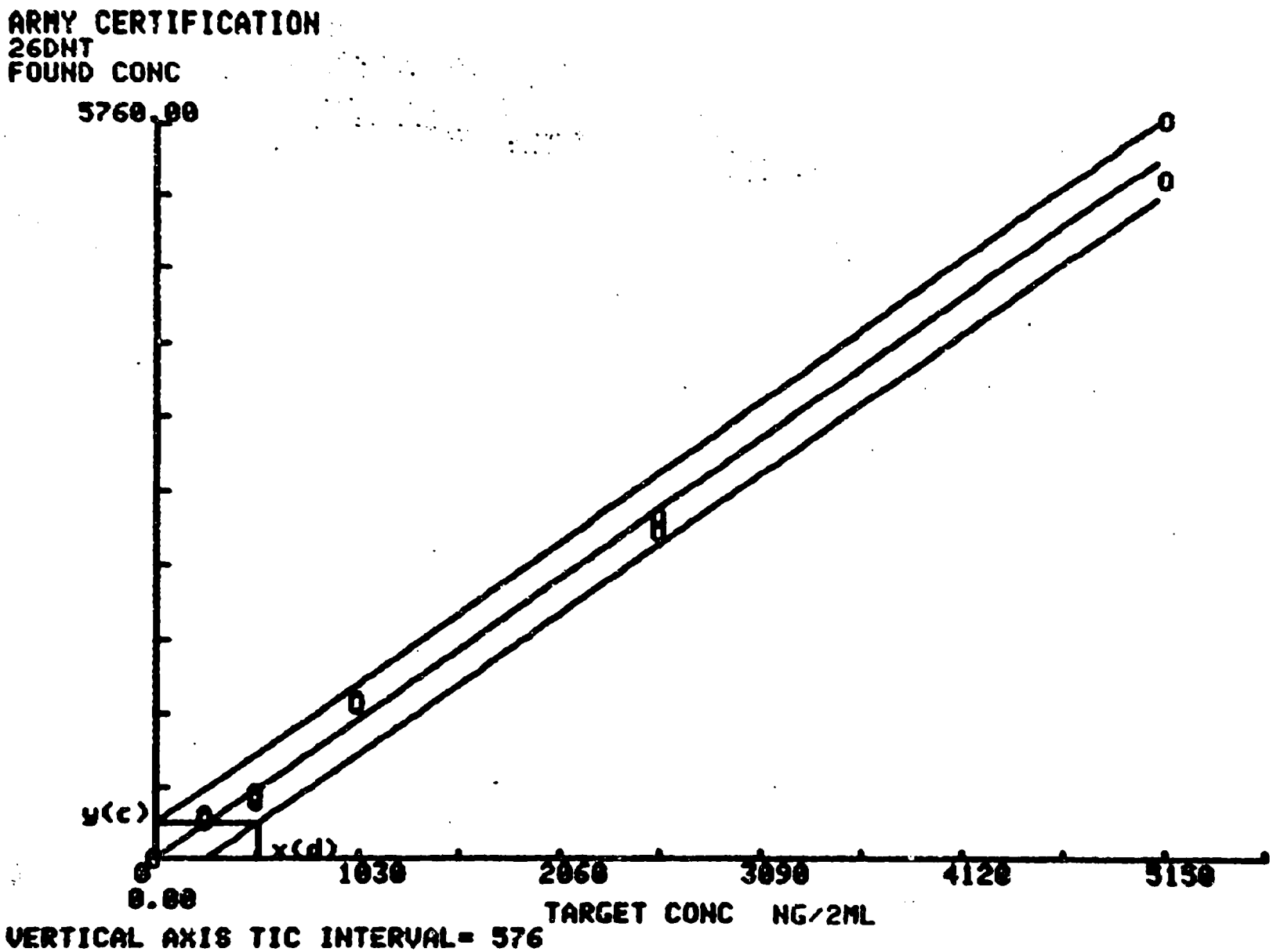

Figure I-11. 2,6-DNT - Graph of Target-Found Concentration Points - HPLC Method

Table I-25. 2,6-DNT-Found Concentrations - GC/ECD Method

ARMY CERTIFICATION GC/ECD METHOD
2,6 DNT
FOUND CONC
(1) 0.04 0.03 (2) 0.04 0.06

(3) 0.04 0 (4) 0.04 0

(5) 0.07 0.03 (6) 0.07 0.03

(7) 0.07 0.08 (8) 0.07 0.04

(9) 0.14 0.16 (10) 0.14 0.21

(11) 0.14 0.12 (12) 0.14 0.06

(13) 0.36 0.45 (14) 0.36 0.34

(15) 0.36 0.39 (16) 0.36 0.41

(17) 0.72 0.84 (18) 0.72 0.73

(19) 0.72 0.71 (20) 0.72 0.71

(21) 0 0 (22) 0 0

(23) 0 0 (24) 0 0

Table I-26. 2,6-DNT - Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION  GC/ECD METHOD
2,6 DNT
ANALYSIS OF 24 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 0.221666666667  SD= 0.256831304246

FOUND CONC
MEAN= 0.225  SD= 0.277567069842

NO. RUNS 1 TOTAL X-Y ALL RUNS 24 NO. CONCENTR 24
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.0119809535528
SLOPE= 1.06872610625
R= 0.988886469517
MEAN SQR DEV OF POINTS FROM REGRESSION (ST ERROR EST)= 0.00178834051461
COMPUTE T
D.F.= 22
ENTER 2 TAIL P LEVEL (USUALLY .1, EACH CONFID BAND IS
.05 SO TOTAL P= .1)
.1
t= 1.71713909197
REPLICATES ON UNKNOWN SAMPLE 3
y(c)= 0.0343436272298
x(d)= 0.0054574529401
```

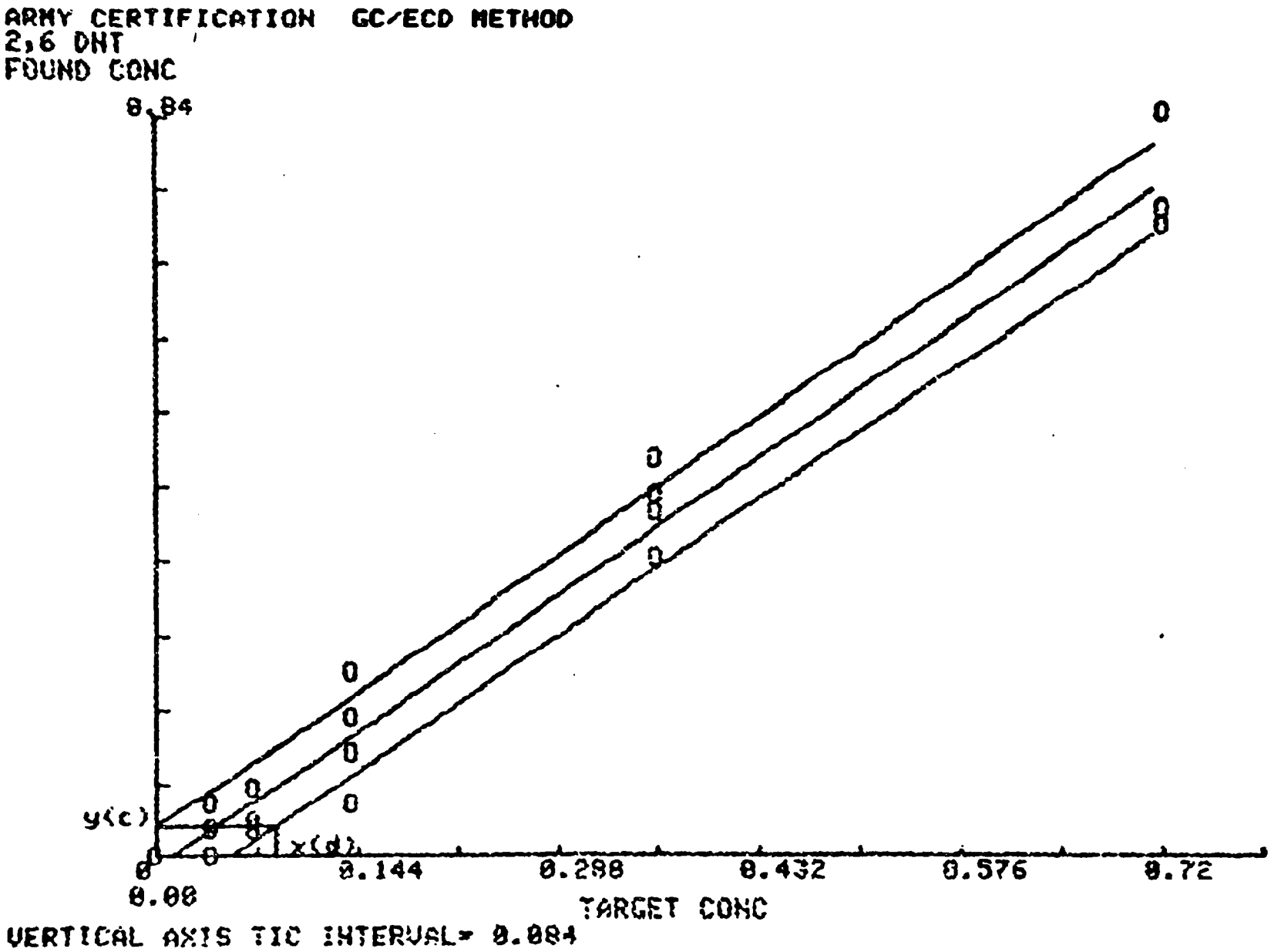

Figure I-12. 2,6-DNT - Graph of Target-Found Concentration Points - GC/ECD Method

Table I-27. NG-Found Concentrations

ARMY CERTIFICATION
NG
FOUND CONC
(1) 0 0 (2) 0 0

(3) 7680 10120 (4) 7680 10740

(5) 15360 13940 (6) 15360 17760

(7) 30720 37600 (8) 30720 34260

(9) 76800 78680 (10) 76800 78880

(11) 153600 153980 (12) 153600 152560

Table I-28. NG - Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION
NG
ANALYSIS OF 12 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 47360  SD= 56038.9682599

FOUND CONC
MEAN= 49043.3333333  SD= 55472.3674591

NO. RUNS 1 TOTAL X-Y ALL RUNS 12 NO. CONCENTR 12
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 2199.55036995
SLOPE= 0.989100147031
 USE FOR ACCURACY
R= 0.999202923622
MEAN SQR DEV OF POINTS FROM REGRESSION= 5393900.17082
ST ERROR EST= 2322.4771626
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 10
TWO TAIL P LEVEL IS .1
t= 1.81245868646
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 6710.21417725
x(d)= 9875.83941875  NG/2ML
```

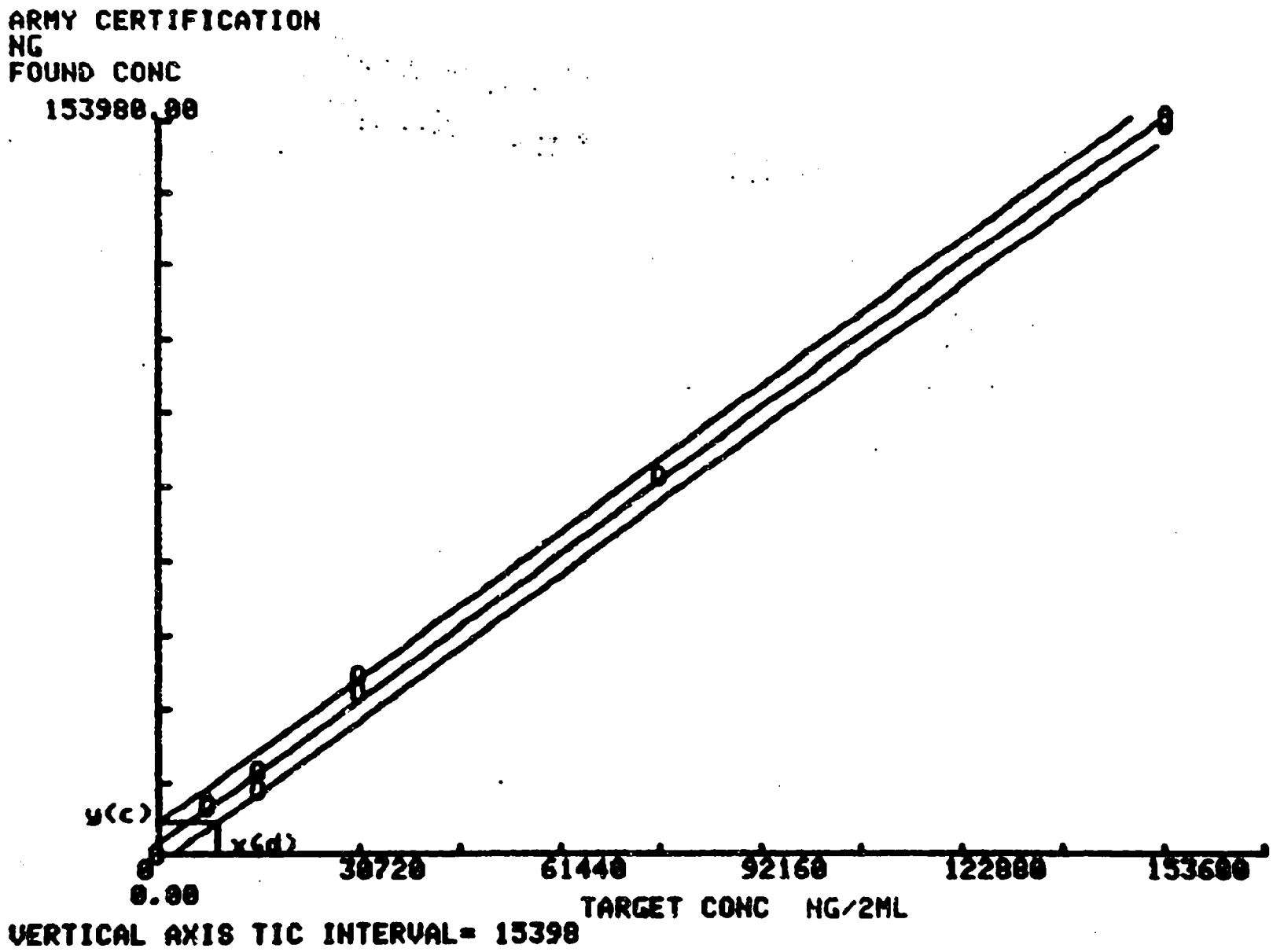

Figure I-13. NG - Graph of Target-Found Concentration Points

Table I-29. PETN-Found Concentrations

ARMY CERTIFICATION
PETN
FOUND CONC
(1) 1.2 1.5 (2) 1.2 1.06

(3) 1.2 1.73 (4) 1.2 2.32

(5) 2.4 2.59 (6) 2.4 2.07

(7) 2.4 3.52 (8) 2.4 3.42

(9) 4.8 5.24 (10) 4.8 5.42

(11) 4.8 5.98 (12) 4.8 7.07

(13) 12 12.22 (14) 12 11.6

(15) 12 13.2 (16) 12 12.56

(17) 24 25.03 (18) 24 24.19

(19) 24 26.41 (20) 24 27.34

Table I-30. PETN - Analysis of Target-Found Concentration Points

```
ARMY CERTIFICATION
PETN
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 8.88  SD= 8.65682572188

FOUND CONC
MEAN= 9.7235  SD= 9.0930327724

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.437787216828
SLOPE= 1.04568837648
 USE FOR ACCURACY
R= 0.99552506421
MEAN SQR DEV OF POINTS FROM REGRESSION= 0.779368060054
ST ERROR EST= 0.882818248596
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096488
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U U
REPLICATES= 3
y(c)= 1.36703361921
x(d)= 1.76926827162
```

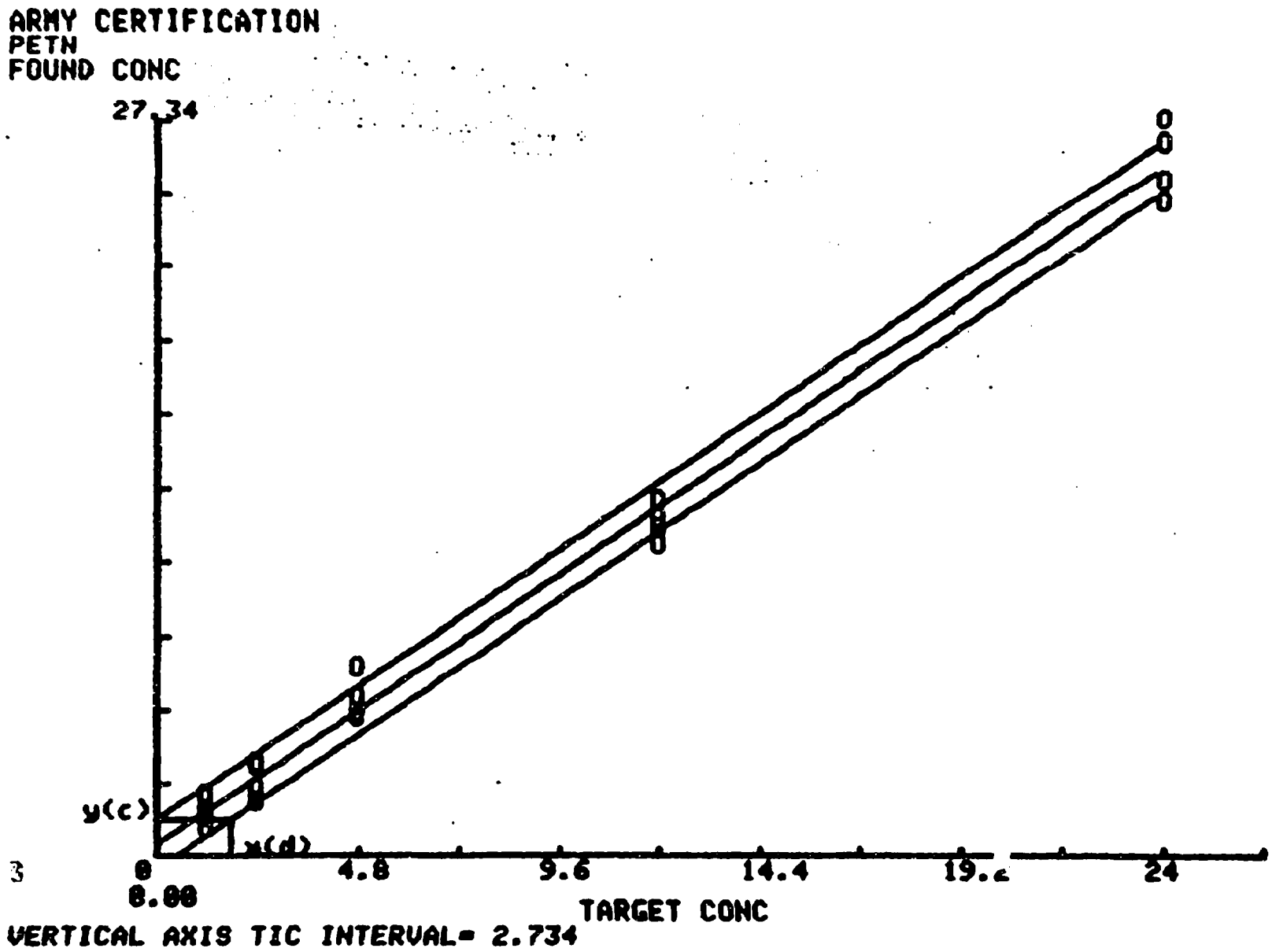

Figure I-14. PETN - Graph of Target-Found Concentration Points

TABLE II-1

QUANTITATIVE CERTIFICATION TESTING
STATISTICAL DATA SUMMARY

	Metal		Concrete		Brick		Transite	
	D.L. $\mu g/cm^2$	% Rec	D.L. $\mu g/cm^2$	% Rec	D.L. $\mu g/cm^2$	% Rec	D.L. $\mu g/cm^2$	% Rec
DNP	0.33	96%	1.74 (0.35	31% 34%)[2]	1.59	55%	2.22 (1.15	34% 30%)[2]
RDX	0.25	96%	0.63	78%	2.11	72%	3.48 (0.80	67% 82%)[2]
TNB	0.28	95%	0.98	75%	2.12	74%	3.46 (0.76	59% 71%)[2]
2,4-DNT	0.90	84%	1.08	78%	2.10	69%	3.52 (0.62	65% 79%)[2]
2,4,6-TNT	0.60	97%	1.57	74%	1.68	66%	3.18 (0.68	51% 60%)[2]
Tetryl	1.95	88%	4.29	51%	2.60	68%	4.13	56%
DPA	0.50	94%	2.44 (1.15	74% 84%)[2]	2.14	69%	3.71 (0.90	67% 82%)[2]
2,6-DNT	2.85	94%	6.46	86%	6.36	49%	2.04	79%
NG	9.36	94%	21.7	76%	32.5	44%	26.1	72%
PETN	10.2	86%	5.39	83%	20.6	62%	10.0	82%

[1] Calculated from four days of target vs. found concentrations using the procedures specified in the 1980 USATHAMA QA Plan.

[2] Calculated from three days of target vs. found concentrations.

QUANTITATIVE METHOD FOR THE DETERMINATION OF DNP, RDX, TNB, 2,4-DNT, TNT ETRYL, AND DPA ON SURFACES

1. Application

Method used to extract the following compounds from metal, brick, concrete, transite surfaces:

2,4,-dinitrophenol DNP
cyclotrimethylenetrinitramine RDX
1,3,5-trinitrobenzene TNB
2,4-dinitrotoluene 2,4-DNT
2,4,6-trinitrotoluene 2,4,6-TNT
2,4,6-trinitrophenylmethylnitramine Tetryl
diphenylamine DPA

A. Tested Concentration Range

DNP	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$
RDX	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$
TNB	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$
2,4-DNT	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$
TNT	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$
Tetryl	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$
DPA	0.25 $\mu g/cm^2$ - 5.00 $\mu g/cm^2$

B. Sensitivity

Instrument response for each analyte is given below:

Analyte	Concentration	Response
DNP	25.04 ng/mL	3700 area units
RDX	24.86 ng/mL	1388 area units
TNB	24.97 ng/mL	4437 area units
2,4-DNT	24.99 ng/mL	6090 area units
TNT	24.91 ng/mL	4104 area units
Tetryl	25.30 ng/mL	2895 area units
DPA	24.91 ng/mL	2101 area units

C. Detection Limit

See Table II-1.

D. Interferences

Interferences present in some brick and transite samples were apparently random rather than systematic. For example, the HPLC analysis of extraction B of one blank (unspiked) brick surface (extracted Feb 9)

indicated the presence of a compound with a retention time of 1510 seconds. This compound interfered with the TNT. However, this interference was not observed in any other blank brick sample. Therefore, only the brick samples analyzed on Feb 9 were corrected for the interference.

E. Analysis Rate

Six samples can be extracted and prepared for analysis in three hours. Rate of analysis is given below, excluding calibration standards:

DNP	8 samples in an 8 hour day
RDX	8 samples in an 8 hour day
TNB	8 samples in an 8 hour day
2,4-DNT	8 samples in an 8 hour day
TNT	8 samples in an 8 hour day
Tetryl	8 samples in an 8 hour day
DPA	8 samples in an 8 hour day

2. Chemistry

2,4,-dinitrophenol C6H4N2O5
CAS RN 51-28-5
MP 112-114C

Cyclotrimethylenetrinitramine C3H6N6O6
CAS RN 121-82-4
MP 205-206C

1,3,5-trinitrobenzene C6H3N3O6
CAS RN 99-35-4
MP 122.5C

2,4-dinitrotoluene C7H6N2O4
CAS RN 121-14-2
MP 71C

2,4,6-trinitrotoluene C7H5N3O6
CAS RN 118-96-7
MP 80.1C

2,4,6-trinitrophenylmethylnitramine
CAS RN 479-45-8
MP 130C Explodes 187C

diphenylamine C12H11N
CAS RN 122-39-4
MP 53-54C BP 302C

3. Apparatus

A. Instrumentation

Waters Associates Model 6000A Solvent Delivery System
Waters Associates Model M-45 Solvent Delivery System
Waters Associates Model 660 Solvent Programmer
Waters Associates Model 440 Absorbance Detector
Waters Associates Intelligent Sample Processor (WISP)
Spectra-Physics Minigrator
Hewlett Packard 7133A Recorder

B. Parameters

Column: Spherisorb ODS 5μ, 250 x 4.6 mm ID
Precolumn: Pellicular LC-18, 40μ, 50 x 4.6 mm ID
Solvent System: linear gradient
Initial: 30/70 CH_3CN/0.08 M acetic acid adjusted to pH 3.1 with NH_4OH
Final: 50/50 CH_3CN/0.08 M acetic acid adjusted to pH 3.1 with NH_4OH
Time: 35 minutes
Detector: UV at 254 nm
Flow Rate: 1.0 mL/min
Attenuation: 0.01 AUFS
Injection Volume: 100 μL

C. Hardware/Glassware

Westinghouse Ultrasonic cleaner
8 ounce jars with teflon lined caps
25 mL graduated cylinders
microliter syringes
volumetric flasks - 50, 10, 5 mL
vials - WISP and 14 mL, with teflon lined caps

D. Chemicals

acetonitrile, HPLC grade
nitrogen
acetic acid
ammonium hydroxide
Standard Analytical Reference Material for each analyte

4. Standards

A. Calibration Standard

Stock Solution A: DNP, RDX, TNB, 2,4-DNT, TNT, TETRYL, DPA
Prepare individual stock solutions of 5.0 mg/mL. Combine 500 µL individual stocks and dilute to 5 mL.

Stock Solution B:
Dilute 625 µL Stock Solution A to 5 mL. Concentration is 62.5 µg/mL of each analyte

Calibration standards prepared in 25 mL volumetrics adding H_2O so final solution is 55% H_2O/45% CH_3CN:

Cal Std.	µL Stock B Added	Concentration Each Analyte
1	10	25.0 µgL
2	20	50.0 µgL
3	40	100.0 µgL
4	80	200.0 µgL
5	200	500.0 µgL
6	400	1000.0 µgL

B. Control Spikes

Spiking stock solutions were prepared using 0.5 mg/mL stock solution.

µL Stock Soln/x mL CH_3CN	Concentration Each Analyte
125 µL/10 mL	6.2 mgL
250 µL/10 mL	12.0 mgL
500 µL/10 mL	25.0 mgL
500 µL/5 mL	50.0 mgL
625 µL/5 mL	62.5 mgL
1250 µL/5 mL	125.0 mgL
2500 µL/5 mL	250.0 mgL

400 µL 6.2, 12.5, 25.0, 62.5, 125.0 mgL Stocks spiked onto 10 cm^2 concrete and metal surfaces.

200 µL 12.5, 25.0, 50.0, 125.0, 250.0 mgL stocks spiked onto 10 cm^2 brick and transite surfaces.

Concentration of analytes on surface after spiking: 2.5 µg, 5.0 µg, 10.0 µg, 25.0 µg, 50 µg.

5. Procedure

Extraction A

1. Spike 10 cm^2 surface sample with acetonitrile spike solution (volume dependent on surface type). Allow solvent to evaporate.

2. Transfer sample to 8 ounce jar and add 20 mL CH_3CN. Cover jar with teflon lined cap.

3. Sonicate for 10 minutes.

4. Transfer extract A to 50 mL volumetric flask, add 27 mL 0.08 M acetic acid and bring to volume with CH_3CN. Save surface sample for extraction B.

Extract A ready for analysis.

Extraction B

1. Add 20 mL CH_3CN to jar with surface sample. Sonicate for 10 minutes.

2. Transfer surface sample to a second jar. Add 20 mL CH_3CN and sonicate for 10 minutes more.

3. Combine extracts from steps 1 and 2 and evaporate using nitrogen to less than 5 mL.

4. Transfer evaporated extract to 10 mL volumetric flask. Add 5.5 mL to 0.08 M acetic acid and bring to volume with CH_3CN.

Extract B ready for analysis.

6. Calculations

Calculate found concentration for each analyte in each sample extract from daily calibration data.

Multiply found concentration by extract volume to find total µg in extract. Combine total µg in extracts A and B to find total µg on surface.

7. References

Lakings, D.B., Baker, R.J., and Crook, M.V., "Precision and Accuracy Assessment of the High Performance Liquid Chromatographic Analytical Technique for the Determination of Dinitrophenol (DNP); Cyclotrimethylene trinitramine (RDX); 1,3-Dinitrobenzene (DNB); 1,3,5-Trinitrobenzene (TNB); 2,4-Dinitrotoluene (2,4-DNT); Trinitrotoluene (TNT); 2,4,6-Trinitrophenylmethylnitramine (Tetryl); and Diphenylamine (DPA)", Midwest Research Institute Technical Report No. 1, USATHAMA Contract No. DAAK11-81-C-0007, March, 1981.

QUANTITATIVE METHOD FOR THE DETERMINATION OF 2,6-DNT AND NG ON SURFACES

1. Application

Method used to extract the following compounds from metal, brick, concrete, transite surfaces:

2,6-dinitrotoluene 2,6-DNT
nitroglycerine NG

A. Tested Concentration Range

2,6-DNT	1.00 $\mu g/cm^2$ to 20.00 $\mu g/cm^2$
NG	12.50 $\mu g/cm^2$ to 125.00 $\mu g/cm^2$

B. Sensitivity

Instrument response for each analyte is given below:

Analyte	Concentration	Response
2,6-DNT	0.10 µg/mL	208750 area units
NG	1.25 µg/mL	186010 area units

C. Detection Limit

See Table II-1.

D. Interferences

No interferences were observed

E. Analysis Rate

Six samples can be extracted and prepared for analysis in three hours. Rate of analysis is given below excluding calibration standards:

2,6-DNT	16 Samples in an 8 hour day
NG	16 samples in an 8 hour day

2. Chemistry

2,6-dinitrotoluene C7H6N204
CAS RN 606-20-2
MP 66C

Nitroglycerine C3H5N309
CAS RN 55-63-0
MP Stable form 13.5C

3. Apparatus

A. Instrumentation

Beckman Model 110A Solvent Metering Pump
Waters Associates Model 450 Variable Wavelength Detector
Waters Associates Model U6K Injector
Hewlett Packard 3390A Integrator/Recorder

B. Parameters

Column: Spherisorb ODS, 5 ·, 250 x 4.6 mm ID
Precolumn: Pellicular LC-18, 40 μ, 50 x 4.6 mm ID
Solvent System: 35/65 CH_3CN/0.005 m t-butyl ammonium hydroxide, pH 6.5. adjusted with 1N H_3PO_4
Detector: UV at 230 nm
Flow Rate: 1.0 mL/min
Attenuation: 0.01 AUFS
Injection Volume: 100 μL

C. Hardware/Glassware

Westinghouse Ultrasonic cleaner
8 ounce jars with teflon lined caps
25 mL graduated cylinders
microliter syringes
volumetric flasks - 50, 10, 5 mL
vials - WISP and 14 mL, with teflon lined caps

D. Chemicals

Acetonitrile, HPLC grade
nitrogen
phosphoric acid
t-butyl ammonium hydroxide

Standard Analytical Reference Material for each analyte.

4. Standards

A. Calibration Standards

Prepare individual stock solutions:
5 mg/mL 2,6-DNT
50 mg/mL NG

Stock Solution A:
Combine 200 µL 2,6-DNT stock and 250 µL NG stock and dilute to 10 mL CH_3CN. Concentration is 0.1 mg/mL 2,6-DNT and 1.25 mg/mL NG.

Calibration standards prepared in 10 mL volumetric flasks adding 50% H_2O/50% CH_3CN.

Cal Std.	µL Stock A added	2,6-DNT	NG
1	10	0.1 µg/mL	1.2 µg/mL
2	20	0.2 µg/mL	2.5 µg/mL
3	40	0.4 µg/mL	5.0 µg/mL
4	80	0.8 µg/mL	10.0 µg/mL
5	200	2.0 µg/mL	25.0 µg/mL

B. Control Spikes

Spike Solutions prepared following chart below:

Spike Solution	Amount Stock	Dilute with CH_3CN to	Concentration
1	1 mL of 5 mg/mL 2,6-DNT	5 mL	1 mg/mL 2,6-DNT
2	0.5 mL of 5 mg/mL 2,6-DNT	5 mL	0.5 mg/mL 2,6-DNT
3	0.5 mL of 5 mg/mL 2,6-DNT 0.625 mL of 50 mg/mL NG	5 mL	0.5 mg/mL 2,6-DNT 6.25 mg/ml NG
4	0.250 mL of 5 mg/mL 2,6-DNT 0.312 mL of 50 mg/mL NG	5 mL	0.25 mg/mL 2,6-DNT 3.12 mg/mL NG
5	0.200 mL of 5 mg/mL 2,6-DNT 0.250 mL of 50 mg/mL NG	5 mL	0.20 mg/mL 2,6-DNT 2.50 mg/mL NG
6	0.200 mL of 5 mg/mL 2,6-DNT 0.250 mL of 50 mg/mL NG	10 mL	0.10 mg/ml 2,6-DNT 1.25 mg/mL NG
7	0.100 mL of 5 mg/mL 2,6-DNT 0.125 mL of 50 mg/mL NG	10 mL	0.05 mg/ml 2,6-DNT 0.62 mg/mL NG
8	0.025 mL of 5 mg/mL 2,6-DNT 0.031 mL of 50 mg/mL NG	5 mL	0.025 mg/mL 2,6-DNT 0.31 mg/mL NG

400 µL of spike solutions 8, 7, 6, 4, 2 spiked onto 10 cm^2 concrete and metal surfaces

200 µL of spike solutions 7, 6, 5, 3, 1 spiked onto 10 cm^2 brick and transite surfaces

Concentration on surface after spiking:
NG - 125 μg, 250 μg, 500 μg, 1250 μg

2,6-DNT - 10 μg, 20 μg, 40 μg, 100 μg, 200 μg.

5. Procedure

Extraction A

1. Spike 10 cm^2 surface sample with acetonitrile spike solution (volume dependent on surface type). Allow solvent to evaporate.

2. Transfer sample to 8 ounce jar and add 20 mL CH_3CN. Cover jar with teflon lined cap.

3. Sonicate for 10 minutes.

4. Transfer extract A to 50 mL volumetric flask, add 25 mL H_2O and bring to volume with CH_3CN.

   Save surface sample for Extraction B.

Extraction B

1. Add 20 mL CH_3CN to jar with surface sample. Sonicate for 10 minutes.

2. Transfer surface sample to a second jar. Add 20 mL CH_3CN and sonicate for 10 minutes more.

3. Combine extracts from steps 1 and 2 and evaporate using nitrogen to less than 5 mL.

4. Transfer evaporated extract to 10 mL volumetric flask. Add 5.0 mL H_2O and bring to volume with CH_3CN. Extract B ready for analysis.

6. Calculations

Calculate found concentration for each analyte in each sample extract from daily calibration data.

Multiply found concentration by extract volume to find total μg in extract. Combine total μg in extracts A and B to find total μg on surface.

7. References

Lakings, D.B., Baker, R.J., and Crook, M.V., "Precision and Accuracy Assessment of the High Performance Liquid Chromatographic Analytical Technique for the Determination of Nitrobenzene (NB), 2,6-Dinitrotoluene (2,6-DNT), Nitroglycerin (NG), and Picric Acid (PA), Midwest Research Institute Technical Report No. 2, USATHAMA Contract No. DAAK11-81-C-0007, May, 1981.

QUANTITATIVE METHOD FOR THE DETERMINATION OF PETN ON SURFACES

1. Application

Method used to extract pentaerythrite tetranitrate (PETN) from metal, brick, concrete, transite surfaces.

A. Tested Concentration Range:

PETN 5.0 $\mu g/cm^2$ to 100.0 $\mu g/cm^2$

B. Sensitivity

Instrument response for PETN is given below:

Concentration	Response
0.50 µg/mL	98025 area units

C. Detection Limit

See Table II-1.

D. Interferences

There were no interferences.

E. Analysis Rate

Six samples can be extracted and prepared for analysis in three hours. Rate of analysis is given below, excluding calibration standards:

PETN 32 samples in an 8 hour day

2. Chemistry

Pentaerythrite tetranitrate C5H8N4012
CAS RN 78-11-5
MP 140-141 C

3. Apparatus

A. Instrumentation

Beckman Model 110A Solvent Metering Pump
Waters Associates Model 450 Variable Wavelength Detector
Waters Associates Model U6K Injector
Hewlett Packard 3390A Integrator/Recorder

B. Parameters

Column: Spherisorb ODS, 5μ, 250 x 4.6 mm ID
Precolumn: Pellicular LC-18, 40μ, 50 x 4.6 mm ID
Solvent System: 65% CH_3CN/35% H_2O
Detector: UV at 230 nm
Flow Rate: 1.0 mL/min
Attenuation: 0.01 AUFS
Injection Volume: 100 μL

C. Hardware/Glassware

Westinghouse Ultrasonic cleaner
8 ounce jars with teflon lined caps
25 mL graduated cylinders
microliter syringes
volumetric flasks - 50, 10, 5 mL
vials - WISP and 14 mL, with teflon lined caps

D. Chemicals

Acetonitrile, HPLC grade
Standard Analytical Reference Material for PETN

4. Standards

A. Calibration Standards:

Prepare stock solution as follows:
200 μL of SARM (50 mg/mL) in 10 mL CH_3CN = 1.0 mg/mL

Calibration Standards prepared in 10 mL volumetric flasks adding 50% H_2O/50% CH_3CN.

Cal. Std	μl Stock added	Concentration PETN
1	5	0.5 μg/mL
2	10	1.0 μg/mL
3	20	2.0 μg/mL
4	40	4.0 μg/mL
5	100	10.0 μg/mL
6	200	20.0 μg/mL

B. Control Spikes

Spike solutions prepared following chart below:

Spike Solution	Amount Stock	Dilute with CH_3CN to	Concentration
1	12.5 µL of 50 mg/mL	5 mL	0.125 mg/mL
2	50 µL of 50 mg/mL	10 mL	0.25 mg/mL
3	100 µL of 50 mg/mL	10 mL	0.50 mg/mL
4	100 µL of 50 mg/mL	5 mL	1.0 mg/mL
5	125 µL of 50 mg/mL	5 mL	1.25 mg/mL
6	500 µL of 50 mg/mL	10 mL	2.5 mg/mL
7	500 µL of 50 mg/mL	5 mL	5.0 mg/mL

400 µL spike solutions 1,2,3,5 and 6 spiked onto 10 cm^2 metal surfaces

200 µL spike solutions 2,3,4,6,7 spiked onto 10 cm^2 concrete, transite, and brick surfaces.

Concentration of analytes on surface after spiking: 50 µg, 100 µg, 200 µg, 500 µg, 1000 µg.

5. Procedure

1. Spike 10 cm^2 surface sample with acetonitrile spike solution (volume dependent on surface type). Allow solvent to evaporate.

2. Transfer sample to 8 ounce jar.

3. Add 12 mL CH_3CN. Cover jar with teflon lined cap. Sonicate for 10 min.

4. Transfer extract to 50 mL volumetric flask.

5. Repeat steps 3 and 4 twice, adding extracts to same 50 mL volumetric flask.

6. Rinse jar with 17 mL H_2O and transfer to volumetric flask.

7. Bring to volume with CH_3CN.

8. Ready for HPLC analysis.

6. Calculations

Calculate found concentration for each analyte in each sample extract from daily calibration data.

Multiply found concentration by extract volume to find total µg in extract.

7. References

None

Table II-2. DNP on Metal - Target US. Found Concentrations

2,4-DINITROPHENOL (24DNP)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.920
	2.270
	2.260
	2.470
5.000	3.700
	4.030
	4.610
	5.100
10.000	9.060
	8.020
	10.040
	11.220
25.000	23.500
	22.460
	25.240
	24.610
50.000	46.870
	47.850
	48.840
	48.220

Table II-3. DNP on Metal - Analysis of Target-Found Concentration Points

```
2,4-DINITROPHENOL  (24DNP)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 17.6145  SD= 17.4133452982

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.226280339806
SLOPE= 0.964366504854
 USE FOR ACCURACY
R= 0.998797261237
MEAN SQR DEV OF POINTS FROM REGRESSION= 0.769459159271
ST ERROR EST= 0.877188212
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 1.37295729236
x(d)= 3.30309425069
```

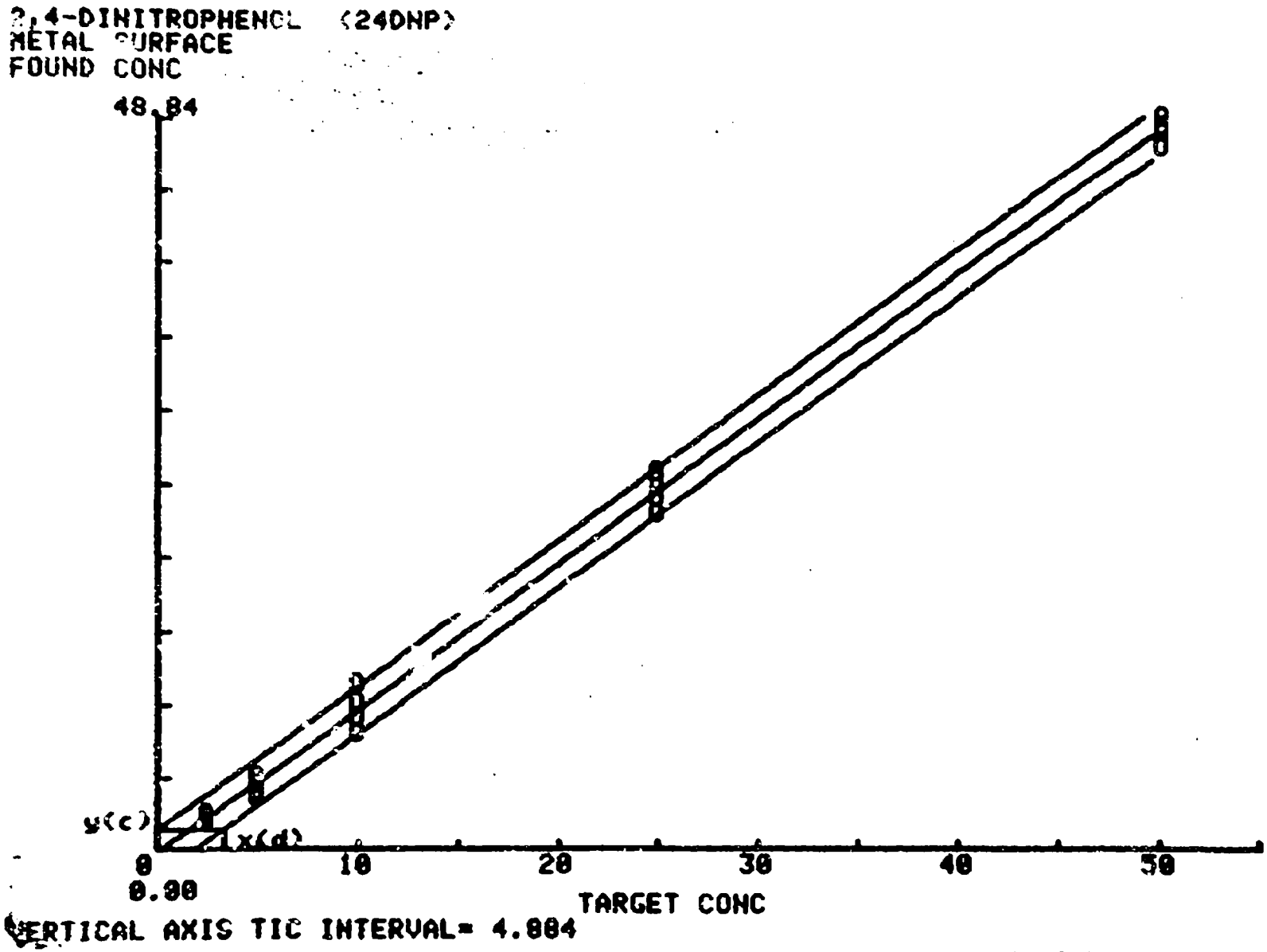

Figure II-1. DNP on Metal - Graph of Target-Found Concentration Points

Table II-4. DNP on Metal - Inaccuracy and Imprecision Data

2,4-DINITROPHENOL (24DNP)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.230	0.228	-10.800	10.232
5.000	4.360	0.620	-12.800	14.229
10.000	9.585	1.367	-4.150	14.261
25.000	23.953	1.228	-4.190	5.126
50.000	47.945	0.825	-4.110	1.720
Means		0.854	-7.210	9.114

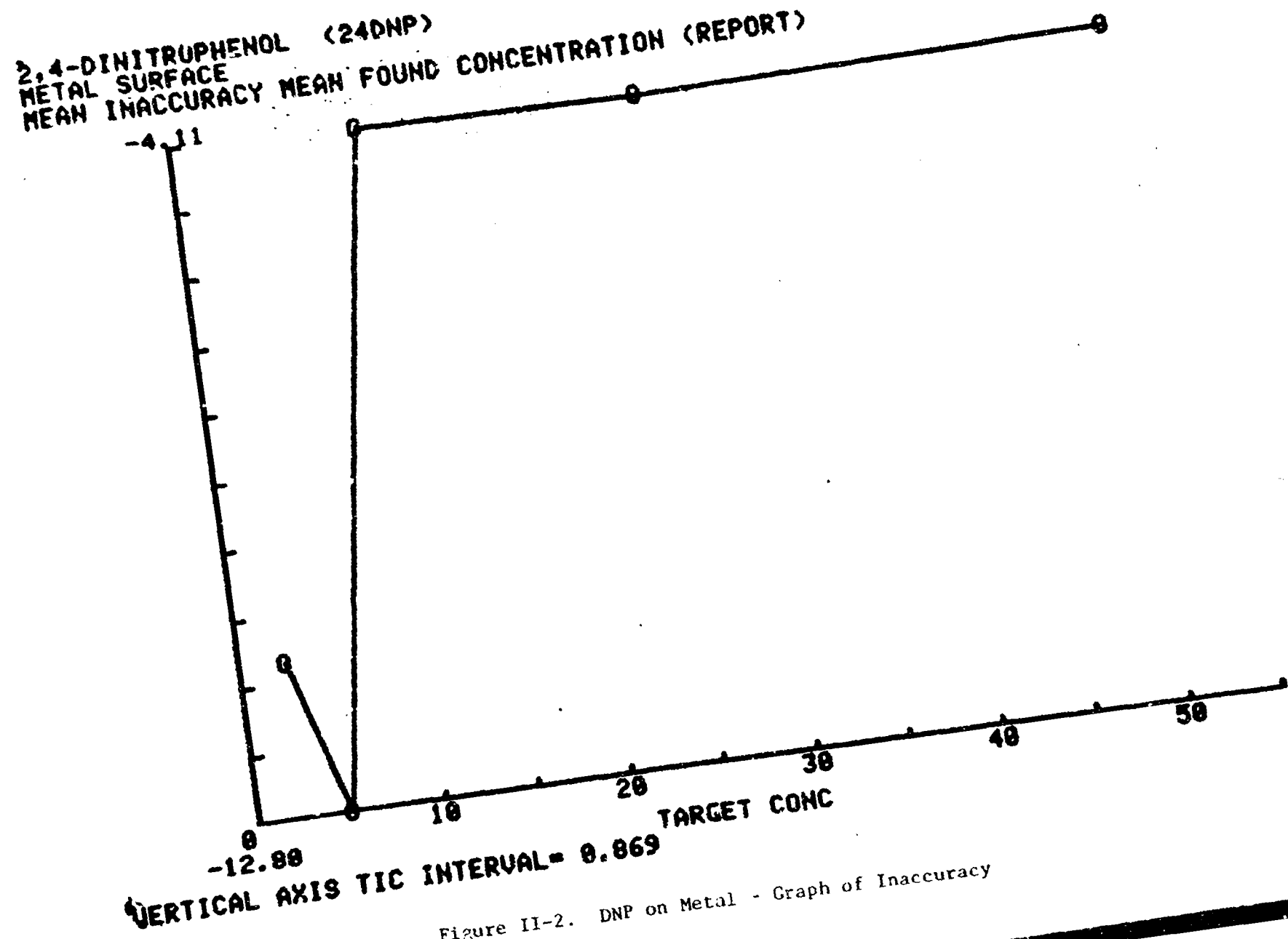

Figure II-2. DNP on Metal - Graph of Inaccuracy

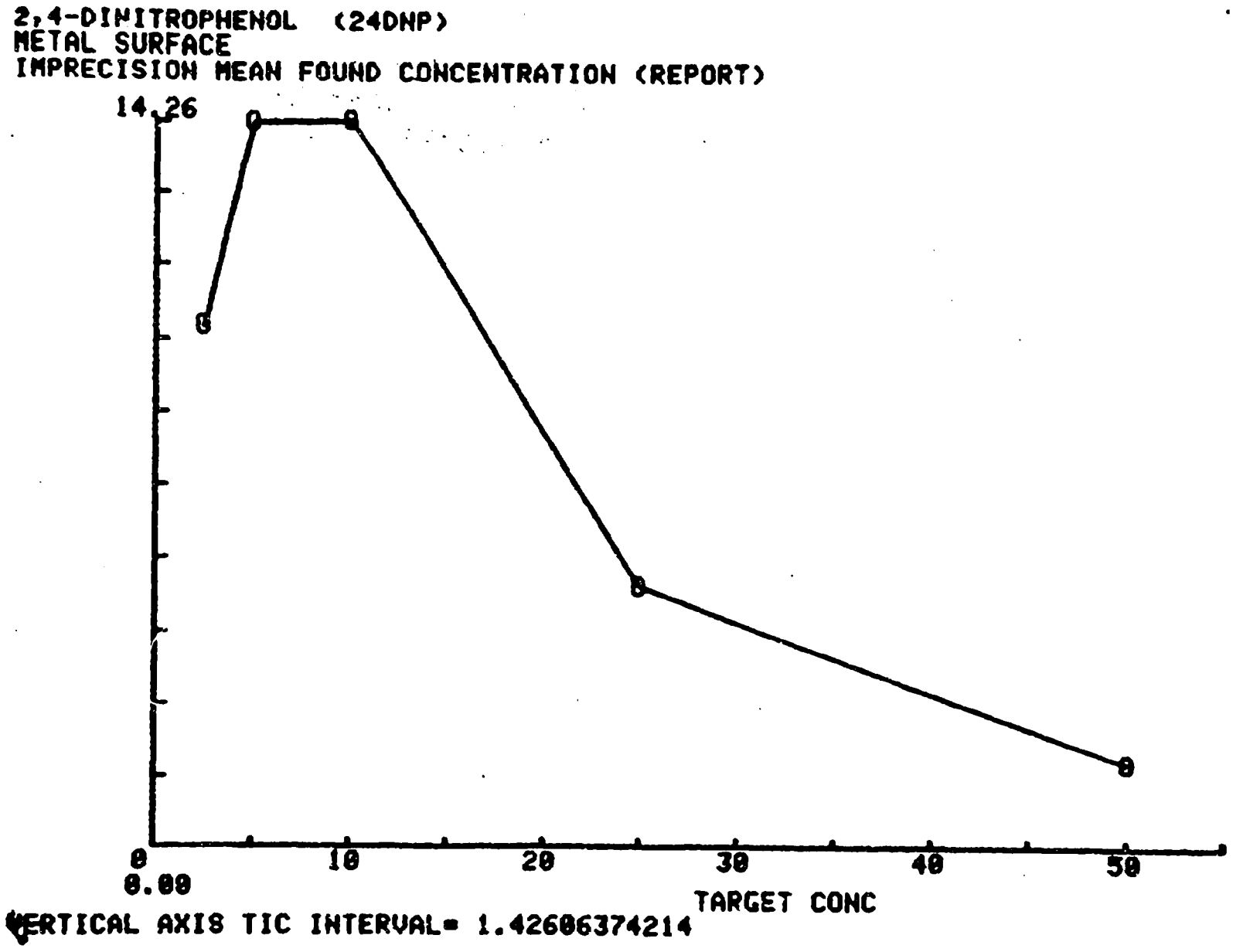

Figure II-3. DNP on Metal - Graph of Imprecision

Table II-5. DNP on Concrete - Target U.S. Found Concentrations

2,4-DINITROPHENOL (24DNP)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.710 1.010 1.470 1.250
5.000	1.320 1.890 2.690 1.920
16.000	2.270 3.500 3.800 3.290
25.000	6.210 8.430 8.980 8.560
50.000	10.800 17.570 17.540 16.980

Table II-6. DNP on Concrete - Analysis of Target-Found Concentration Points

```
2,4-DINITROPHENOL  (24DNP)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 6.0095  SD= 5.74332424829

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.308970469256
SLOPE= 0.308136731392
 USE FOR ACCURACY
R= 0.967603816639
MEAN SQR DEV OF POINTS FROM REGRESSION= 2.219418859
ST ERROR EST= 1.48977141166
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 3.02503353561
x(d)= 17.4060970424
```

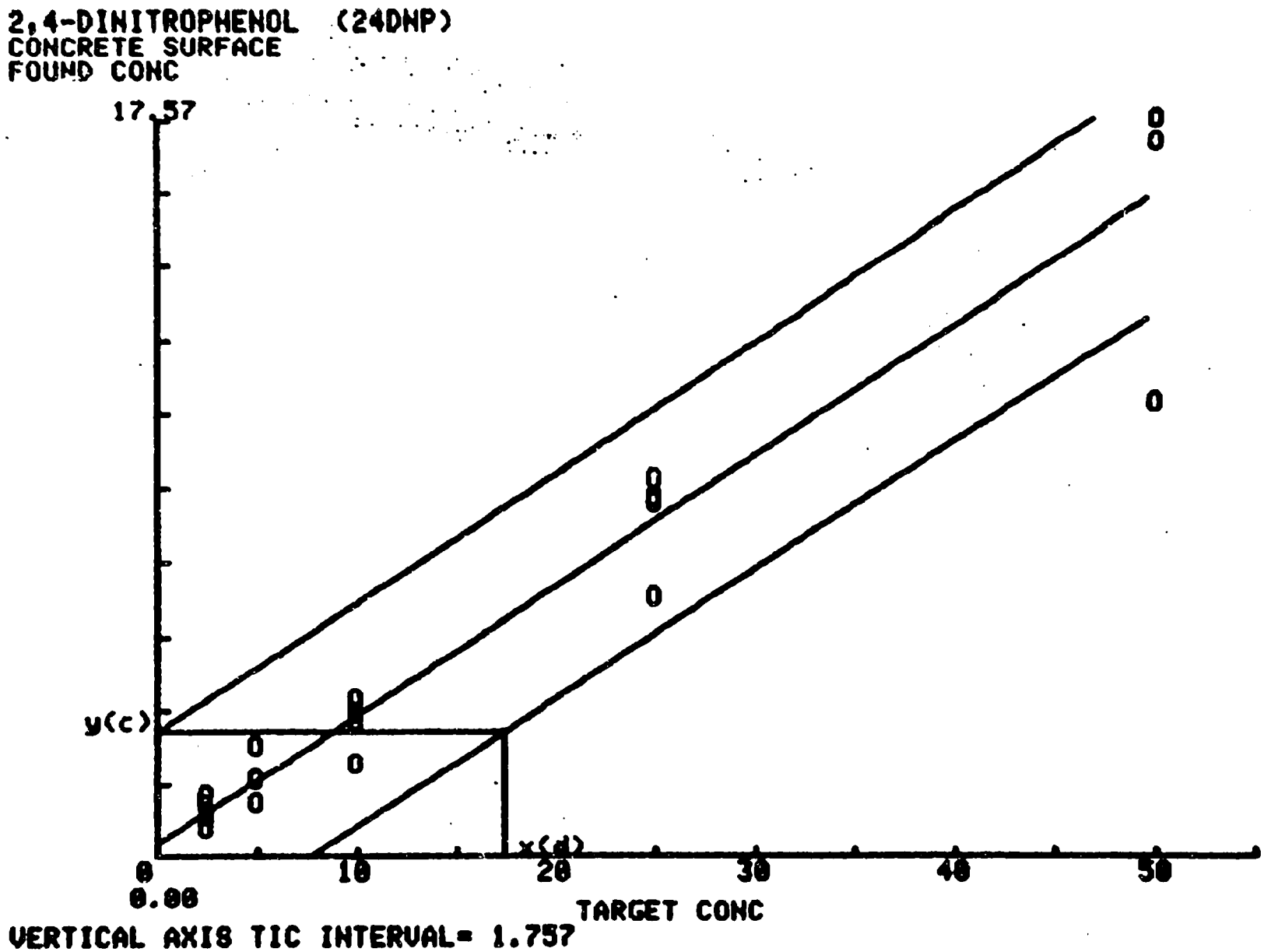

Figure II-4. DNP on Concrete - Graph of Target-Found Concentration Points

Table II-7. DNP on Concrete - Inaccuracy and Precision Data

2,4-DINITROPHENOL (24DNP)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.110	0.326	-55.600	29.386
5.000	1.955	0.562	-60.900	28.768
10.000	3.215	0.664	-67.850	20.649
25.000	8.045	1.246	-67.820	15.483
50.000	15.723	3.293	-68.555	20.944
Means		1.218	-64.145	23.046

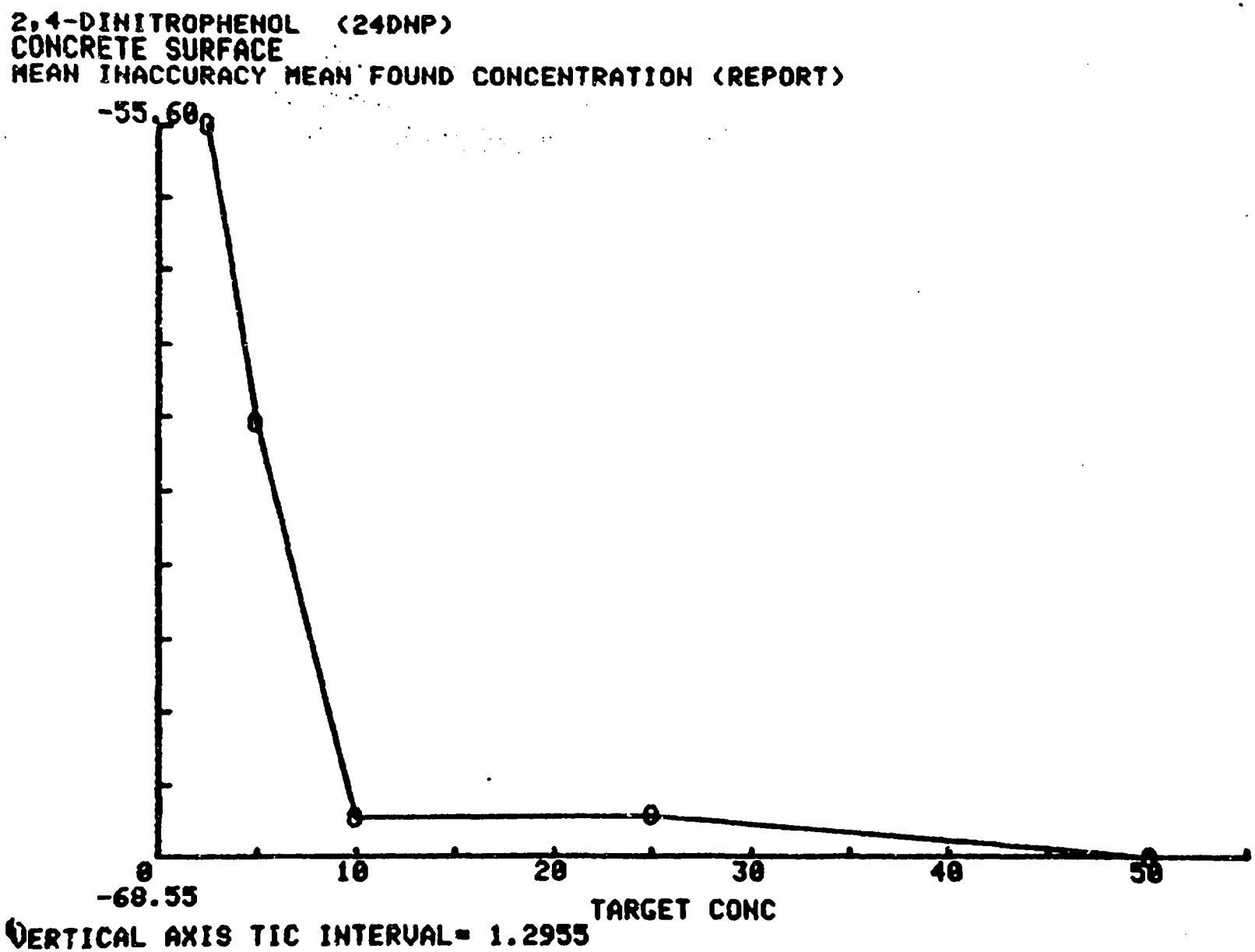

Figure II-5. DNP on Concrete - Graph of Inaccuracy

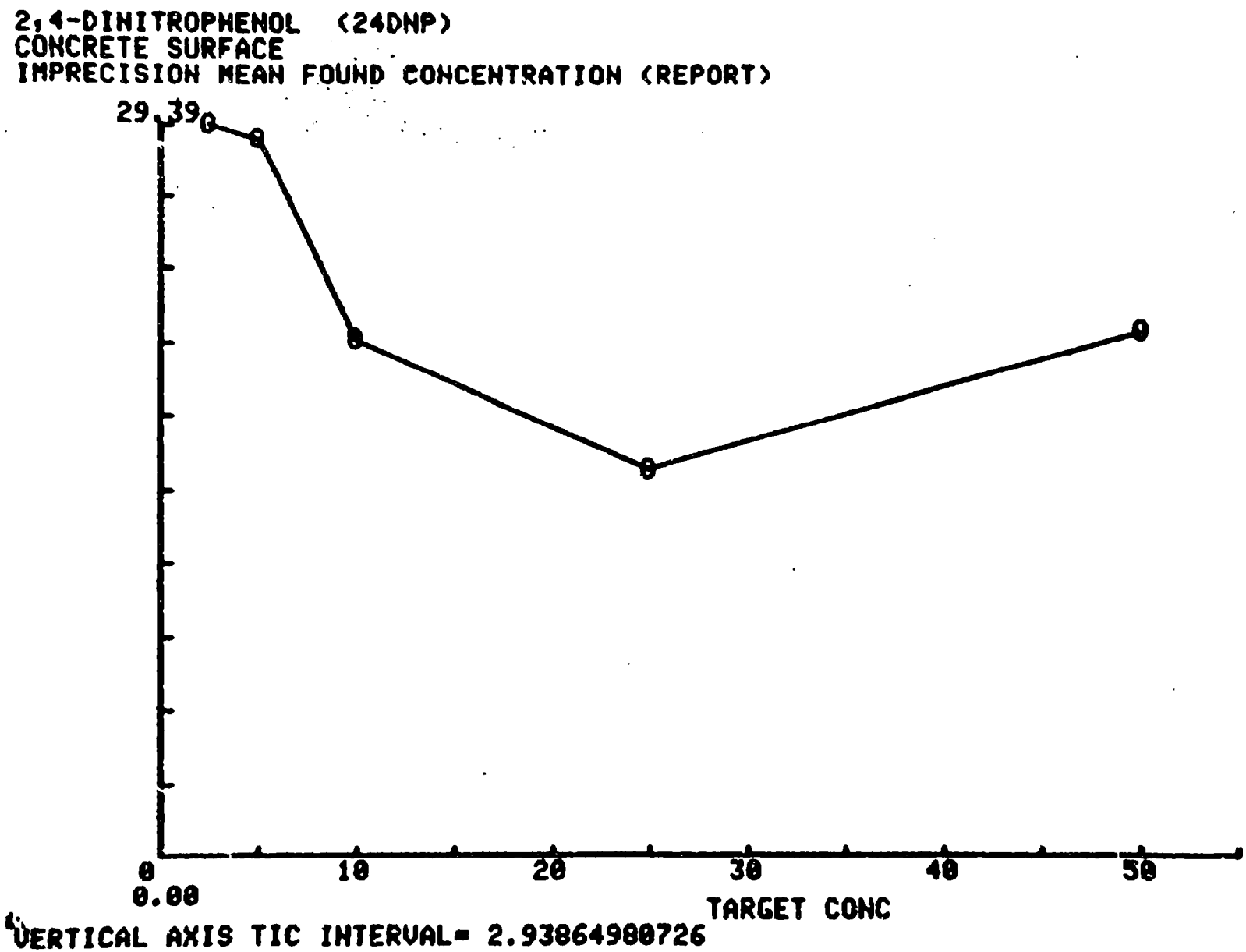

Figure II-6. DNP on Concrete - Graph of Imprecision

Table II-8. DNP on Concrete (3 days) - Target vs. Found Concentrations

2,4-DINITROPHENOL (24DNP)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.010 1.470 1.250
5.000	1.890 2.690 1.920
10.000	3.500 3.800 3.290
25.000	8.430 8.980 8.560
50.000	17.570 17.540 16.980

Table II-9. DNP on Concrete (3 days) - Analysis of Target-Found Concentration Points

```
2,4-DINITROPHENOL  (24DNP)
CONCRETE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 6.592  SD= 6.17940727625

NO. RUN: 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.31678802589
SLOPE= 0.339200647249
 USE FOR ACCURACY
R= 0.998781992786
MEAN SQR DEV OF POINTS FROM REGRESSION= 0.100113722929
ST ERROR EST= 0.316407526662
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 0.915196314013
x(d)= 3.50862633373
```

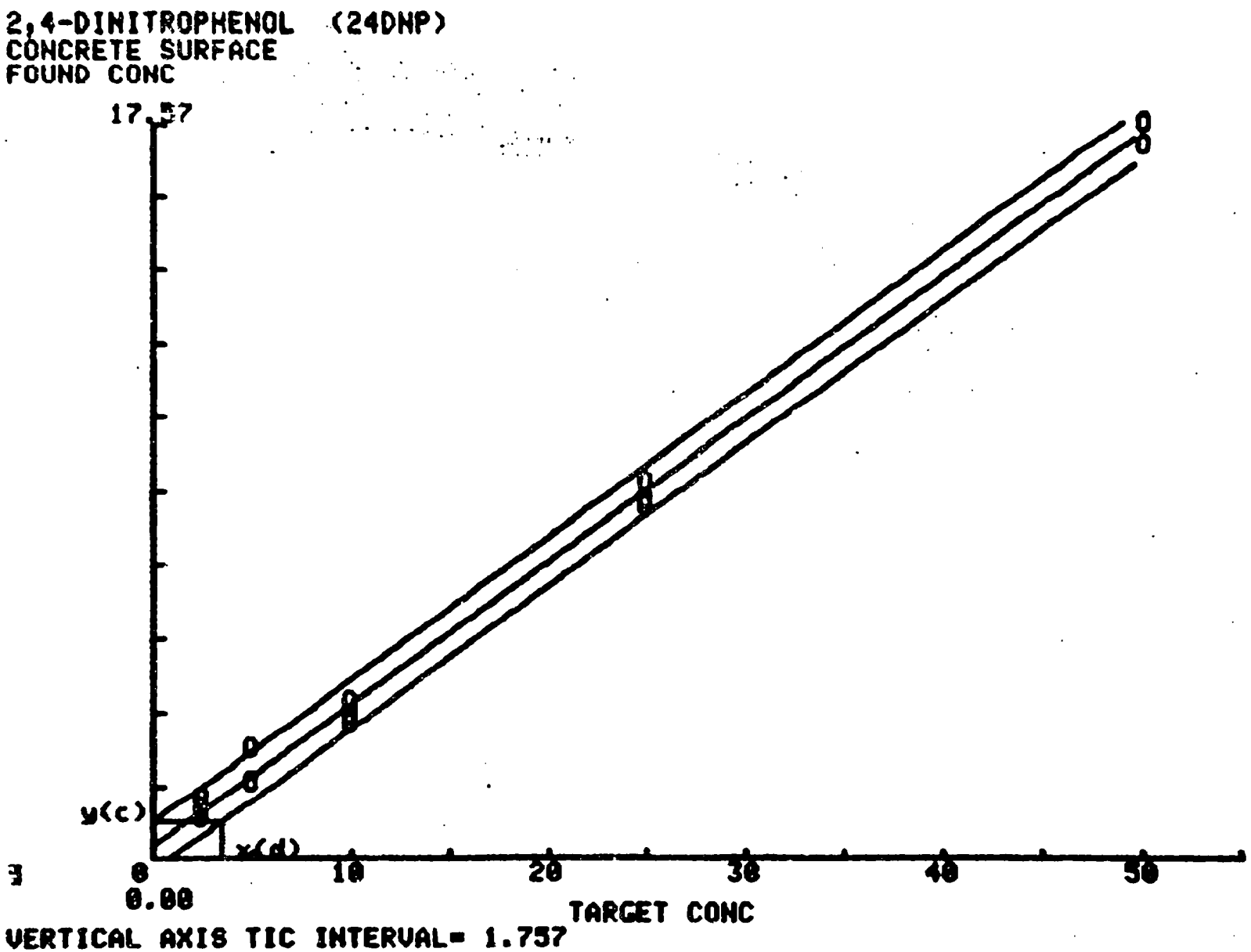

Figure II-7. DNP on Concrete (3 days) - Graph of Target-Found Concentration Points

Table II-10. DNP on Concrete (3 days) - Inaccuracy and Imprecision Data

2,4-DINITROPHENOL (24DNP)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.243	0.230	-50.267	18.504
5.000	2.167	0.453	-56.667	20.929
10.000	3.530	0.256	-64.7[illegible]	7.261
25.000	8.657	0.287	-65.373	3.321
50.000	17.363	0.332	-65.273	1.914
Means		0.312	-60.456	10.386

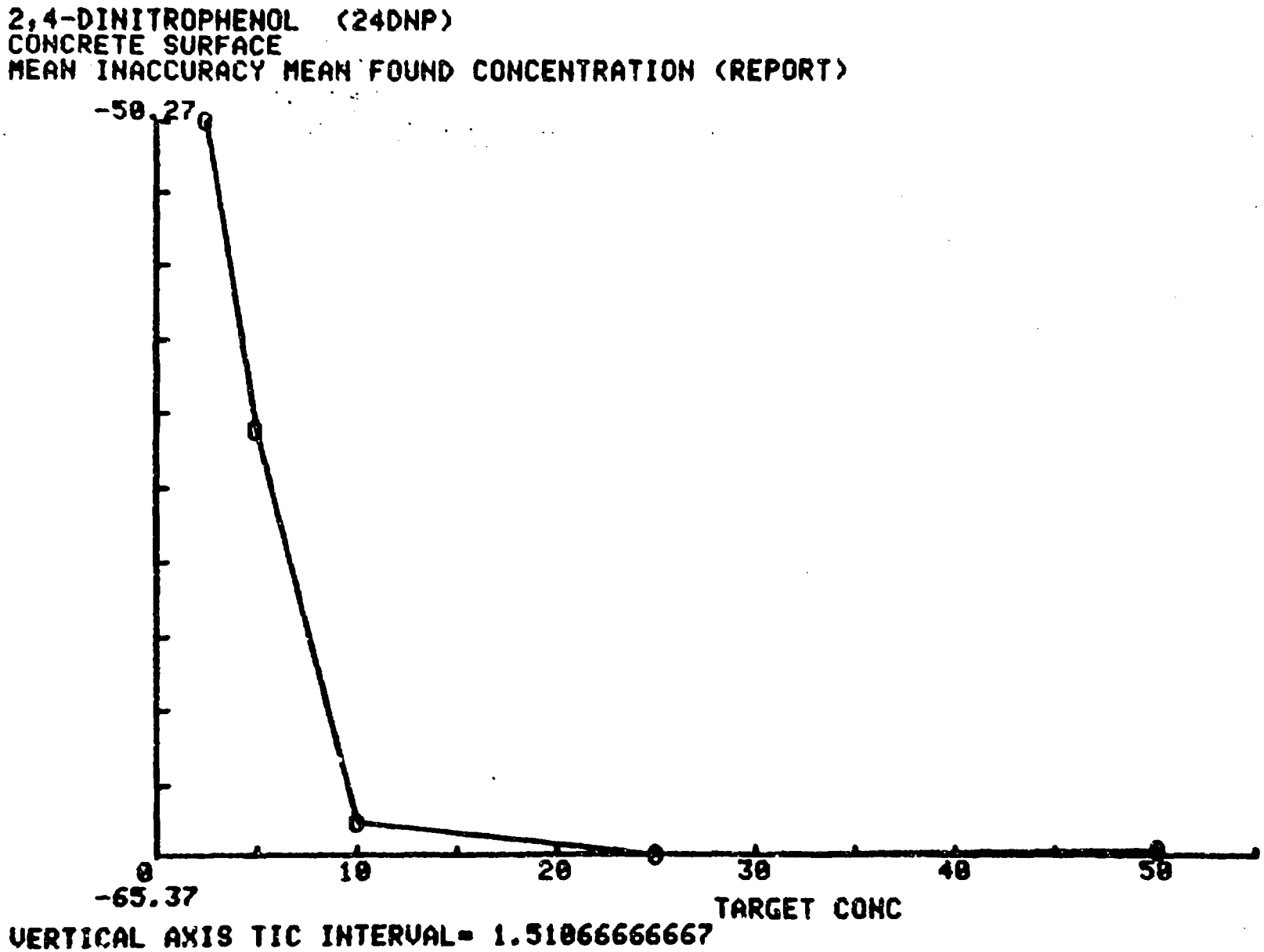

Figure II-8. DNP on Concrete (3 days) - Graph of Inaccuracy

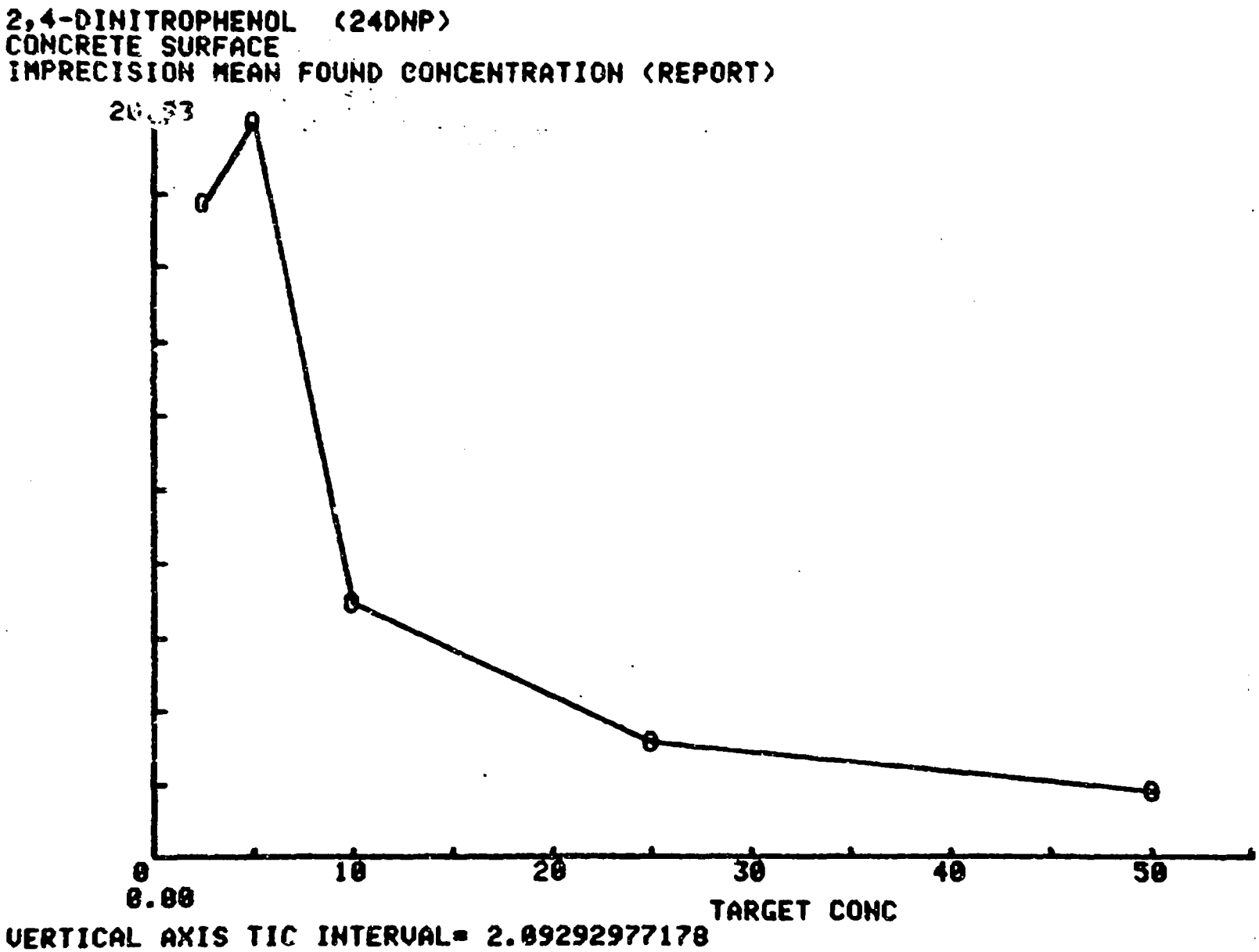

Figure II-9. DNP on Concrete (3 days) - Graph of Imprecision

Table II-11. DNP on Brick - Target vs. Found Concentrations

2,4-DINITROPHENOL (24DNP)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.000
	1.360
	0.810
	1.110
5.000	1.690
	4.000
	2.780
	3.620
10.000	5.560
	3.500
	4.890
	6.800
25.000	13.450
	10.200
	11.320
	14.100
50.000	28.950
	34.090
	21.730
	26.490

Table II-12. DNP on Brick - Analysis of Target-Found Concentration Points

```
2,4-DINITROPHENOL  (24DNP)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 9.8725  SD= 18.2455530148

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.352117718446
SLOPE= 0.552682038835
 USE FOR ACCURACY
R= 0.972875761094
MEAN SQR DEV OF POINTS FROM REGRESSION= 5.92937890036
ST ERROR EST= 2.43503160151
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096488
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 4.08728778129
x(d)= 15.8653395681
```

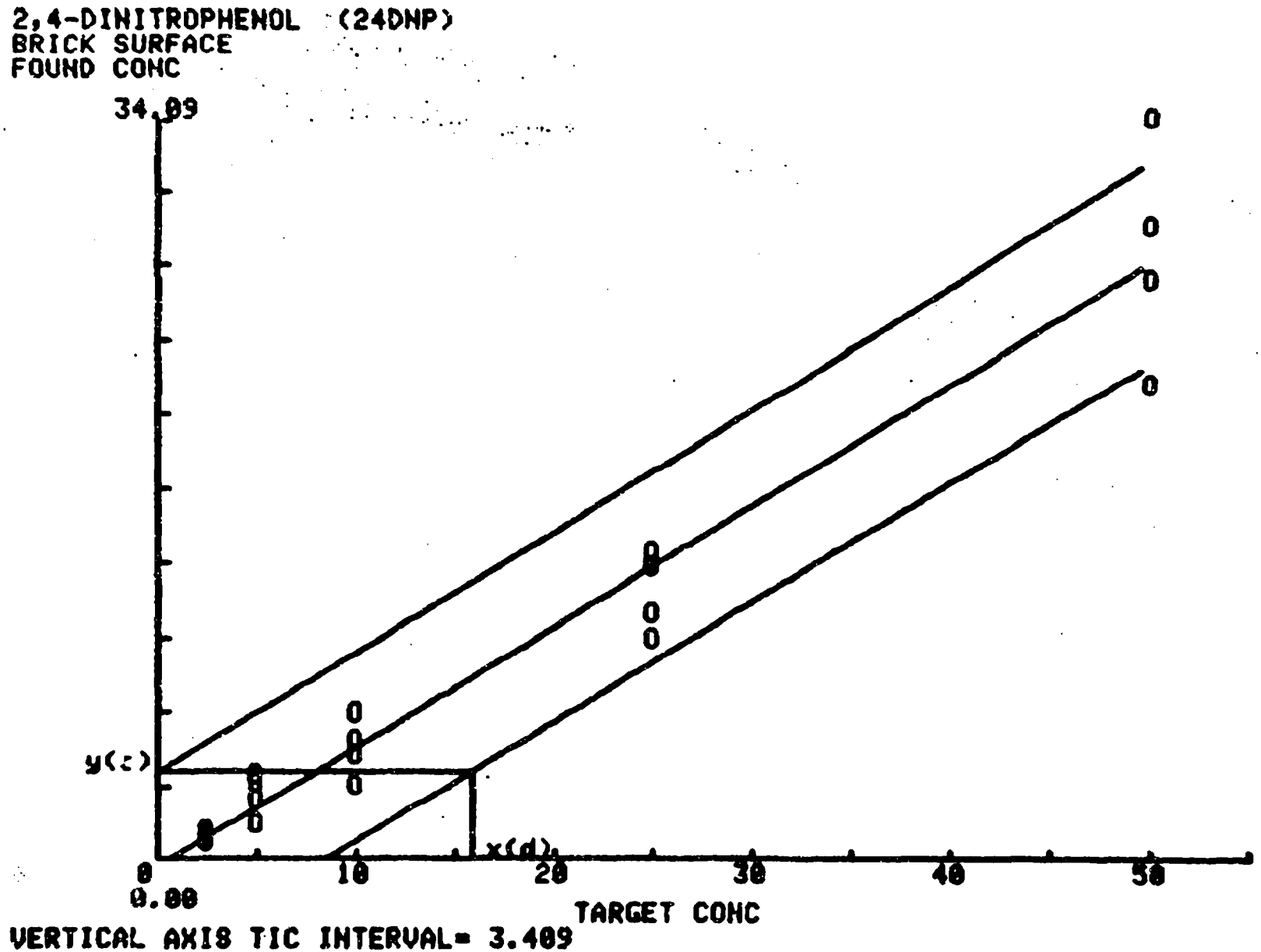

Figure II-10. DNP on Brick - Graph of Target-Found Concentration Points

Table II-13. DNP on Brick - Inaccuracy and Imprecision Data

2,4-DINITROPHENOL (24DNP)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	[illegible]	0.230	-57.200	21.461
5.000	3.023	1.024	-39.550	33.885
10.000	5.188	1.375	-48.125	26.514
25.000	12.268	1.819	-50.930	14.830
50.000	27.815	5.146	-44.370	18.501
Means		1.919	-48.035	23.038

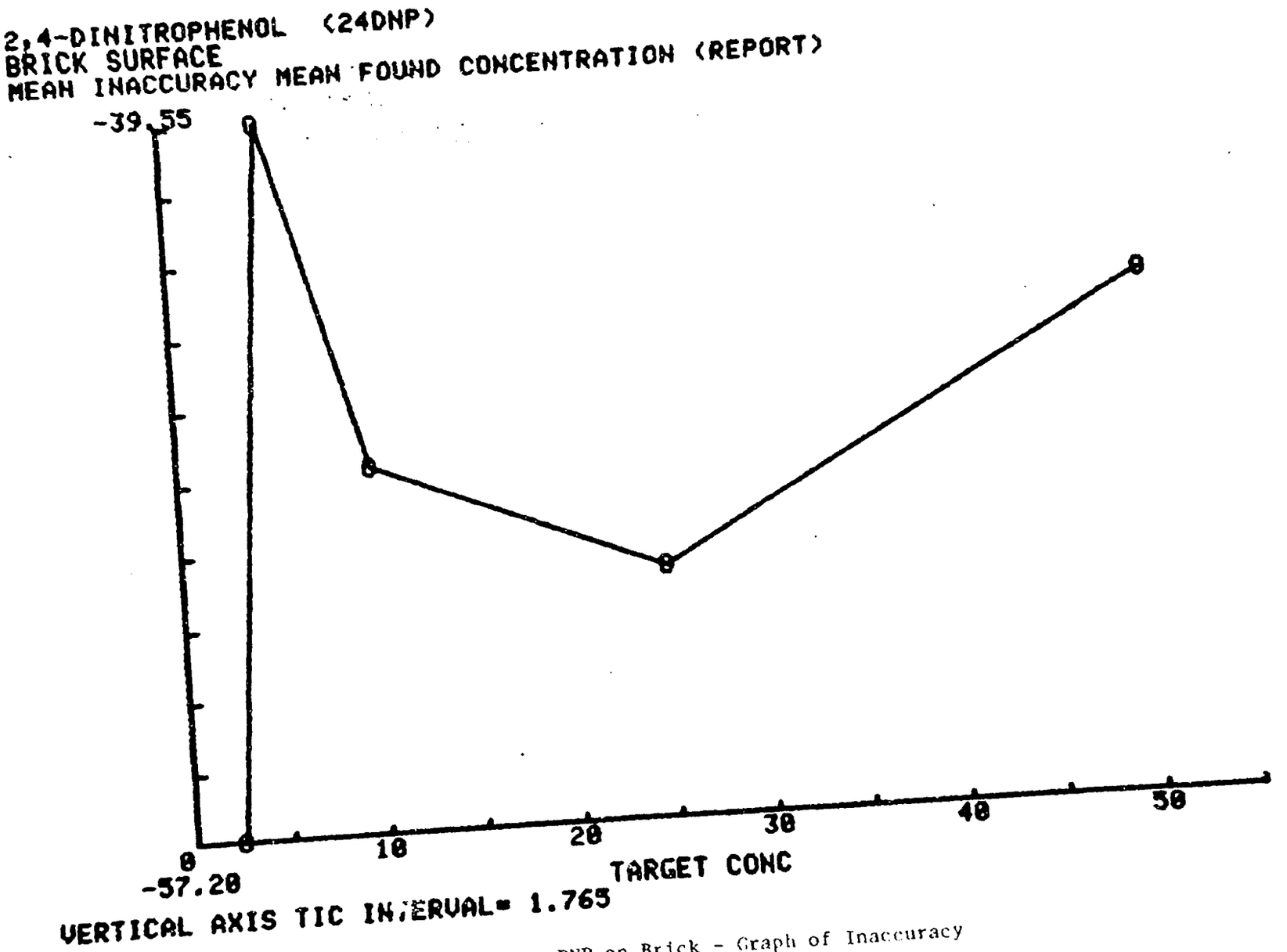

Figure II-11. DNP on Brick - Graph of Inaccuracy

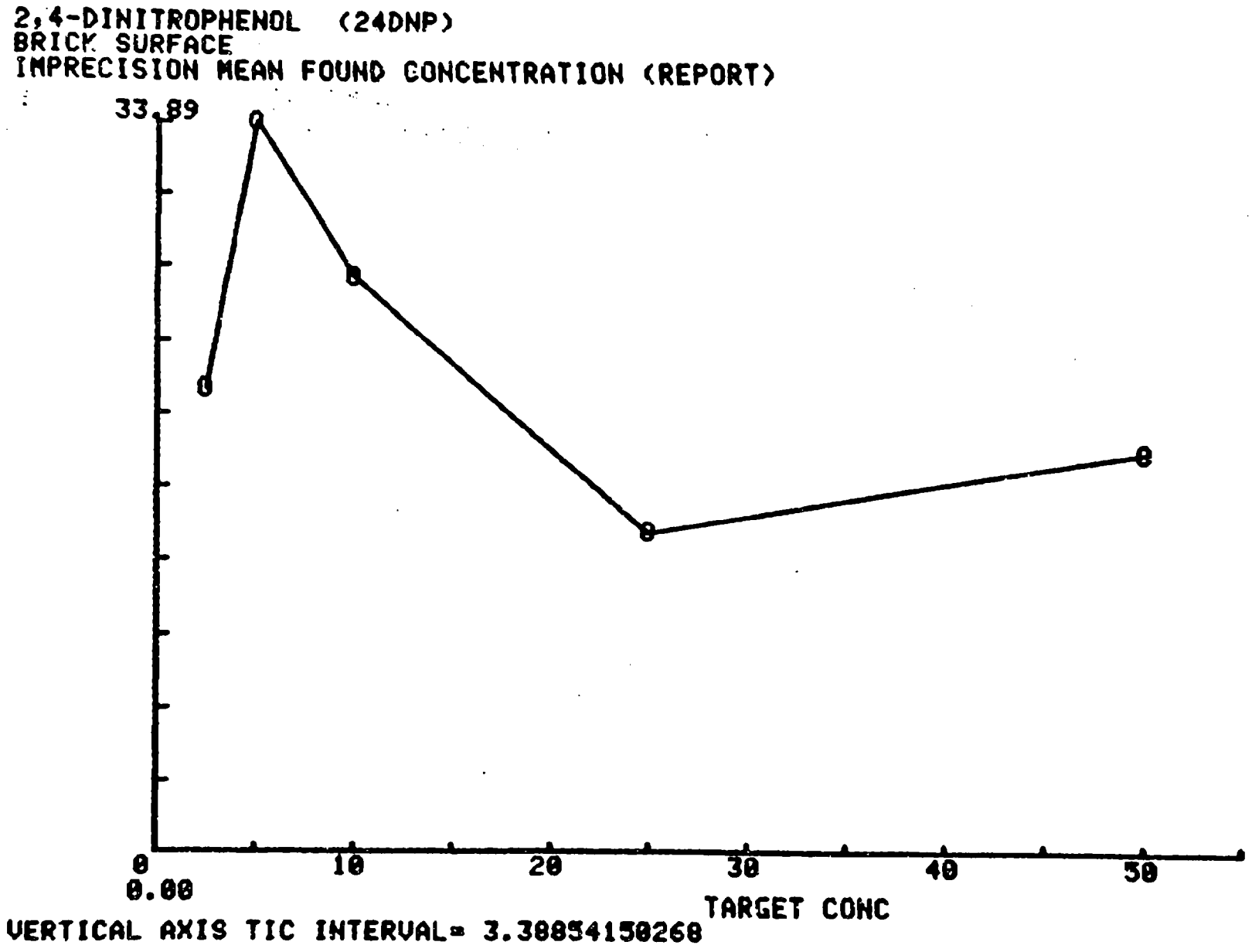

Figure II-12. DNP on Brick - Graph of Imprecision

Table II-14. DNP on Transite - Target vs. Found Concentrations

2,4-DINITROPHENOL (24DNP)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.980
	0.710
	0.250
	1.280
5.000	2.260
	1.440
	1.200
	1.970
10.000	3.880
	2.380
	2.790
	2.630
25.000	9.700
	7.140
	6.960
	7.850
50.000	24.050
	16.740
	12.550
	15.680

Table II-15. DNP on Transite - Analysis of Target-Found Concentration Points

```
2,4-DINITROPHENOL  (24DNP)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 6.082  SD= 6.55535747148

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.297536407767
SLOPE= 0.344839805825
 USE FOR ACCURACY
R= 0.948720859866
MEAN SQR DEV OF POINTS FROM REGRESSION= 4.53277563377
ST ERROR EST= 2.12903161878
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 3.58398803391
x(d)= 22.2382830955
```

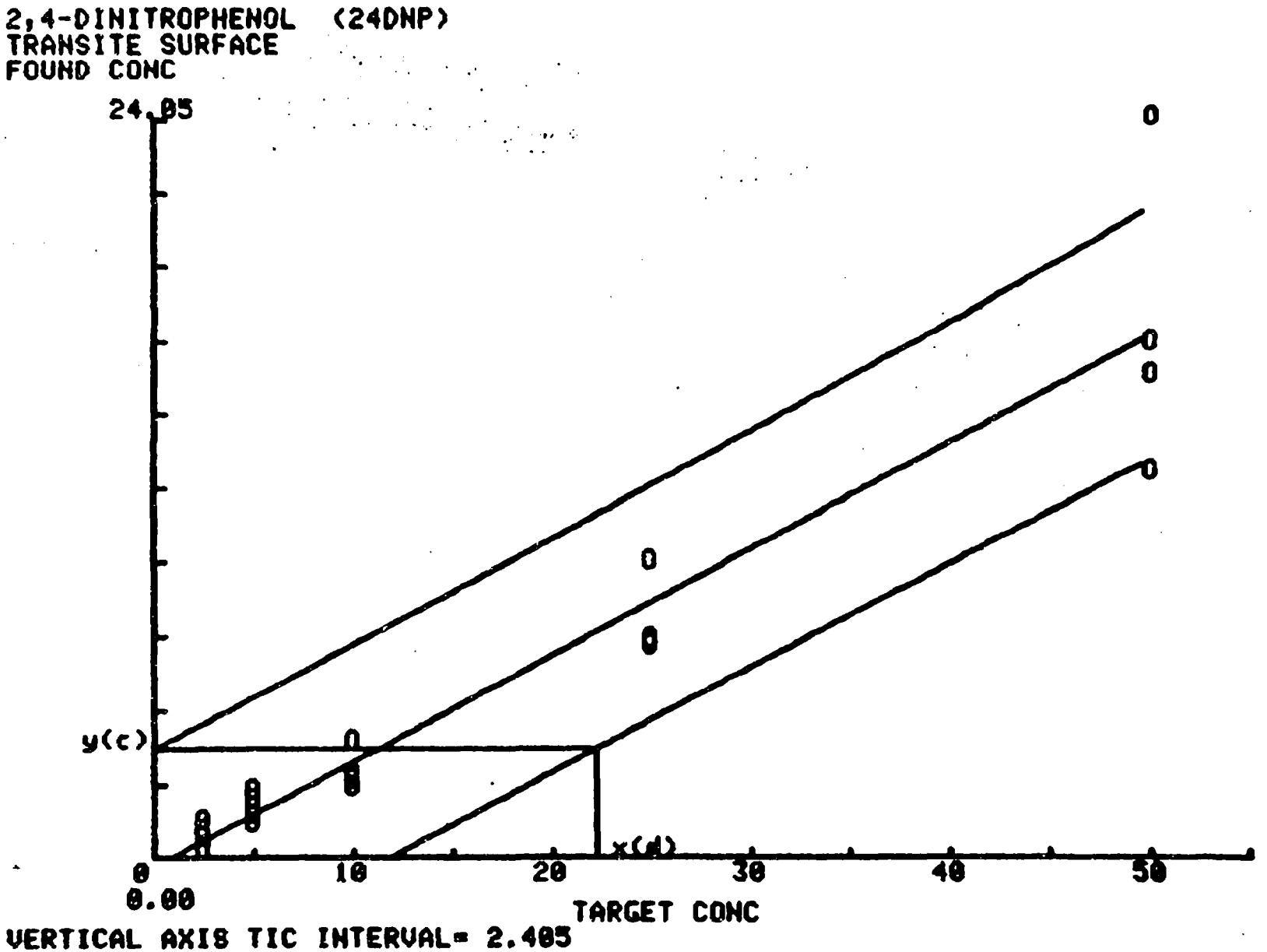

Figure II-13. DNP on Transite - Graph of Target-Found Concentration Points

Table II-16. DNP on Transite - Inaccuracy and Imprecision Data

2,4-DINITROPHENOL (24DNP)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	0.805	0.437	-67.800	54.304
5.000	1.718	0.484	-65.650	28.183
10.000	2.920	0.662	-70.800	22.667
25.000	7.713	1.327	-69.150	17.206
50.000	17.255	4.867	-65.490	28.205
Means		1.555	-67.778	30.113

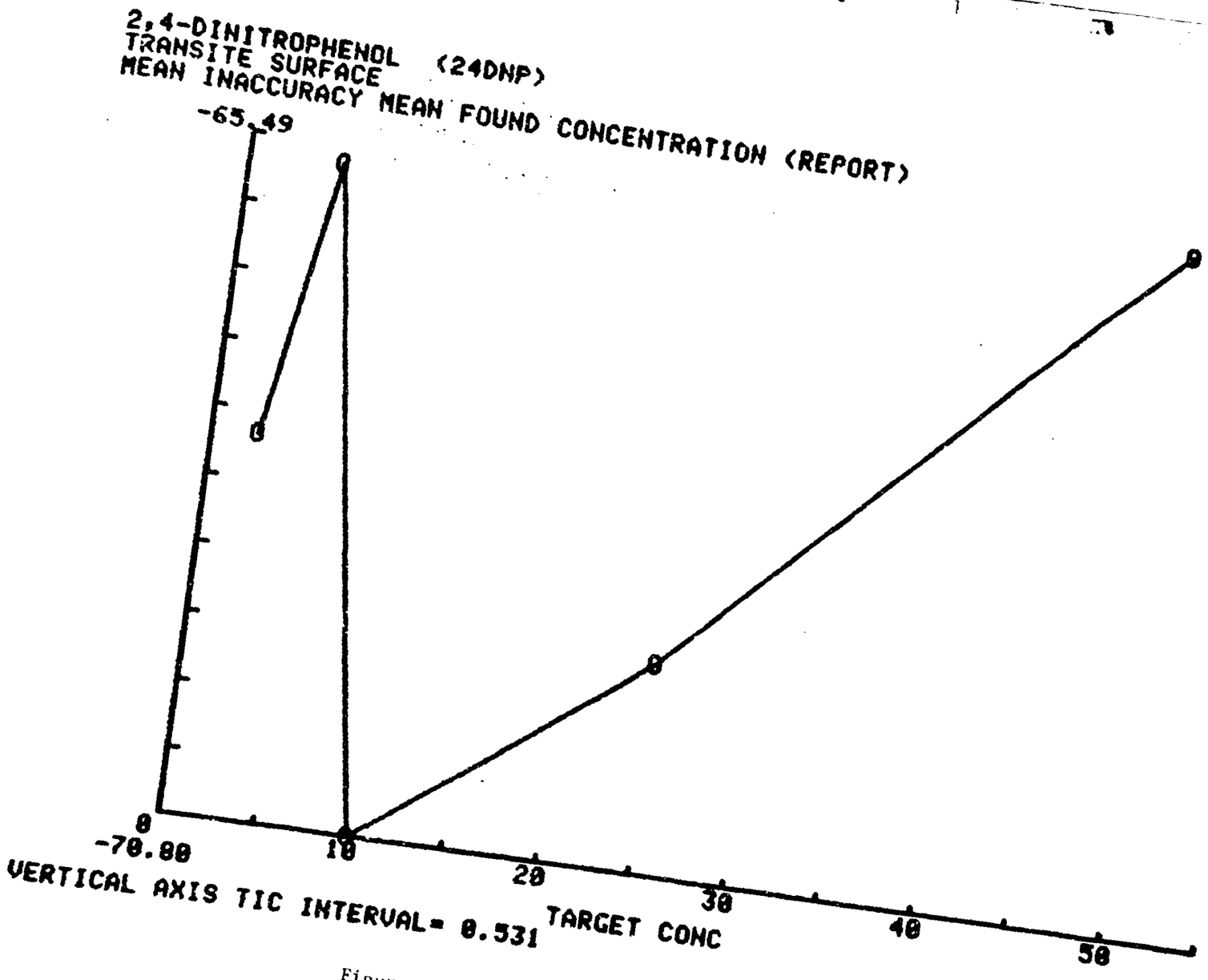

Figure II-14. DNP on Transite - Graph of Inaccuracy

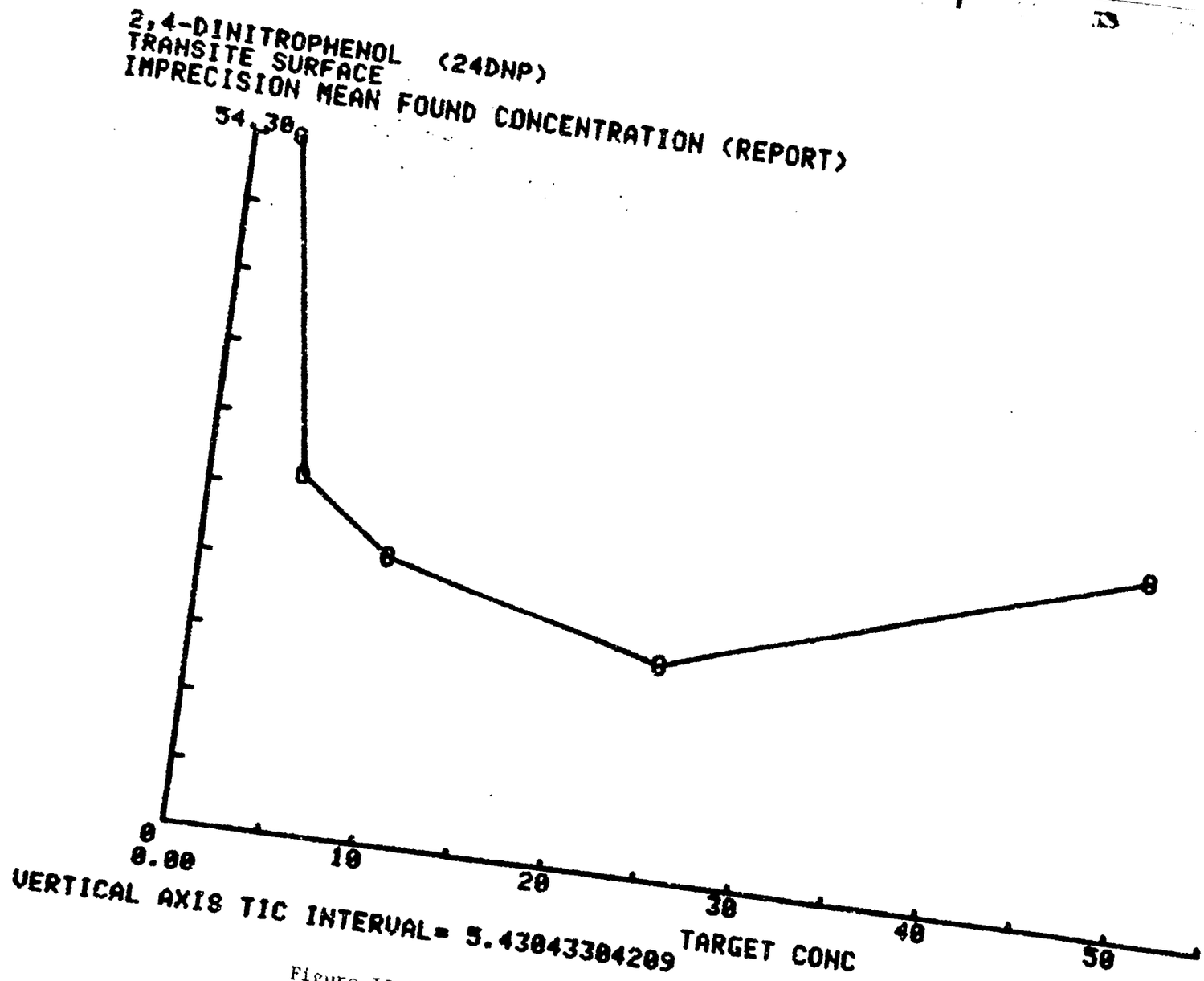

Figure II-15. DNP on Transite - Graph of Imprecision

Table II-17. DNP on Transite (3 days) - Target vs. Found Concentrations

2,4-DINITROPHENOL (24DNP)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.710 0.250 1.280
5.000	1.440 1.200 1.970
10.000	2.380 2.790 2.630
25.000	7.140 6.960 7.050
50.000	16.740 12.550 15.680

Table II-18. DNP on Transite (3 days) - Analysis of Target-Found Concentration Points

```
2,4-DINITROPHENOL  (24DNP)
TRANSITE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 5.38466666667  SD= 5.52760328671

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.161960625674
SLOPE= 0.299817691478
 USE FOR ACCURACY
R= 0.986918388416
MEAN SQR DEV OF POINTS FROM REGRESSION= 0.855263021743
ST ERROR EST= 0.924804315378
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77893170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 1.5870829987
x(d)= 11.5032476202
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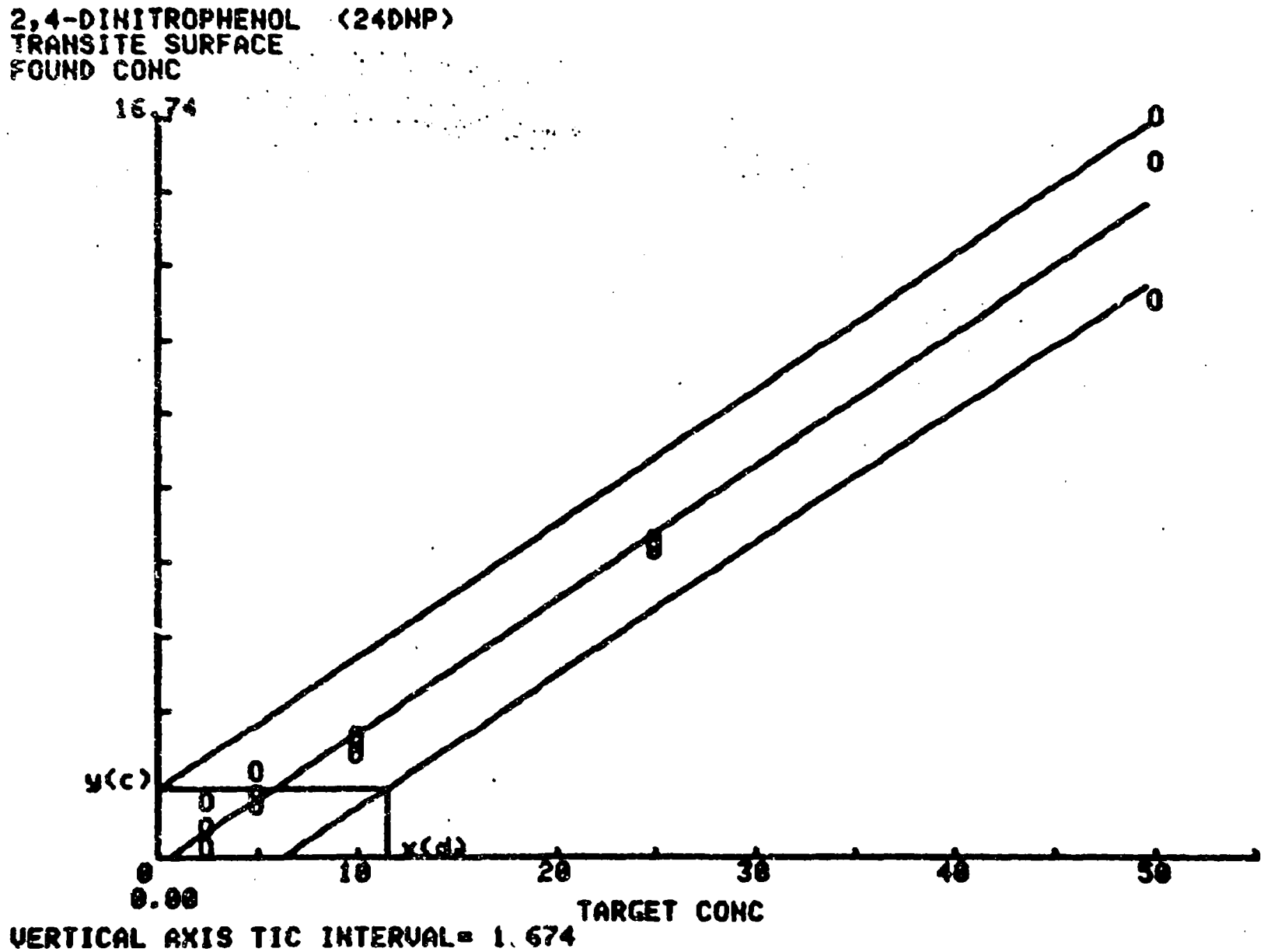

Figure II-16. DNP on Transite (3 days) - Graph of Target-Found Concentration Points

Table II-19. DNP on Transite (3 days) - Inaccuracy and Imprecision Data

2,4-DINITROPHENOL (24DNP)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	0.747	0.516	-70.133	69.104
5.000	1.537	0.394	-69.267	25.640
10.000	2.600	0.207	-74.000	7.948
25.000	7.050	0.090	-71.800	1.277
50.000	14.990	2.179	-70.020	14.533
Means		0.677	-71.044	23.700

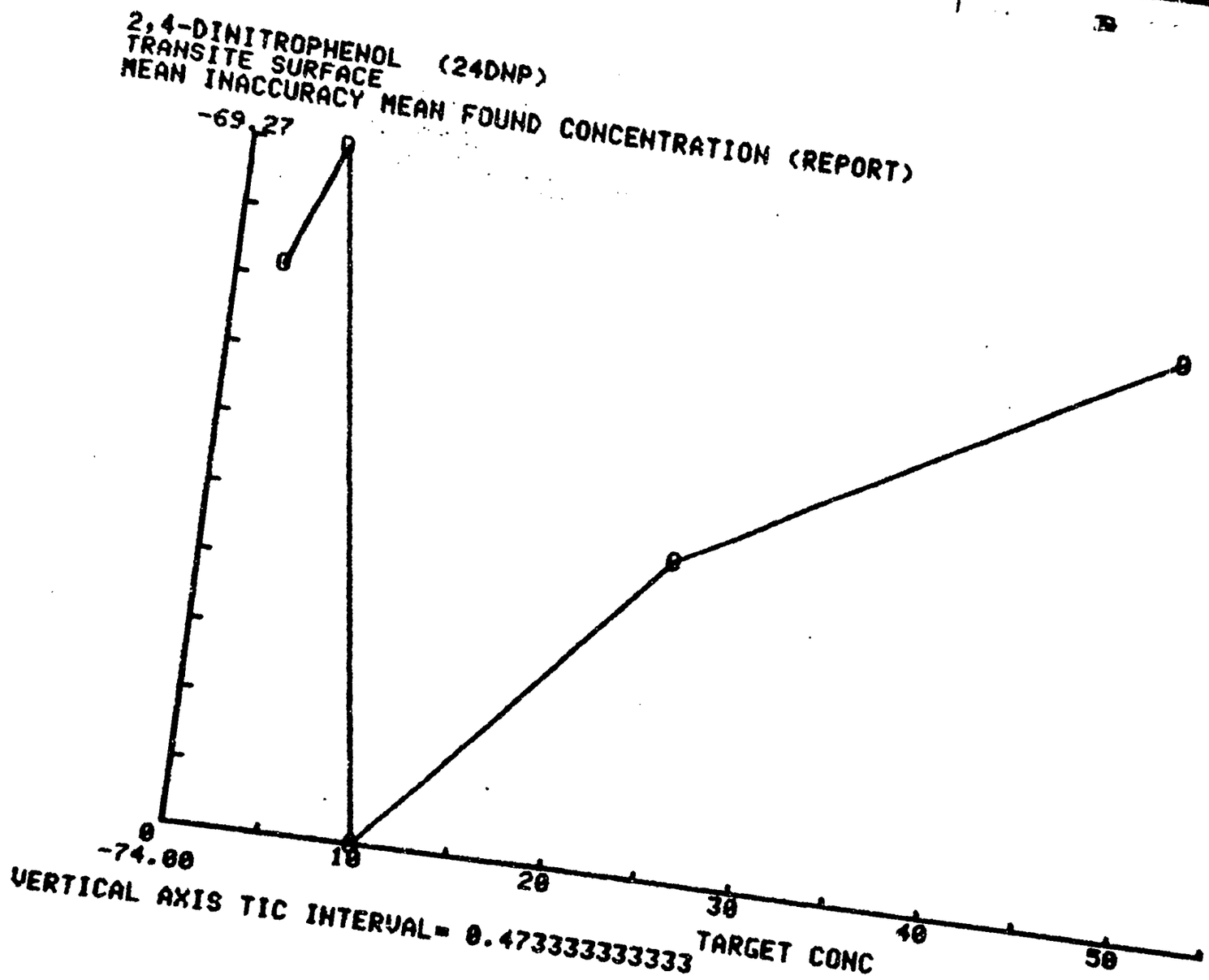

Figure II-17. DNP on Transite (3 days) - Graph of Inaccuracy

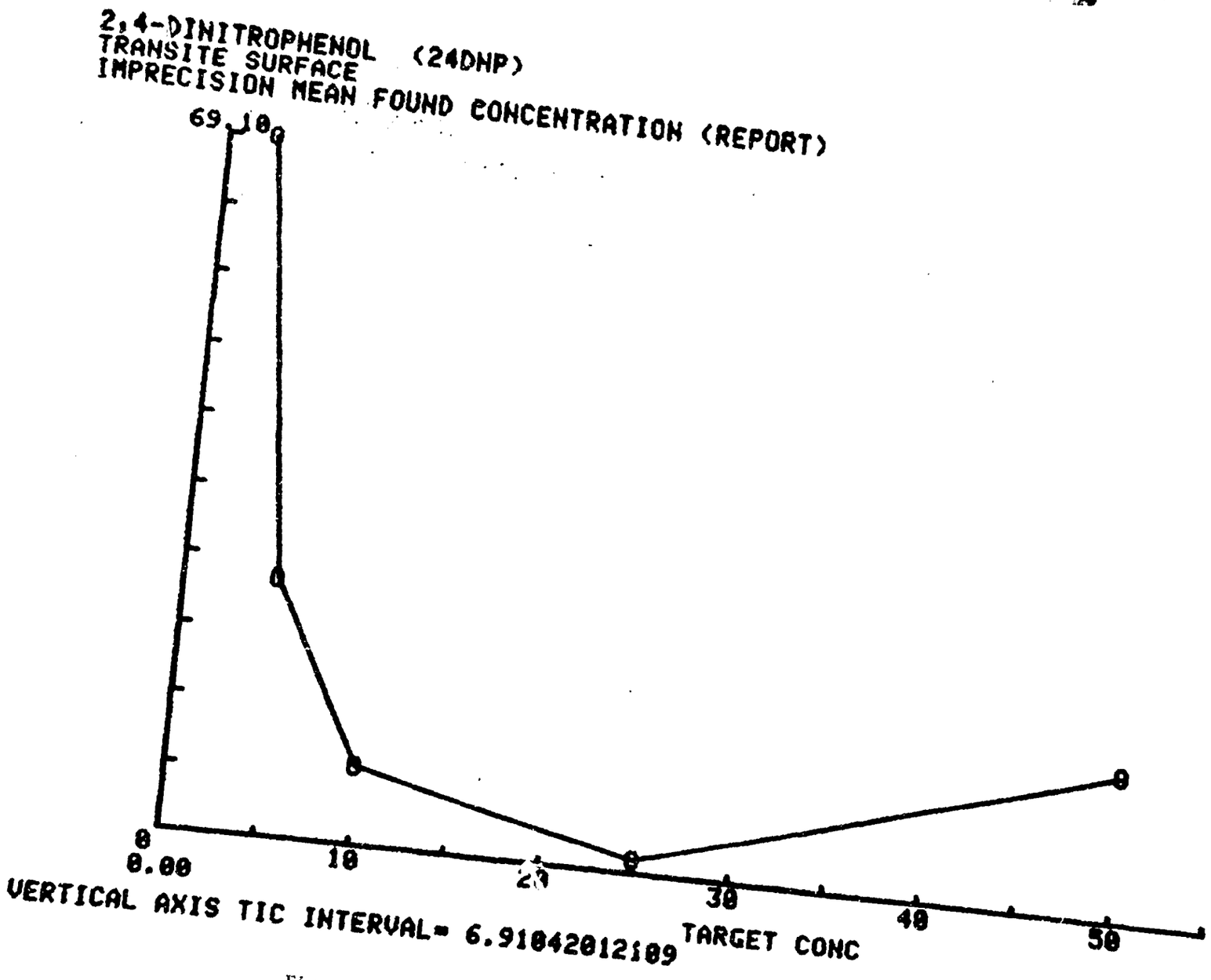

Figure II-18. DNP on Transite (3 days) - Graph of Imprecision

Table II-20. RDX on Metal - Target vs. Found Concentrations

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.340 2.040 2.180 2.620
5.000	4.100 4.250 4.840 5.070
25.000	24.180 23.960 23.070 24.460
50.000	49.060 46.620 46.960 48.510

Table II-21. RDX on Metal - Analysis of Target-Found Concentrations Points

```
CYCLOTRIMETHYLENETRINITRAMINE  (RDX)
METAL SURFACE
ANALYSIS OF 16 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 20.625  SD= 19.6956001855

FOUND CONC
MEAN= 19.64125  SD= 18.9047401022

NO. RUNS 1 TOTAL X-Y ALL RUNS 16 NO. CONCENTR 16
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.144172932331
SLOPE= 0.959293233083
 USE FOR ACCURACY
R= 0.999424264881
MEAN SQR DEV OF POINTS FROM REGRESSION= 0.440790601532
ST ERROR EST= 0.66392062894
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 14
TWO TAIL P LEVEL IS .1
t= 1.7613101065
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 1.10196465687
x(d)= 2.58815970399
```

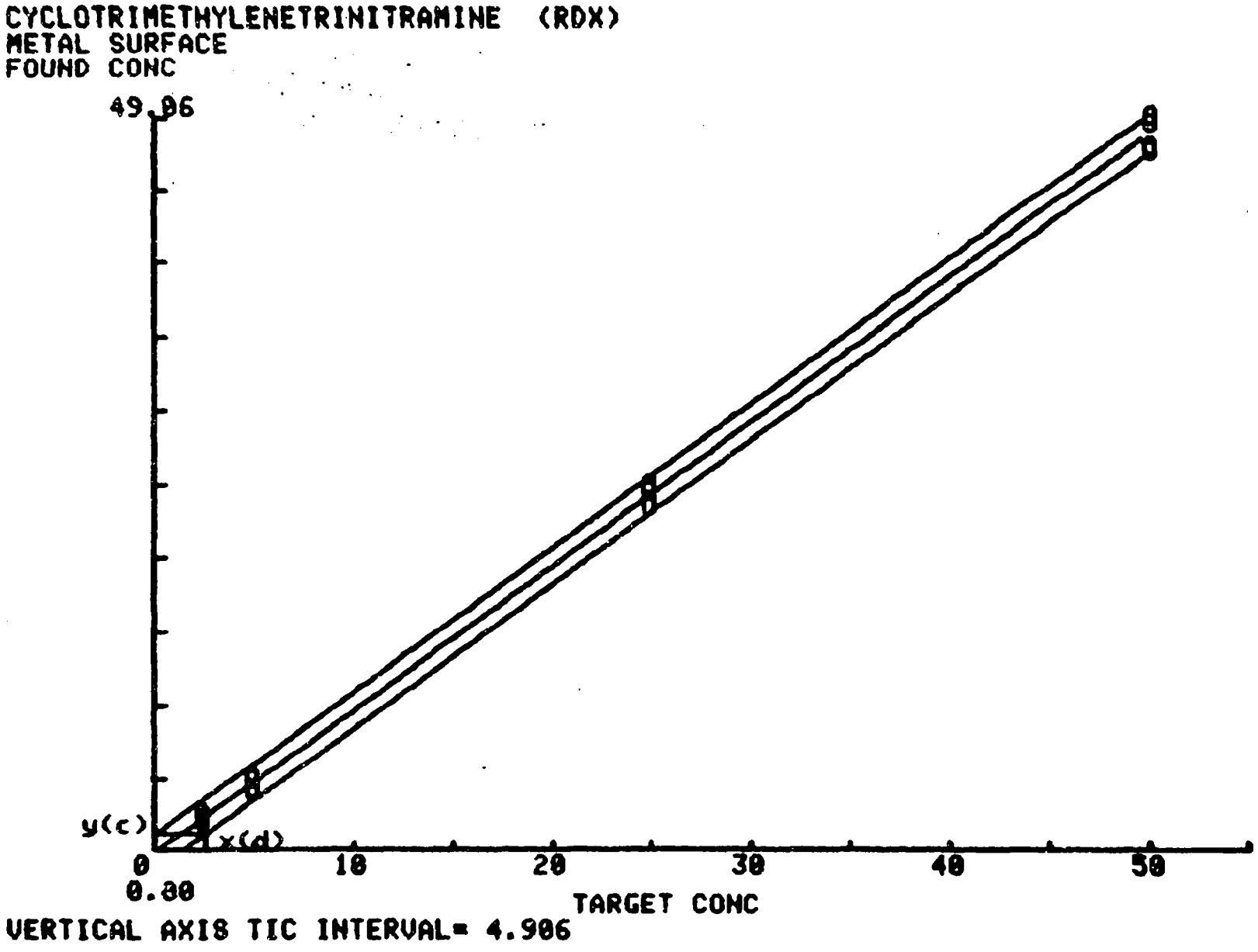

Figure II-19. RDX on Metal - Graph of Target-Found Concentration Points

Table II-22. RDX on Metal - Inaccuracy and Imprecision Data

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.295	0.249	-8.200	10.847
5.000	4.565	0.464	-8.700	10.166
25.000	23.918	0.601	-4.330	2.512
50.000	47.788	1.182	-4.425	2.473
Means		0.624	-6.414	6.499

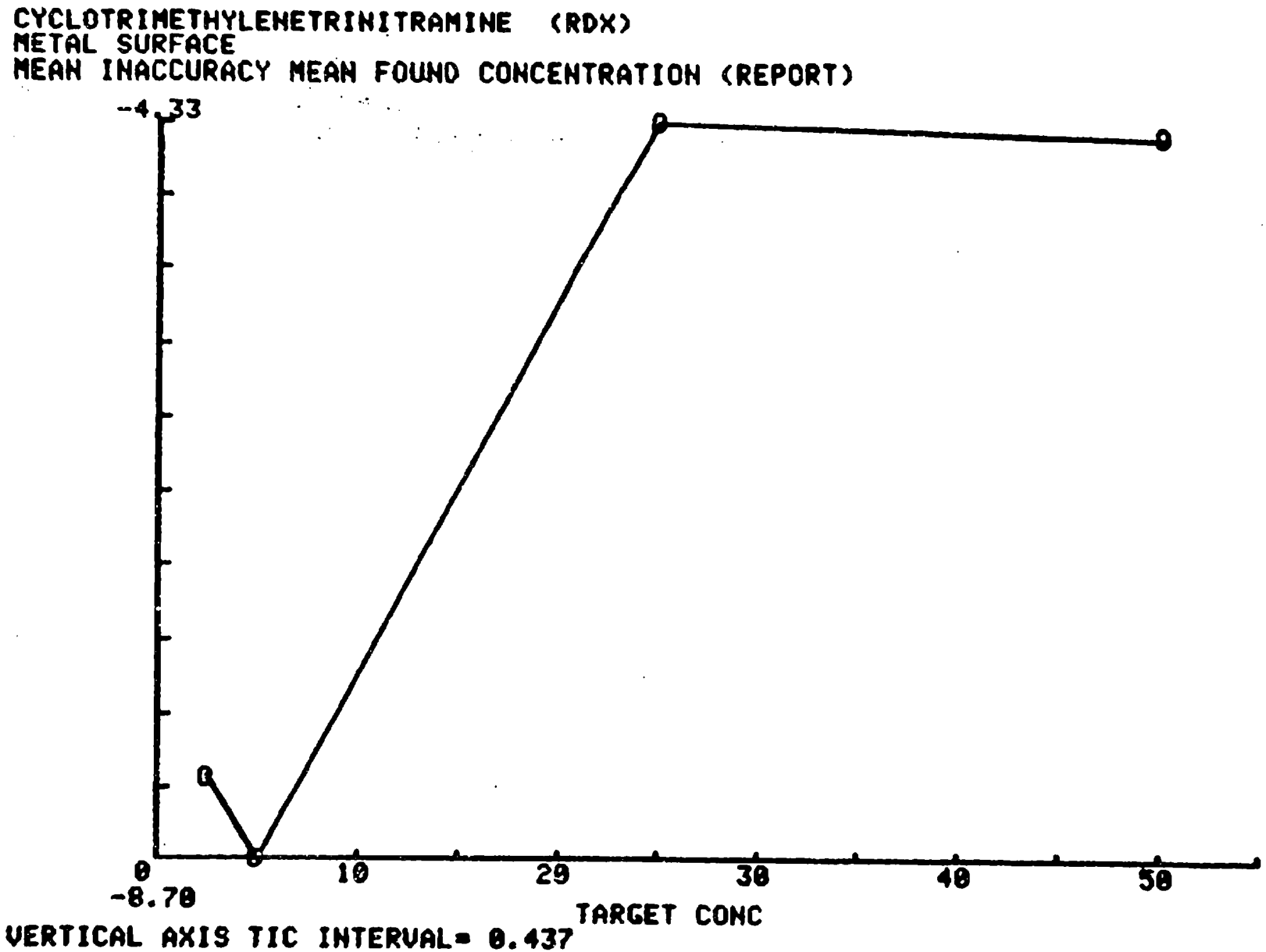

Figure II-20. RDX on Metal - Graph of Innaccuracy

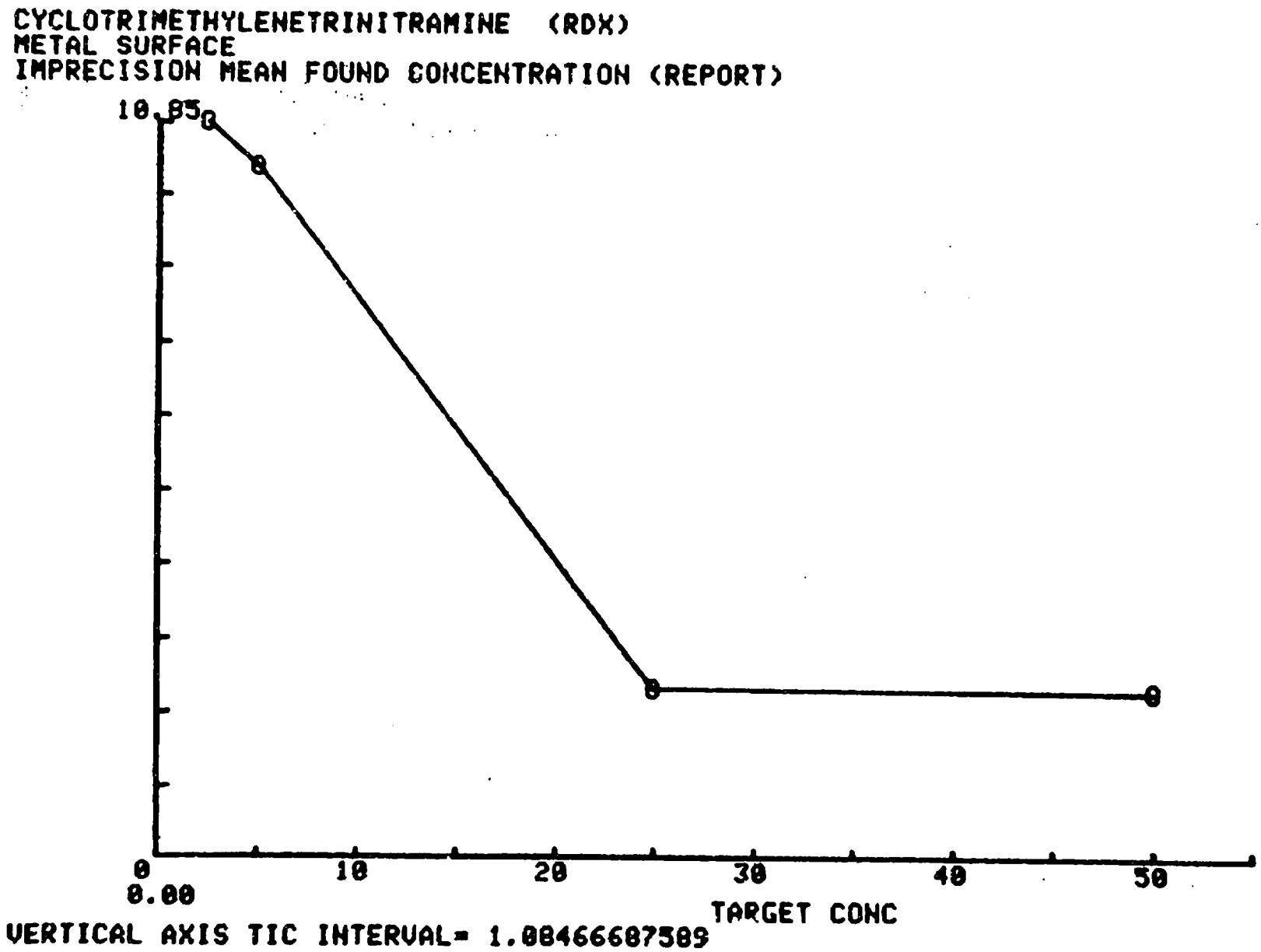

Figure II-21. RDX on Metal - Graph of Imprecision

Table II-23. RDX on Concrete - Target vs. Found Concentrations

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.610
	1.740
	1.950
	2.090
5.000	2.860
	3.710
	4.320
	4.210
10.000	6.730
	7.650
	7.520
	7.930
25.000	19.370
	20.410
	20.410
	17.490
50.000	37.810
	41.120
	41.240
	35.160

Table II-24. RDX on Concrete - Analysis of Target-Found Concentration Points

```
CYCLOTRIMETHYLENETRINITRAMINE  (RDX)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 14.2665  SD= 14.1353562966

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.168798543689
SLOPE= 0.780286407767
 USE FOR ACCURACY
R= 0.995553764773
MEAN SQR DEV OF POINTS FROM REGRESSION= 1.8713304477
ST ERROR EST= 1.36796580648
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 2.32519575231
x(d)= 6.34666977015
```

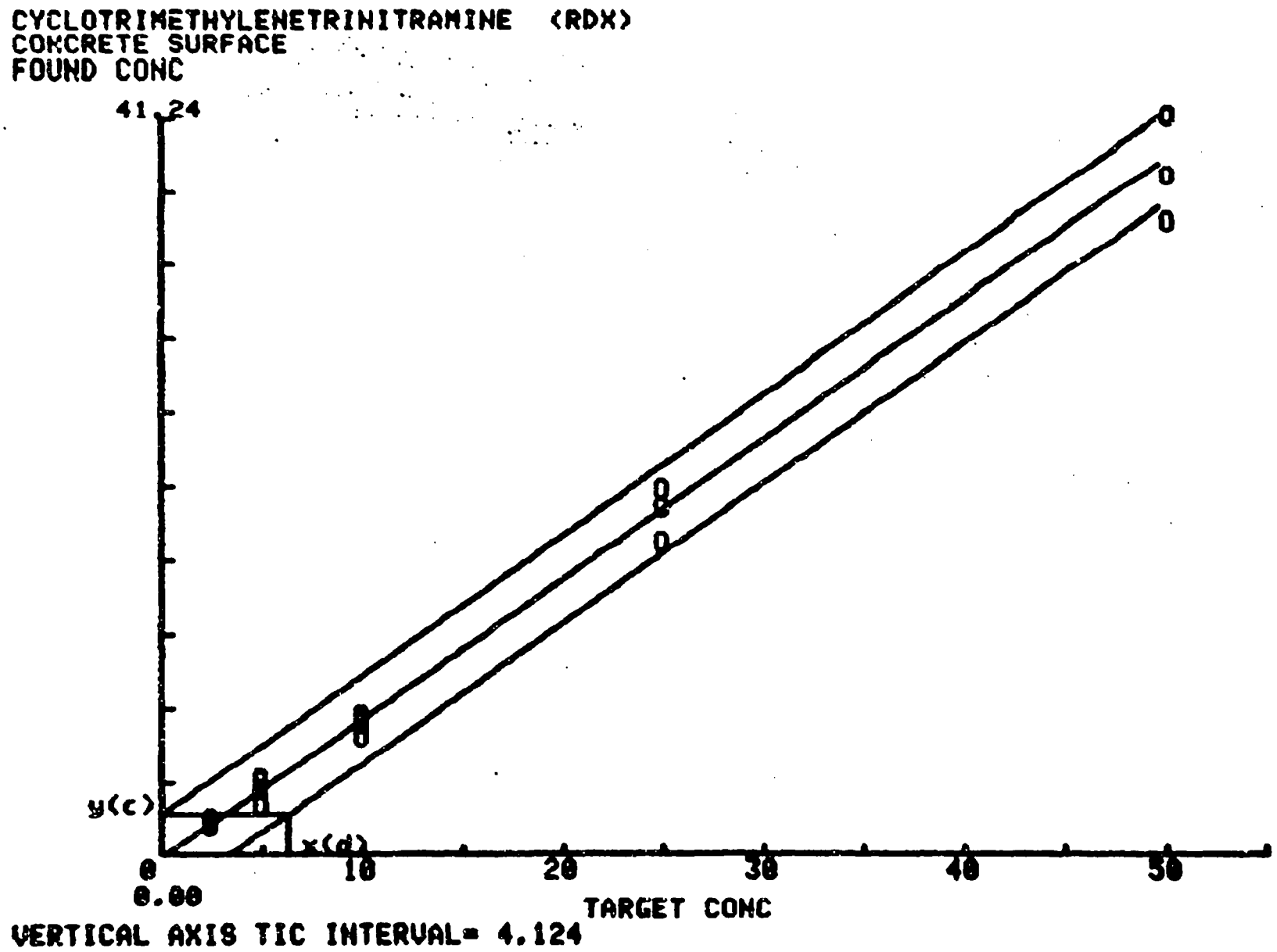

Figure II-22. RDX on Concrete - Graph of Target-Found Concentration Points

Table II-25. Inaccuracy and Imprecision Data

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT
INACCURACY AND IMPRECISION

Mn Targt Con. ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.848	0.214	-26.100	11.578
5.000	3.775	0.665	-24.500	17.623
10.000	7.458	0.514	-25.425	6.896
25.000	19.420	1.377	-22.320	7.090
50.000	38.833	2.919	-22.335	7.517
Means		1.138	-24.136	10.141

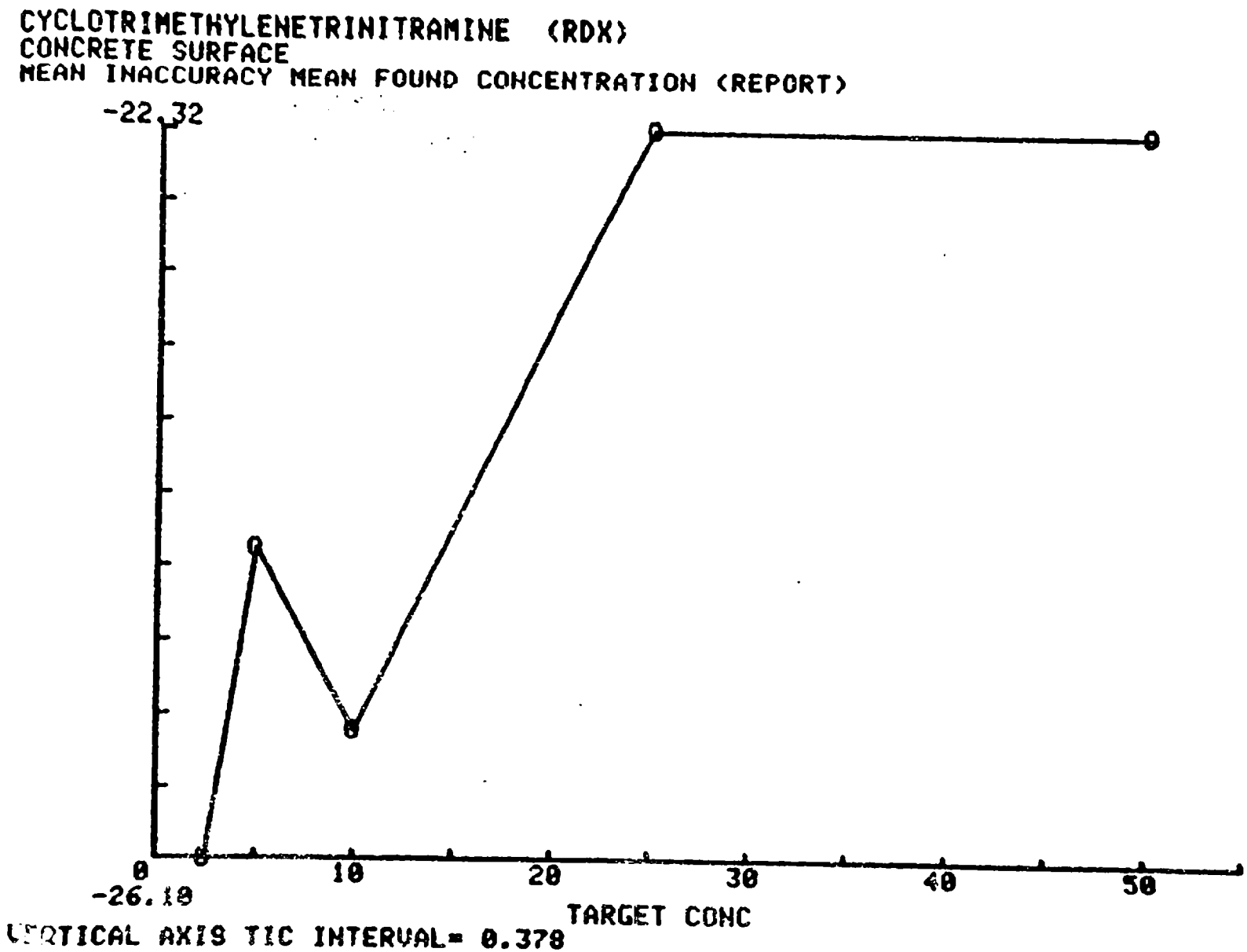

Figure II-23. RDX on Concrete - Graph of Inaccuracy

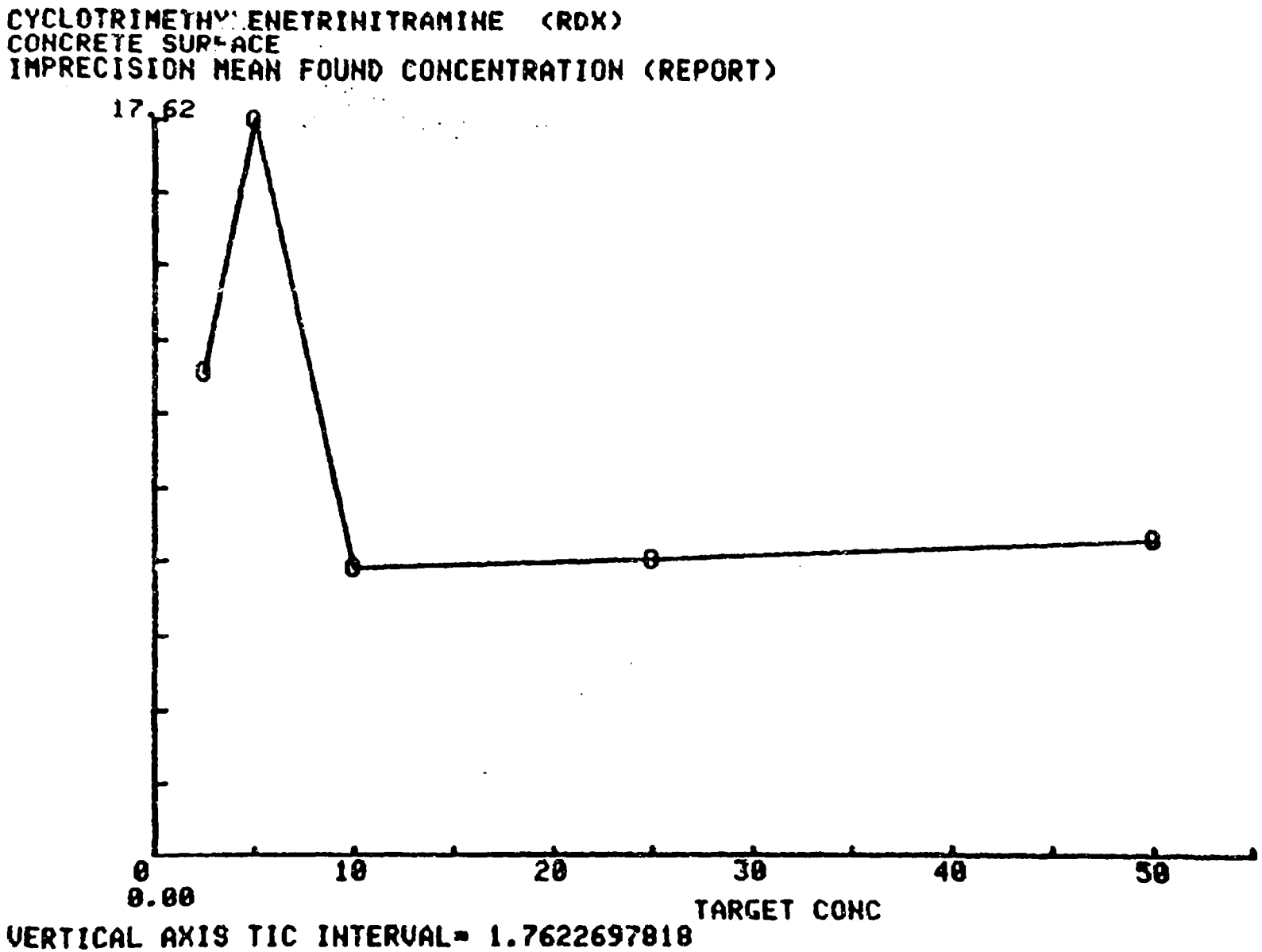

Figure II-24. RDX on Concrete - Graph of Imprecision

Table II-26. RDX on Brick - Target vs. Found Concentrations

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.340
	2.070
	1.020
	1.160
5.000	2.450
	7.380
	4.120
	5.010
10.000	9.080
	6.410
	7.190
	9.900
25.000	21.180
	14.890
	14.480
	20.990
50.000	36.030
	45.030
	24.020
	41.020

Table II-27. RDX on Brick - Analysis of Target-Found Concentration Points

```
CYCLOTRIMETHYLENETRINITRAMINE  (RDX)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 13.7385  SD= 13.6021253274

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.432779126214
SLOPE= 0.71922815534
 USE FOR ACCURACY
R= 0.95362437934
MEAN SQR DEV OF POINTS FROM REGRESSION= 17.6939762945
ST ERROR EST= 4.20642084135
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 8.10167664923
x(d)= 21.0600746217
```

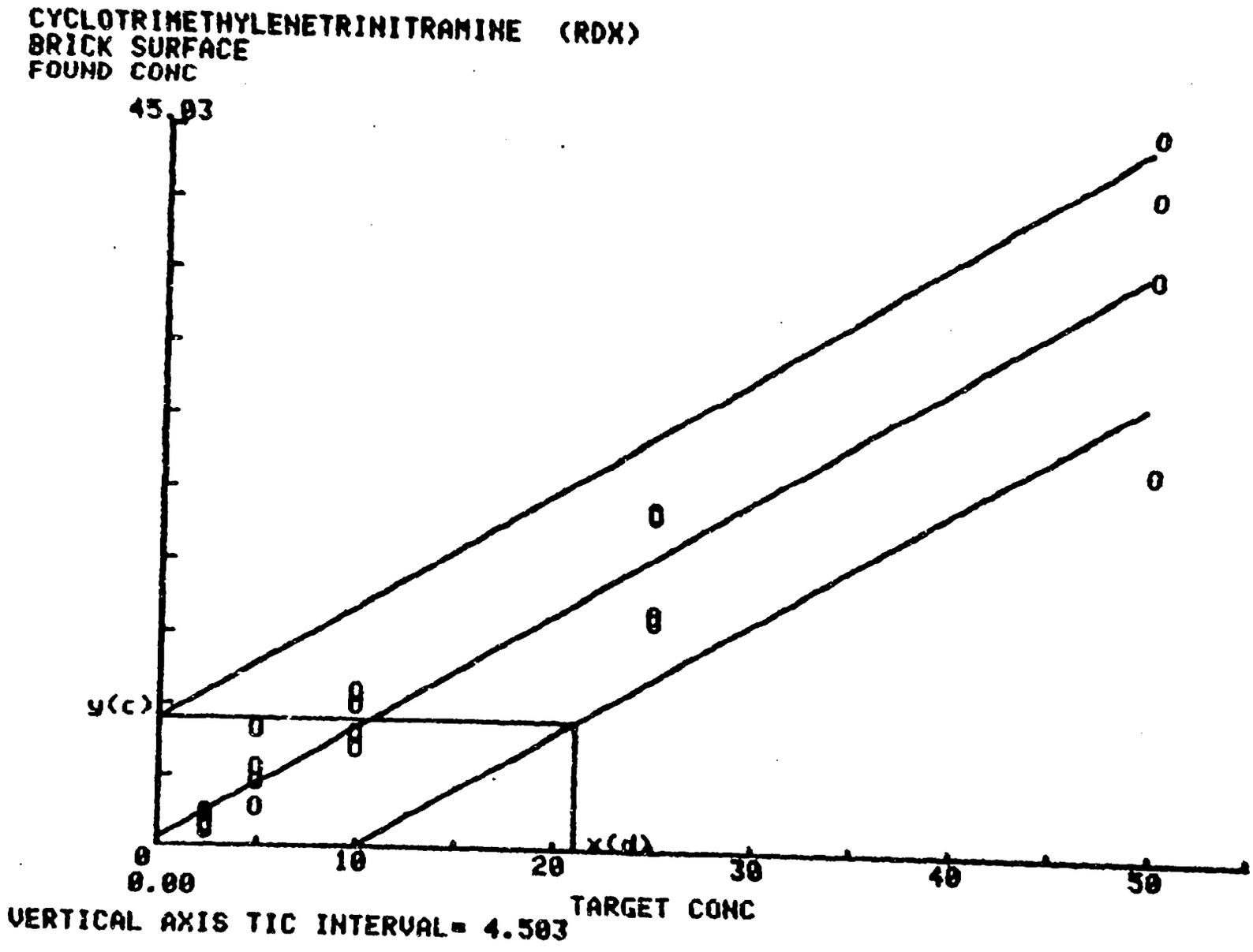

Figure II-25. RDX on Brick - Graph of Target-Found Concentration Points

Table II-28. RDX on Brick - Inaccuracy and Imprecision Data

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.398	0.467	-44.100	33.422
5.000	4.740	2.055	-5.200	43.358
10.000	8.145	1.620	-18.550	19.894
25.000	17.885	3.700	-28.460	20.686
50.000	36.525	9.113	-26.950	24.951
Means		3.391	-24.652	28.462

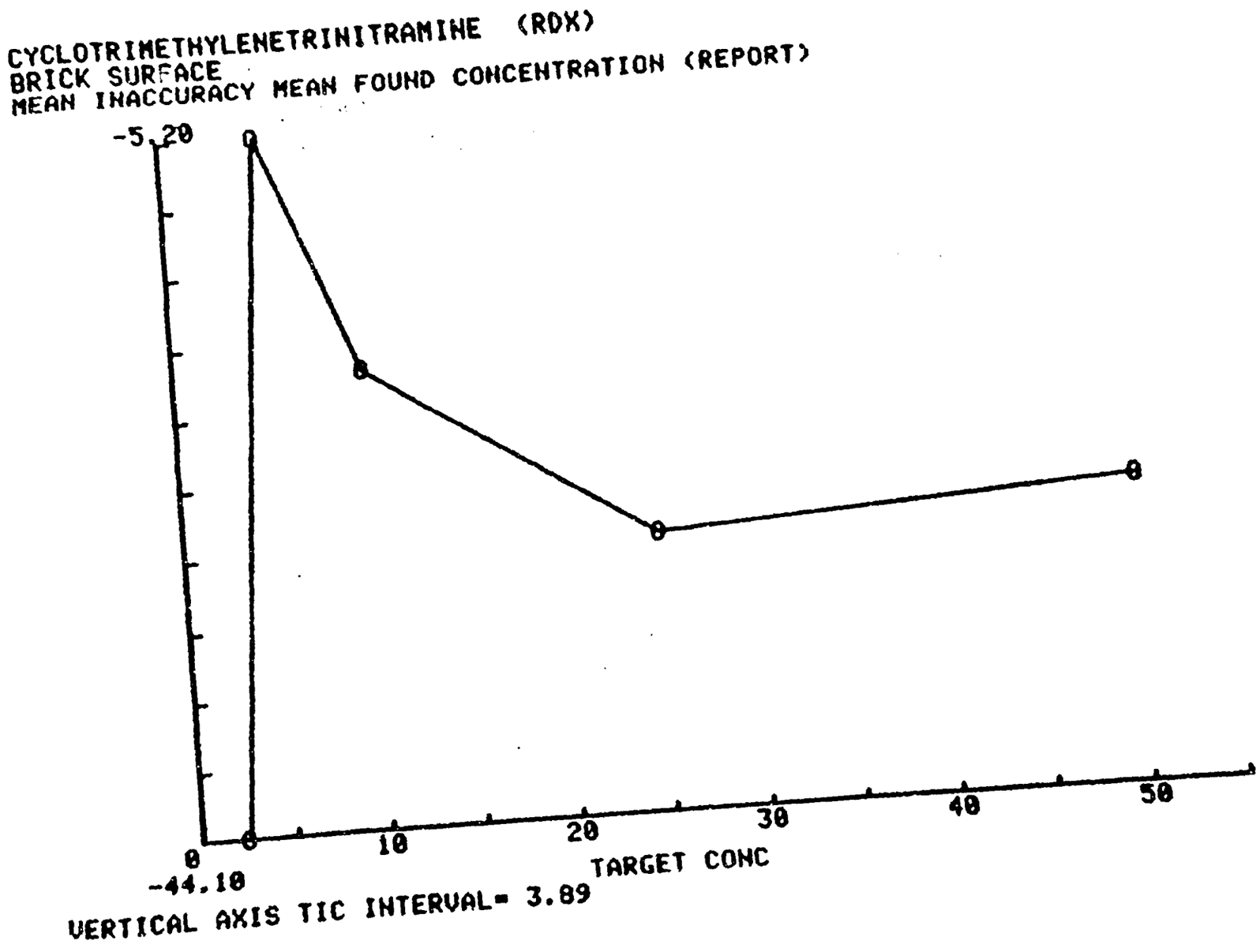

Figure II-26. RDX on Brick - Graph of Inaccuracy

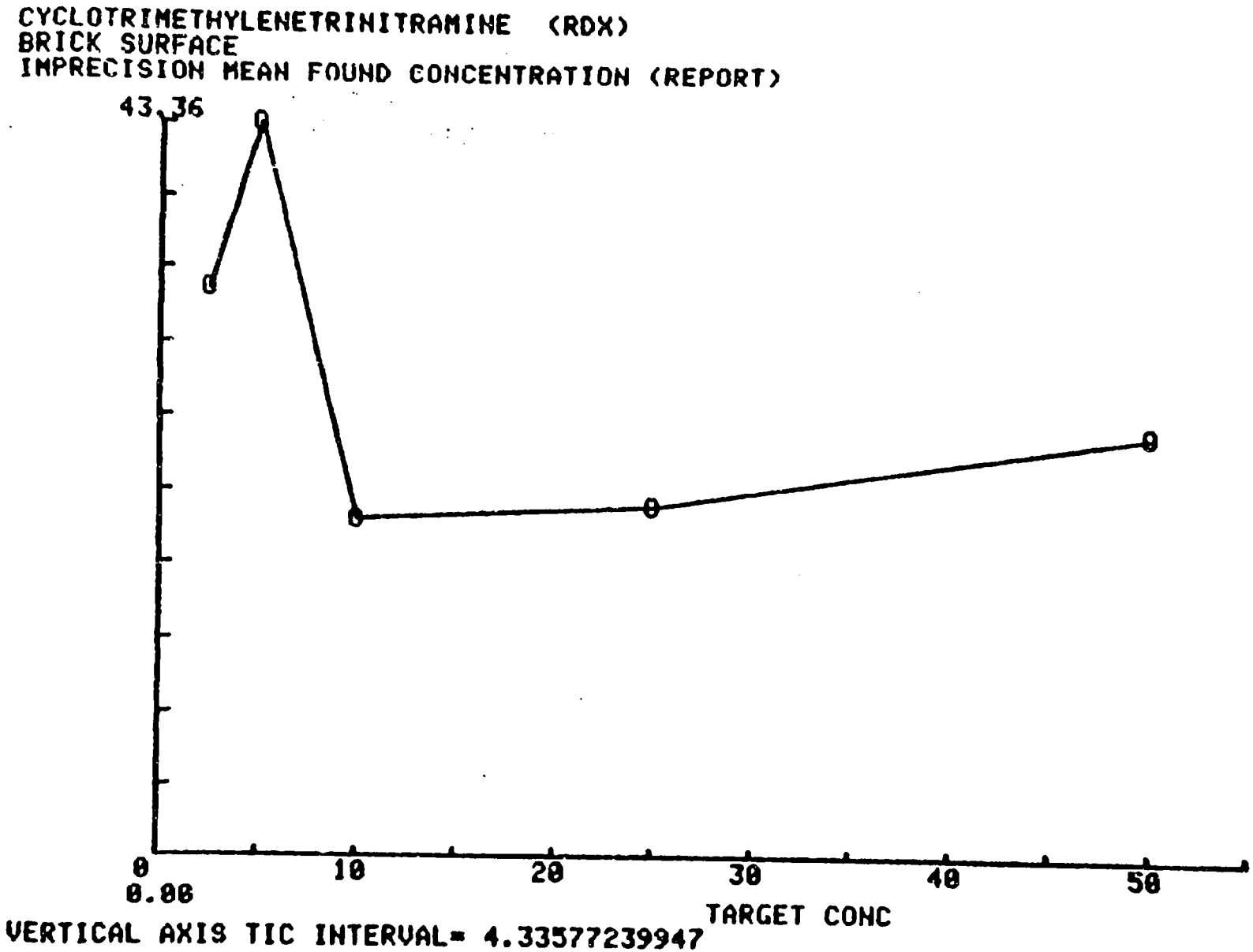

Figure II-27. RDX on Brick - Graph of Imprecision

Table II-29. RDX on Transite - Target vs. Found Concentrations

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.710
	1.640
	1.570
	1.410
5.000	1.610
	3.900
	3.670
	3.480
10.000	2.630
	7.590
	7.150
	7.840
25.000	6.640
	15.830
	19.870
	18.270
50.000	12.540
	39.670
	44.350
	38.070

Table II-30. RDX on Transite - Analysis of Target-Found Concentration Points

```
CYCLOTRIMETHYLENETRINITRAMINE  (RDX)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 11.922  SD= 13.6804811396

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.544051375404
SLOPE= 0.673849614887
 USE FOR ACCURACY
R= 0.888327791599
MEAN SQR DEV OF POINTS FROM REGRESSION= 41.6587590559
ST ERROR EST= 6.45435969372
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 11.2231552201
x(d)= 34.829209243
```

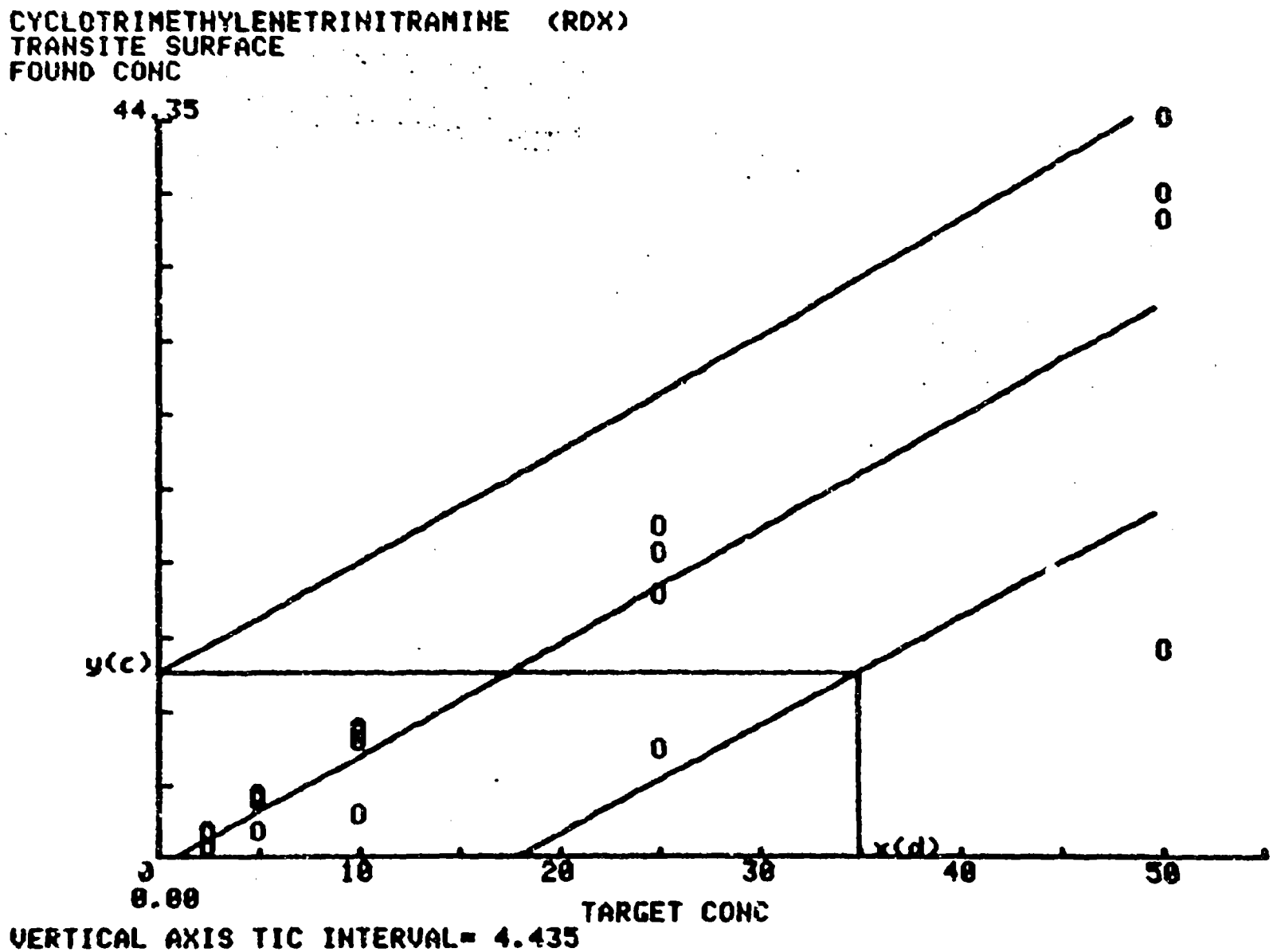

Figure II-28. RDX on Transite - Graph of Target-Found Concentration Points

Table II-31. RDX on Transite - Inaccuracy and Imprecision Data

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.333	0.426	-46.700	31.971
5.000	3.165	1.051	-36.700	33.200
10.000	6.303	2.465	-36.975	39.110
25.000	15.153	5.913	-39.390	39.024
50.000	33.658	14.328	-32.685	42.571
Means		4.837	-38.490	37.175

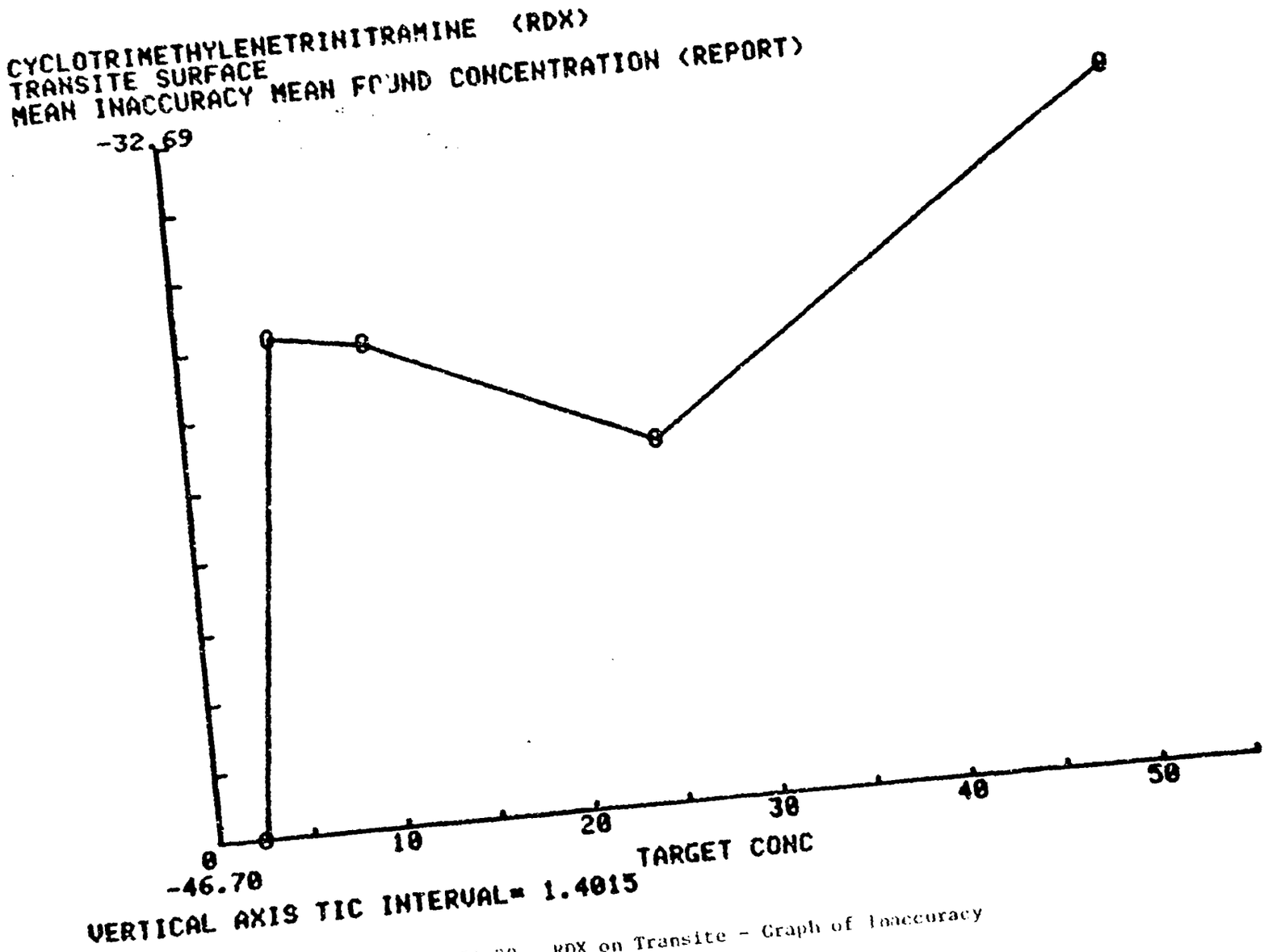

Figure II-29. RDX on Transite - Graph of Inaccuracy

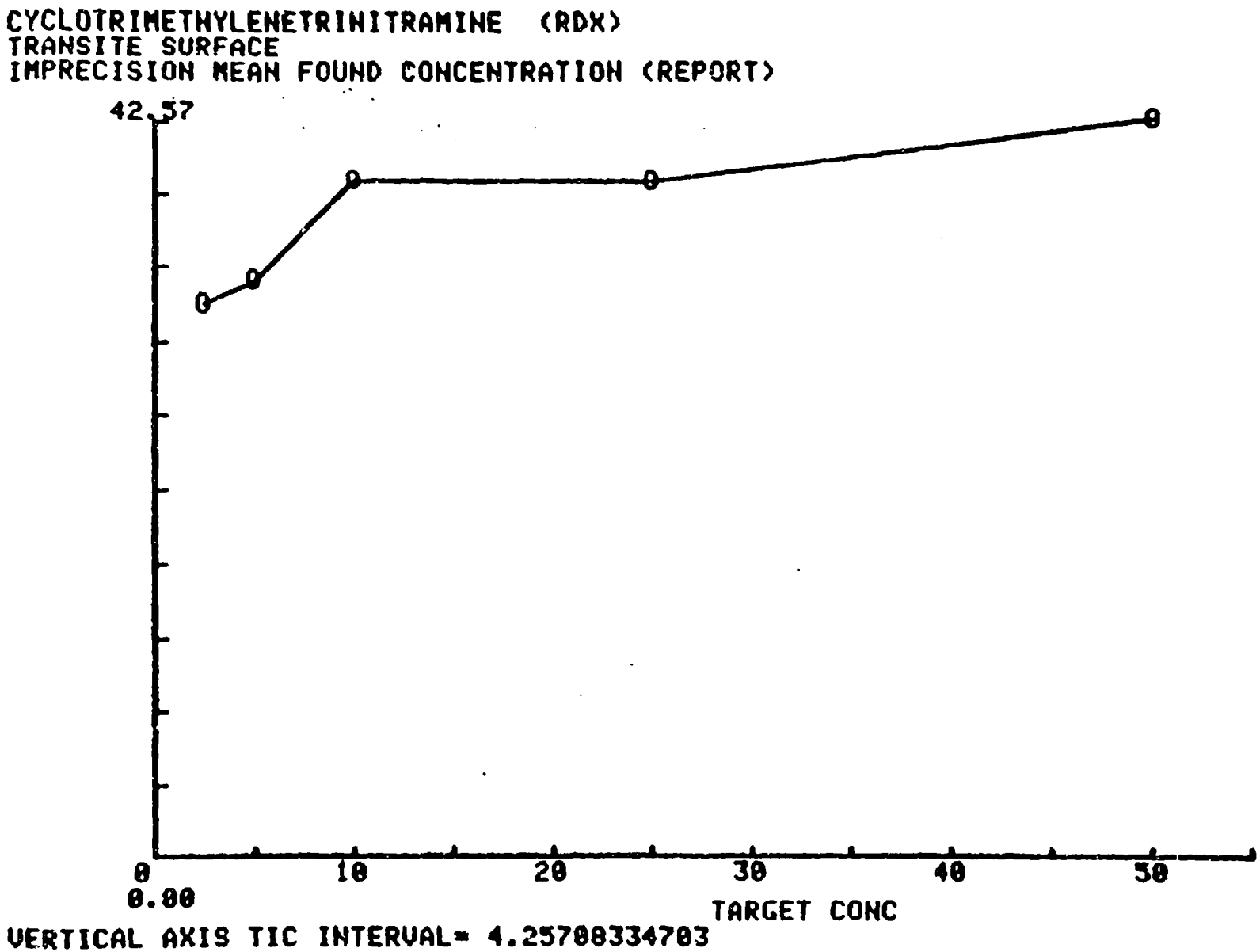

Figure II-30. RDX on Transite - Graph of Imprecision

Table II-32. RDX on Transite (3 days) - Target vs. Found Concentrations

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.640 1.570 1.410
5.000	3.900 3.670 3.480
10.000	7.590 7.150 7.840
25.000	15.830 19.870 18.270
50.000	39.670 44.350 38.070

Table II-33. RDX on Transite (3 days) - Analysis of Target-Found Concentration Points

```
CYCLOTRIMETHYLENETRINITRAMINE  (RDX)
TRANSITE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 14.2873333333  SD= 14.9412293751

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.806491370011
SLOPE= 0.815882416397
 USE FOR ACCURACY
R= 0.993578286336
MEAN SQR DEV OF POINTS FROM REGRESSION= 3.07780840387
ST ERROR EST= 1.75436837747
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 2.51147198116
x(d)= 8.84284789281
```

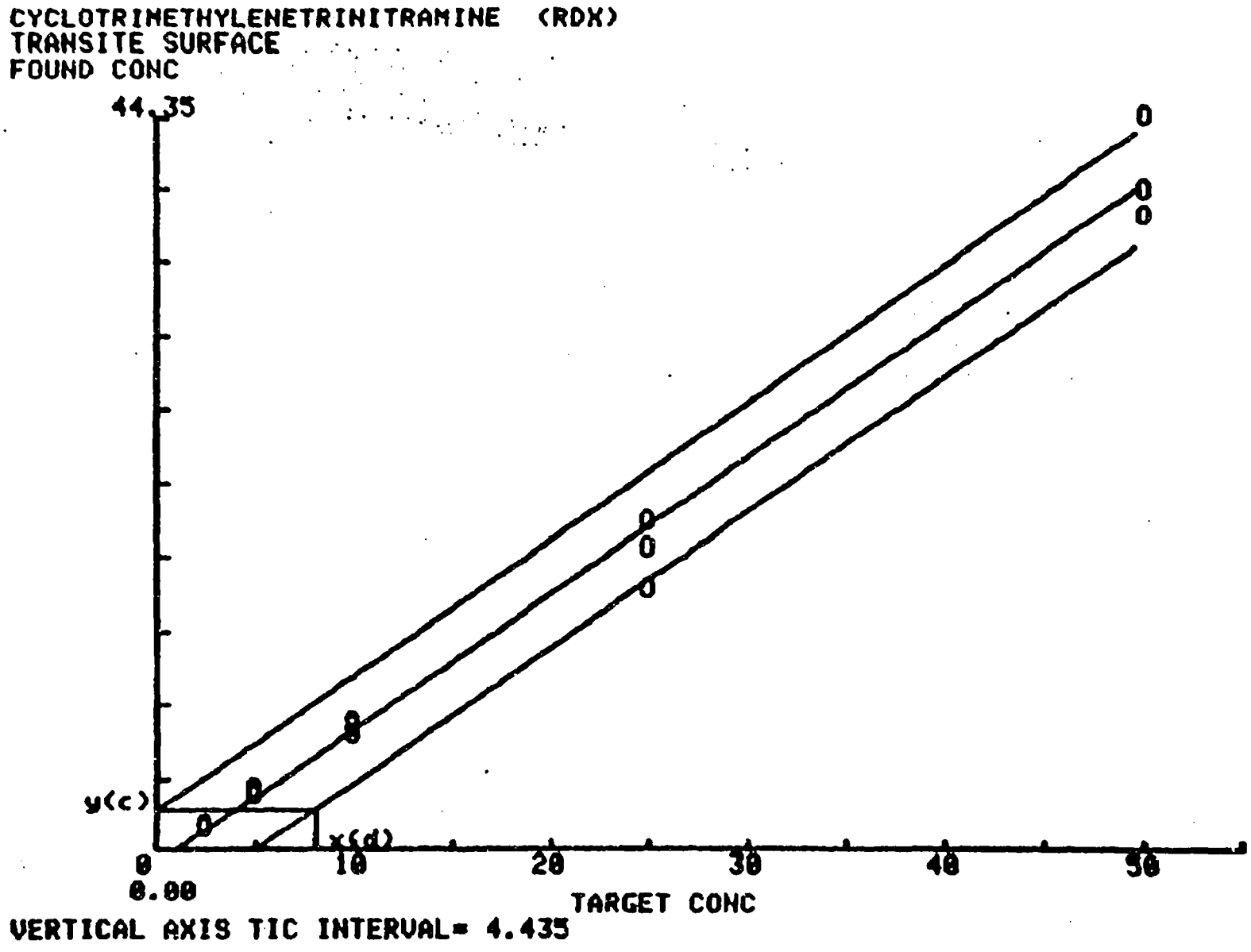

Figure II-31. RDX on Transite (3 days) - Graph of Target-Found Concentration Points

Table II-34. RDX on Transite (3 days) - Inaccuracy and Imprecision Data

CYCLOTRIMETHYLENETRINITRAMINE (RDX)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.540	0.118	-38.400	7.656
5.000	3.683	0.210	-26.333	5.710
10.000	7.527	0.349	-24.733	4.641
25.000	17.990	2 035	-28.040	11.309
50.000	40.697	3.263	-18.607	8.019
Means		1.195	-27.223	7.467

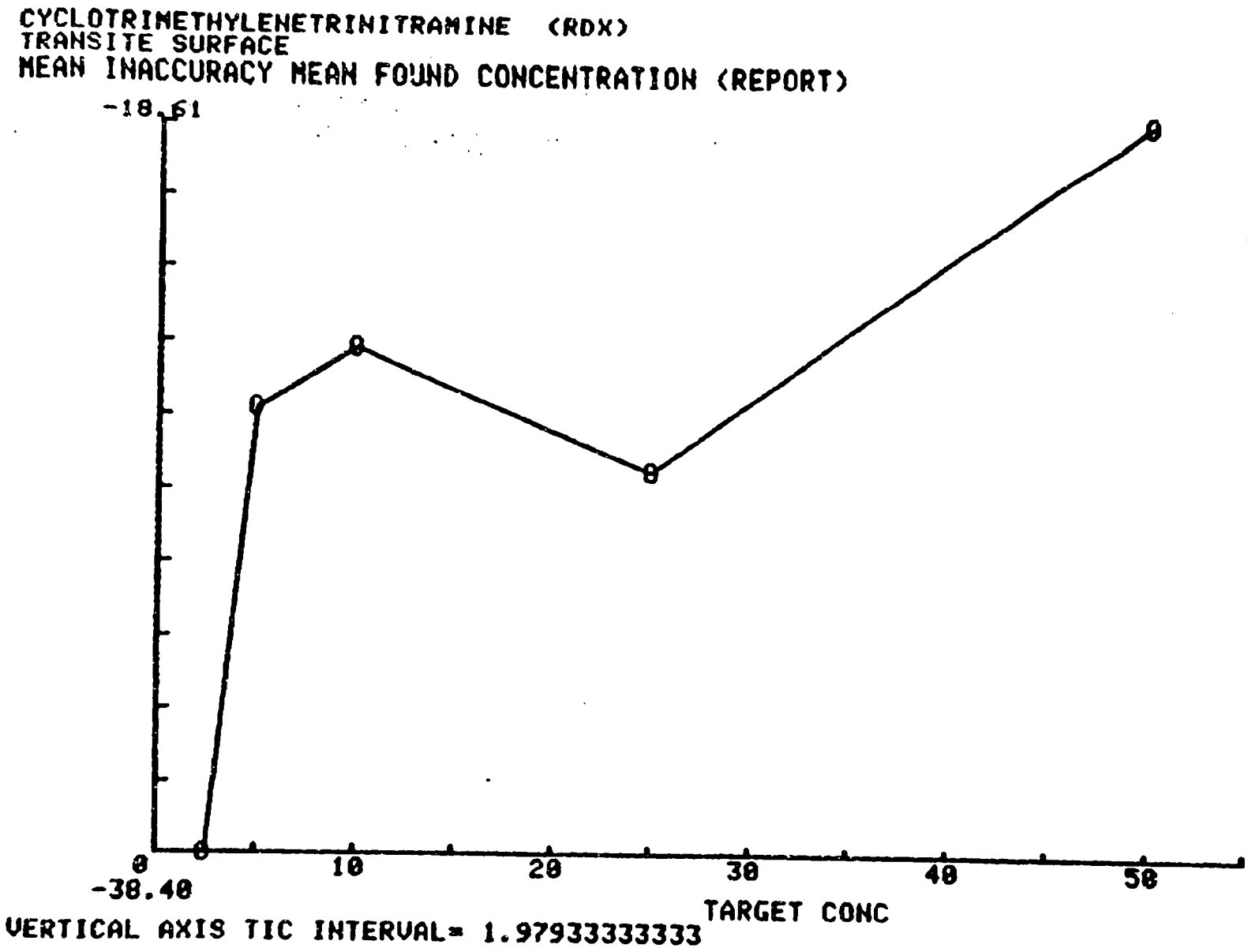

Figure II-32. RDX on Transite (3 days) - Graph of Inaccuracy

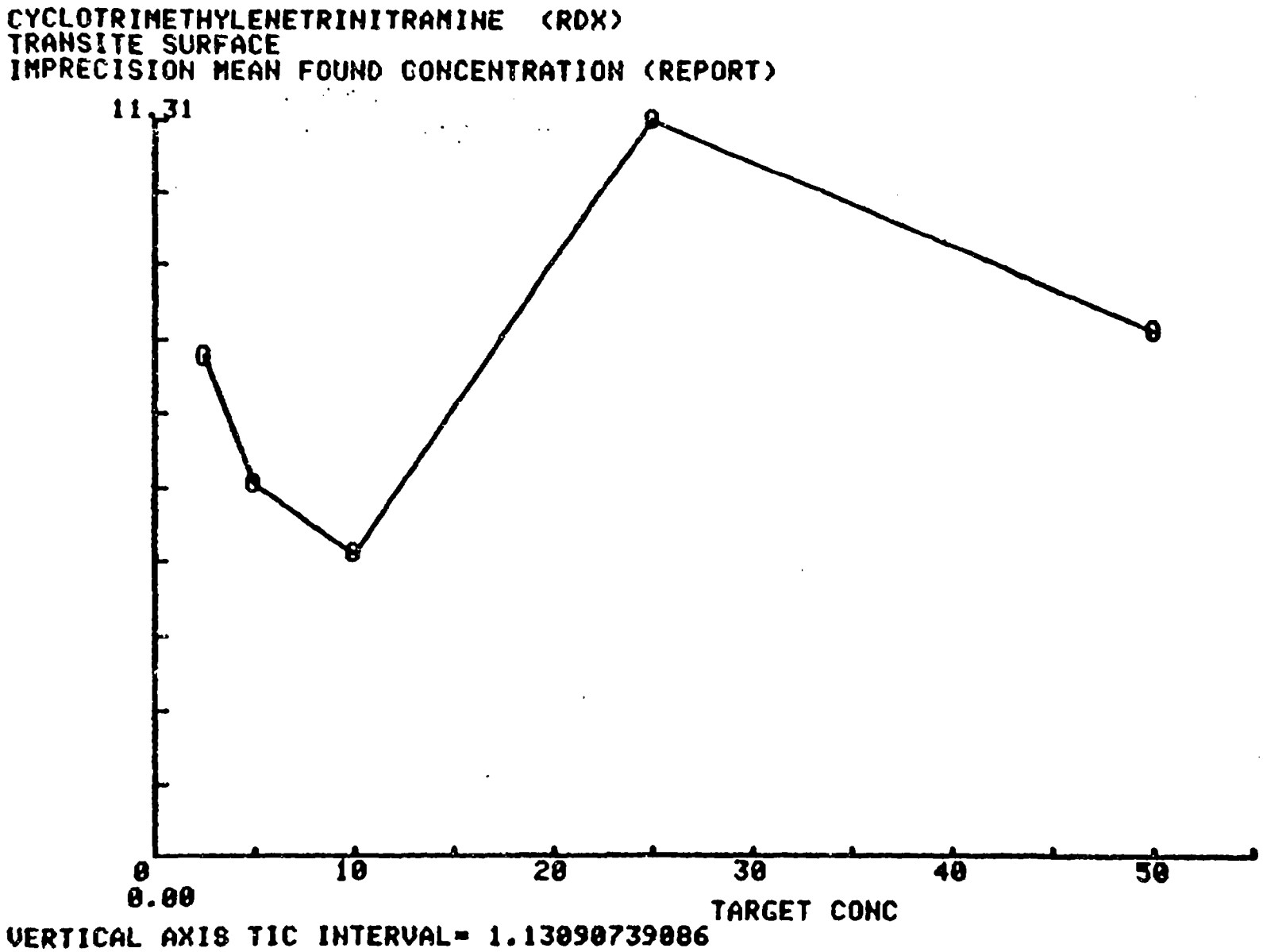

Figure II-33. RDX on Transite (3 days) - Graph of Imprecision

Table II-35. TNB on Metal - Target vs. Found Concentrations

1,3,5-TRINITROBENZENE (135TNB)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.130
	2.290
	2.280
	2.470
5.000	3.690
	4.460
	4.740
	4.820
10.000	9.380
	8.150
	9.600
	10.190
25.000	23.560
	23.480
	25.550
	24.340
50.000	46.760
	47.630
	46.340
	48.390

Table II-36. TNB on Metal - Analysis of Target-Found Concentration Points

```
1,3,5-TRINITROBENZENE (135TNB)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 17.5125  SD= 17.1872997405

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.102313915858
SLOPE= 0.95215210356
 USE FOR ACCURACY
R= 0.999116467986
MEAN SQR DEV OF POINTS FROM REGRESSION= 0.550752890156
ST ERROR EST= 0.742127273556
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 1.25068860685
x(d)= 2.83188868416
```

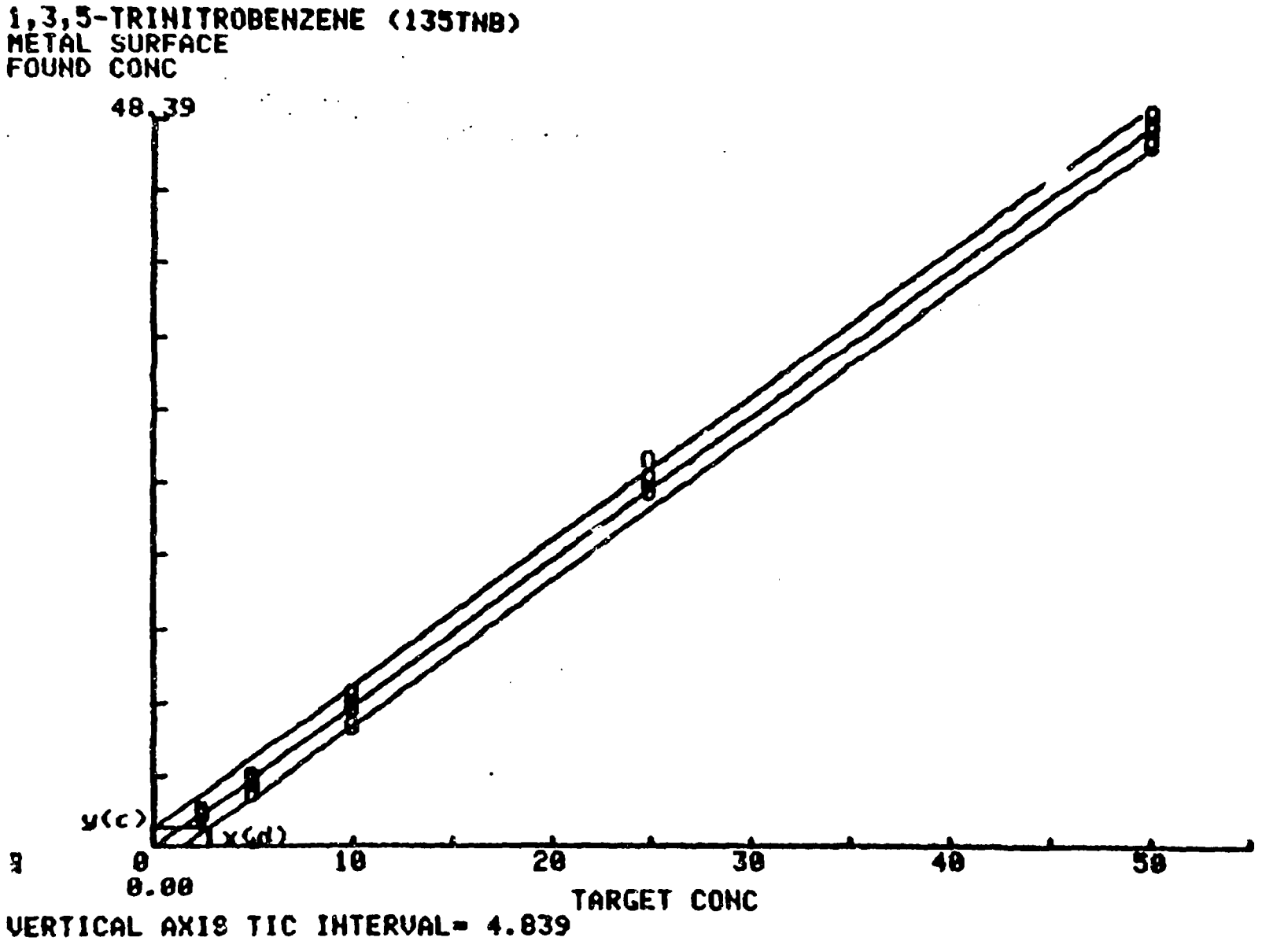

Figure II-34. TNB on Metal - Graph of Target-Found Concentration Points

Table II-37. TNB on Metal - Inaccuracy and Imprecision Data

1,3,5-TRINITROBENZENE (135TNB)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.293	0.139	-8.300	6.069
5.000	4.428	0.515	-11.450	11.639
10.000	9.330	0.858	-6.700	9.194
25.000	24.233	0.960	-3.070	3.962
50.000	47.280	0.914	-5.440	1.934
Means		0.677	-6.992	6.560

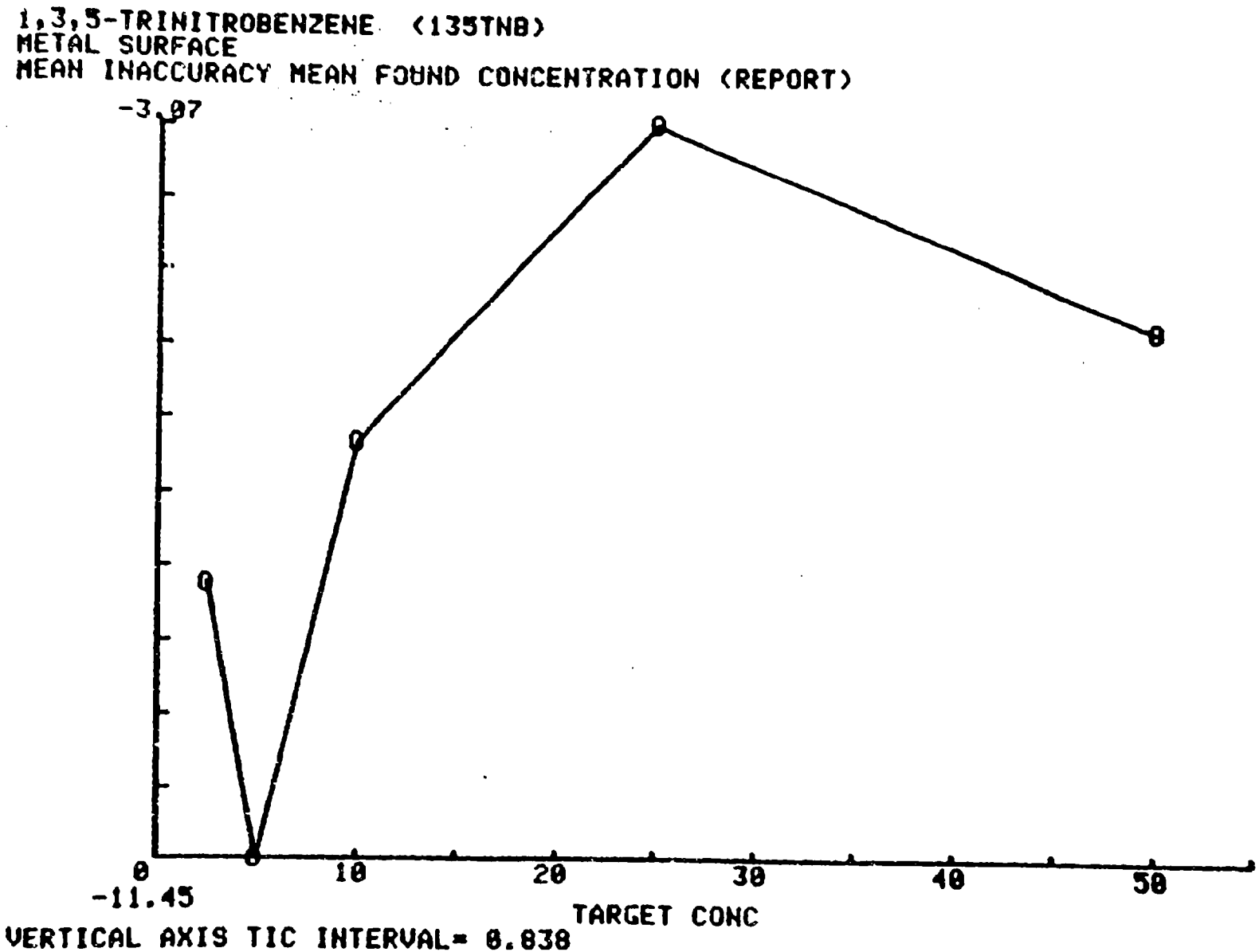

Figure II-35. TNB on Metal - Graph of Inaccuracy

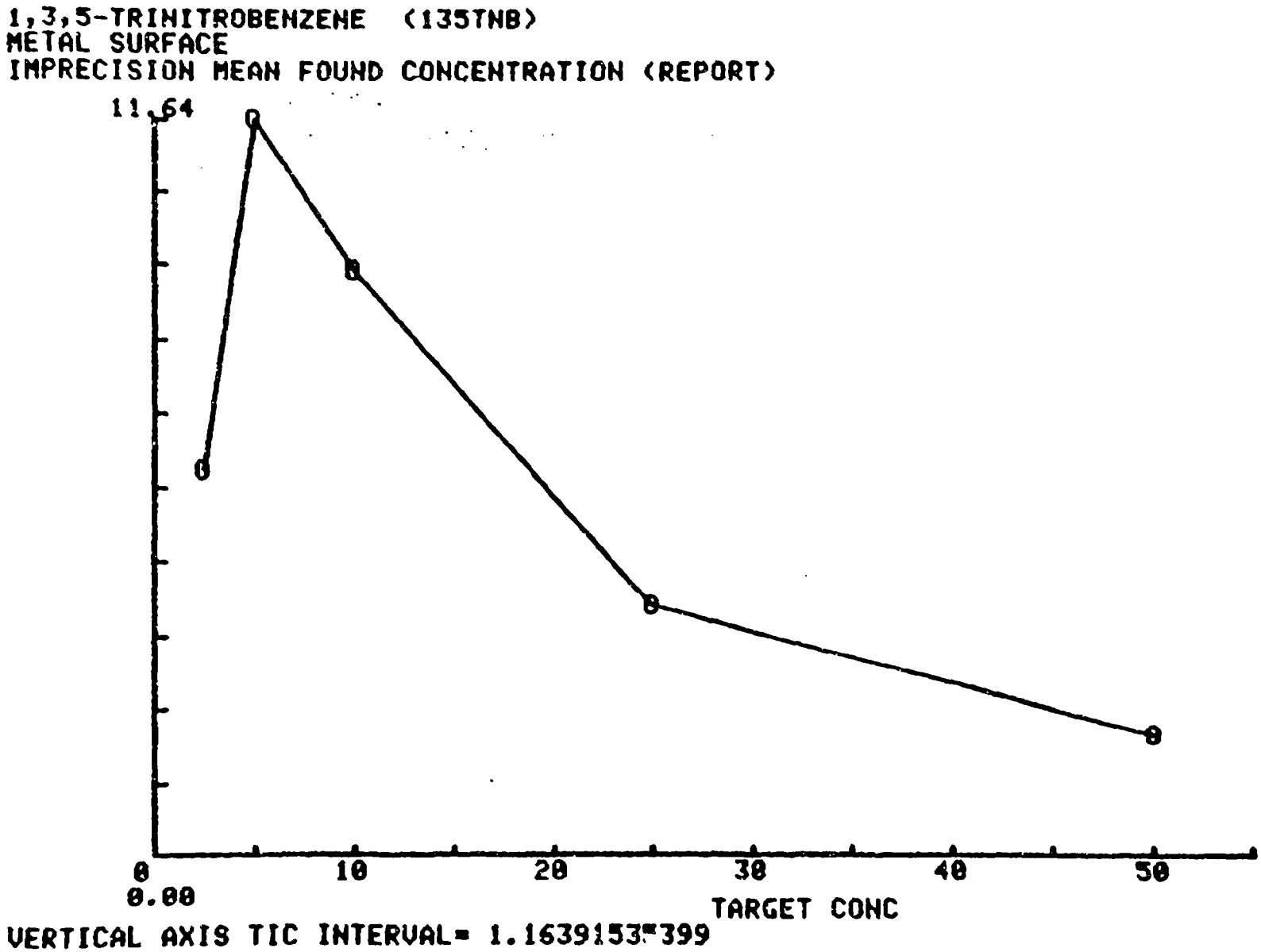

Figure II-36. TNB on Metal - Graph of Imprecision

Table II-38. TNB on Concrete - Target vs. Found Concentrations

1,3,5-TRINITROBENZENE (135TNB)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.950 1.920 2.090 1.800
5.000	3.160 3.510 5.120 3.690
10.000	5.880 7.170 8.570 7.620
25.000	20.890 22.660 20.540 17.150
50.000	38.570 42.370 34.610 34.000

Table II-39. TNB on Concrete - Analysis of Target-Found Concentration Points

```
1,3,5-TRINITROBENZENE  (135TNB)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 14.1635  SD= 13.7366717317

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.222028721683
SLOPE= 0.753593042071
 USE FOR ACCURACY
R= 0.989402029999
MEAN SQR DEV OF POINTS FROM REGRESSION= 4.19942063895
ST ERROR EST= 2.04924879869
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 3.95809784769
x(d)= 9.81755206131
```

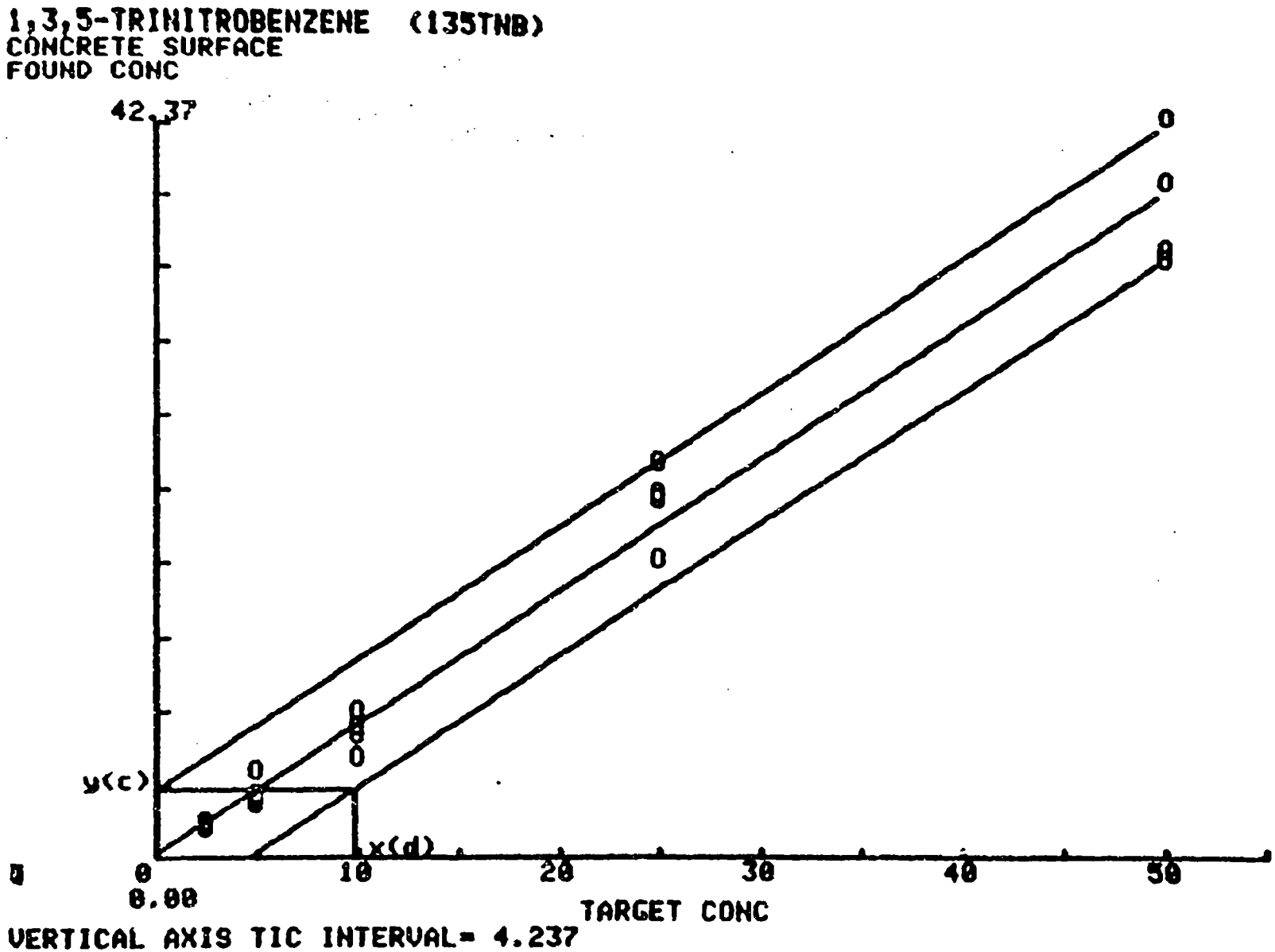

Figure II-37. TNB on Concrete - Graph of Target-Found Concentration Points

Table II-40. TNB on Concrete - Inaccuracy and Imprecision Data

1,3,5-TRINITROBENZENE (135TNB)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.940	0.119	-22.400	6.142
5.000	3.870	0.862	-22.600	22.271
10.000	7.310	1.118	-26.900	15.291
25.000	20.310	2.302	-18.760	11.334
50.000	37.388	3.891	-25.225	10.406
Means		1.658	-23.177	13.089

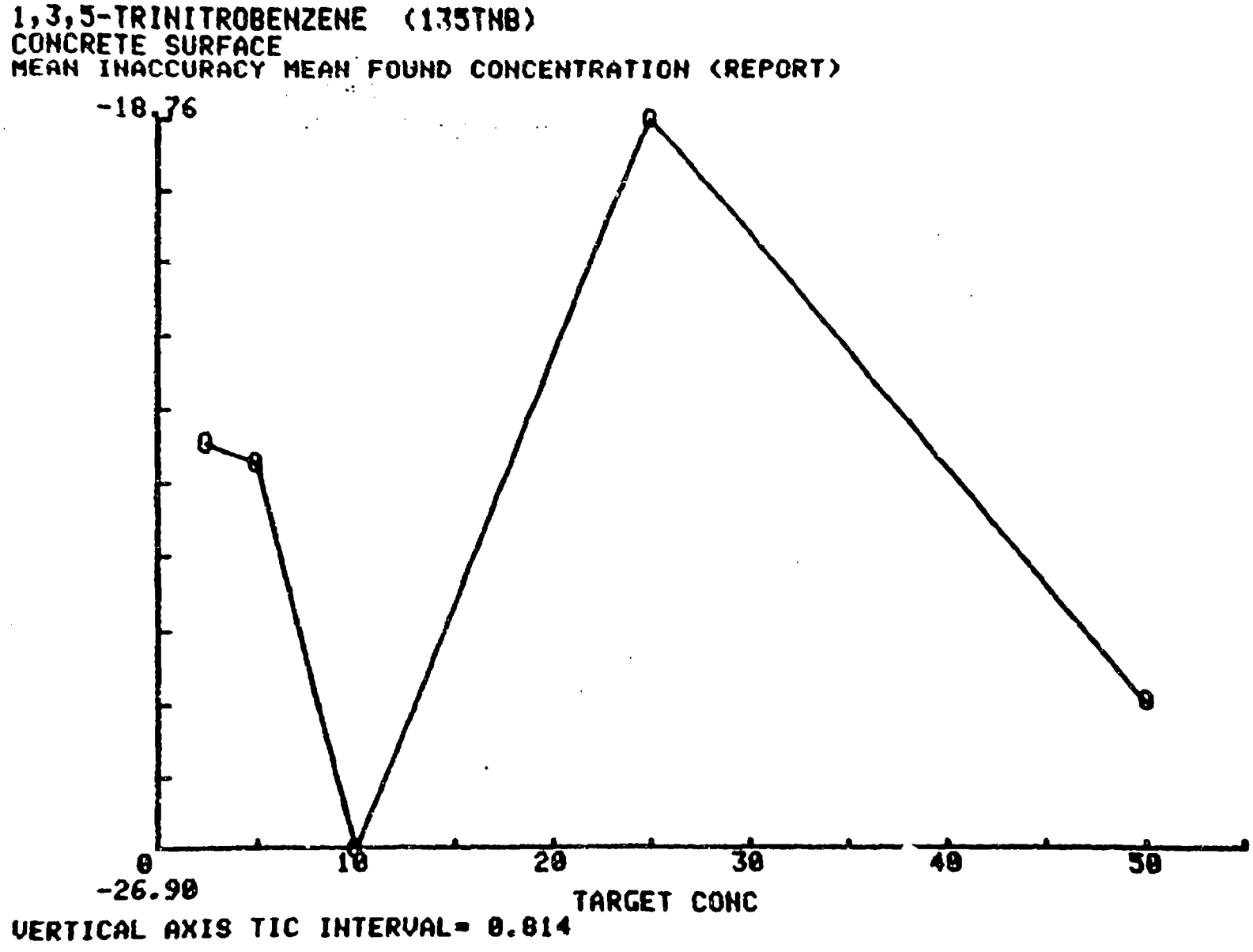

Figure II-38. TNB on Concrete - Graph of Inaccuracy

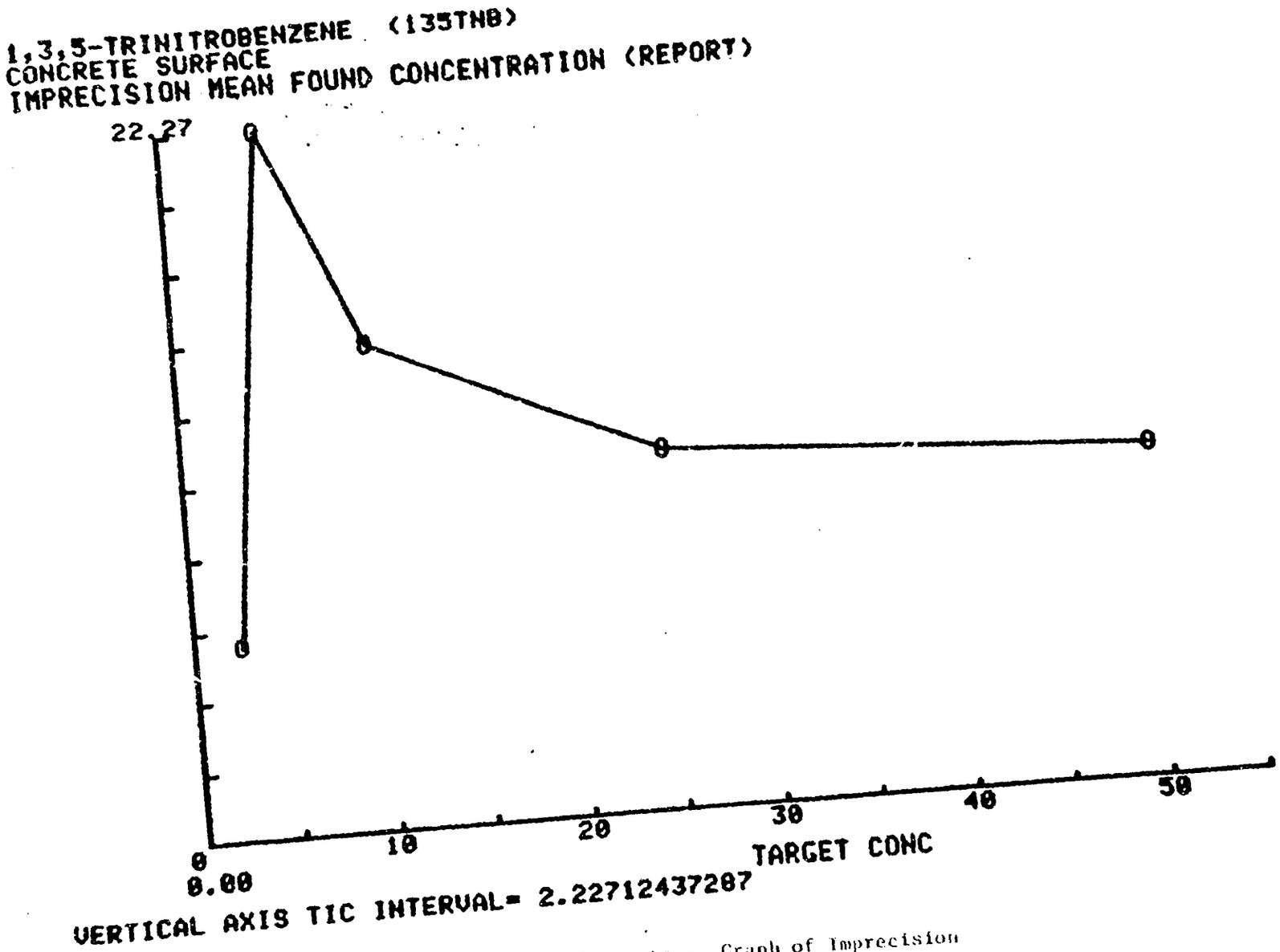

Figure II-39. TNB on Concrete - Graph of Imprecision

Table II-41. TNB on Brick - Target vs. Found Concentrations

1,3,5-TRINITROBENZENE (135TNB)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.390
	2.180
	1.270
	2.340
5.000	2.800
	6.180
	4.090
	4.950
10.000	8.250
	6.340
	7.600
	9.480
25.000	22.460
	14.690
	12.960
	21.150
50.000	39.220
	43.160
	23.840
	43.340

Table II-42. TNB on Brick - Analysis of Target-Found Concentration Points

```
1,3,5-TRINITROBENZENE (135TNB)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.8350535872

FOUND CONC
MEAN= 13.8845  SD= 13.9256762002

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.272975323625
SLOPE= 0.735758090615
 USE FOR ACCURACY
R= 0.952875566024
MEAN SQR DEV OF POINTS FROM REGRESSION= 18.8379829636
ST ERROR EST= 4.3402745263
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 8.18590696298
x(d)= 21.2428137955
```

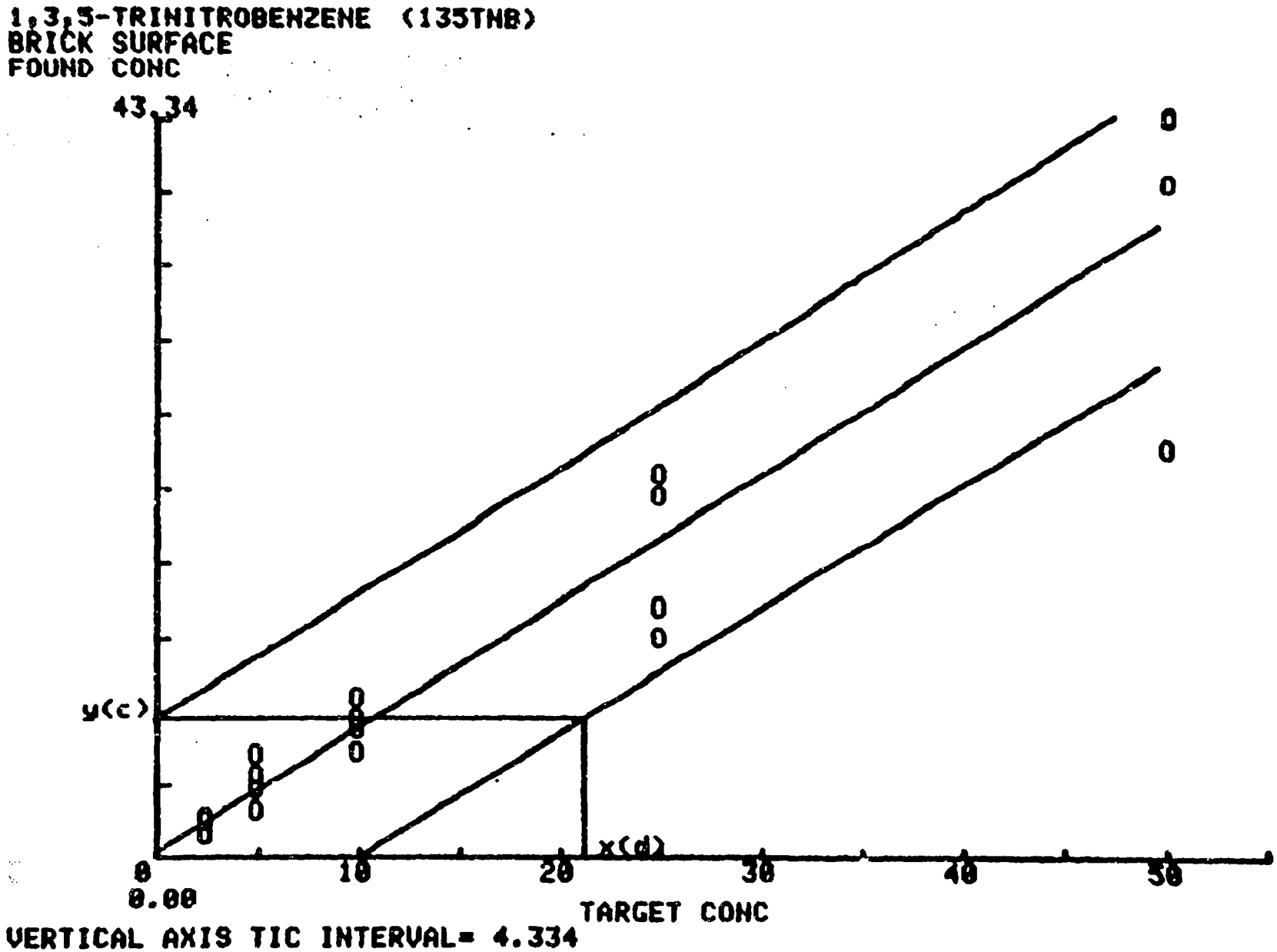

Figure II-40. TNB on Brick - Graph of Target-Found Concentration Points

Table II-43. TNB on Brick - Inaccuracy and Imprecision Data

1,3,5-TRINITROBENZENE (135TNB)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.795	0.543	-28.200	30.257
5.000	4.505	1.424	-9.900	31.608
10.000	7.910	1.309	-20.825	16.534
25.000	17.815	4.692	-28.740	26.335
50.000	37.390	9.231	-25.220	24.689
Means		3.440	-22.577	25.885

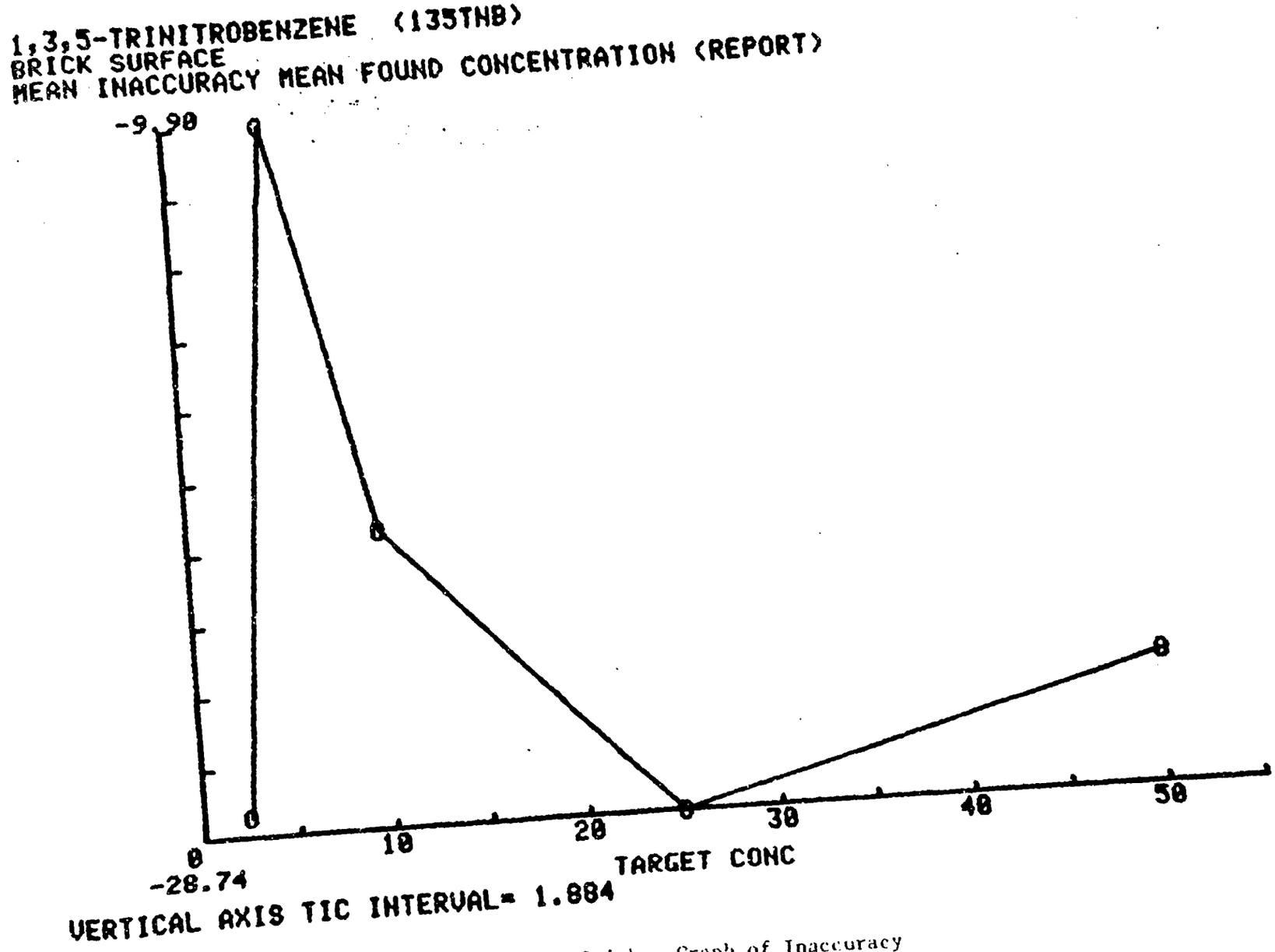

Figure II-41. TNB on Brick - Graph of Inaccuracy

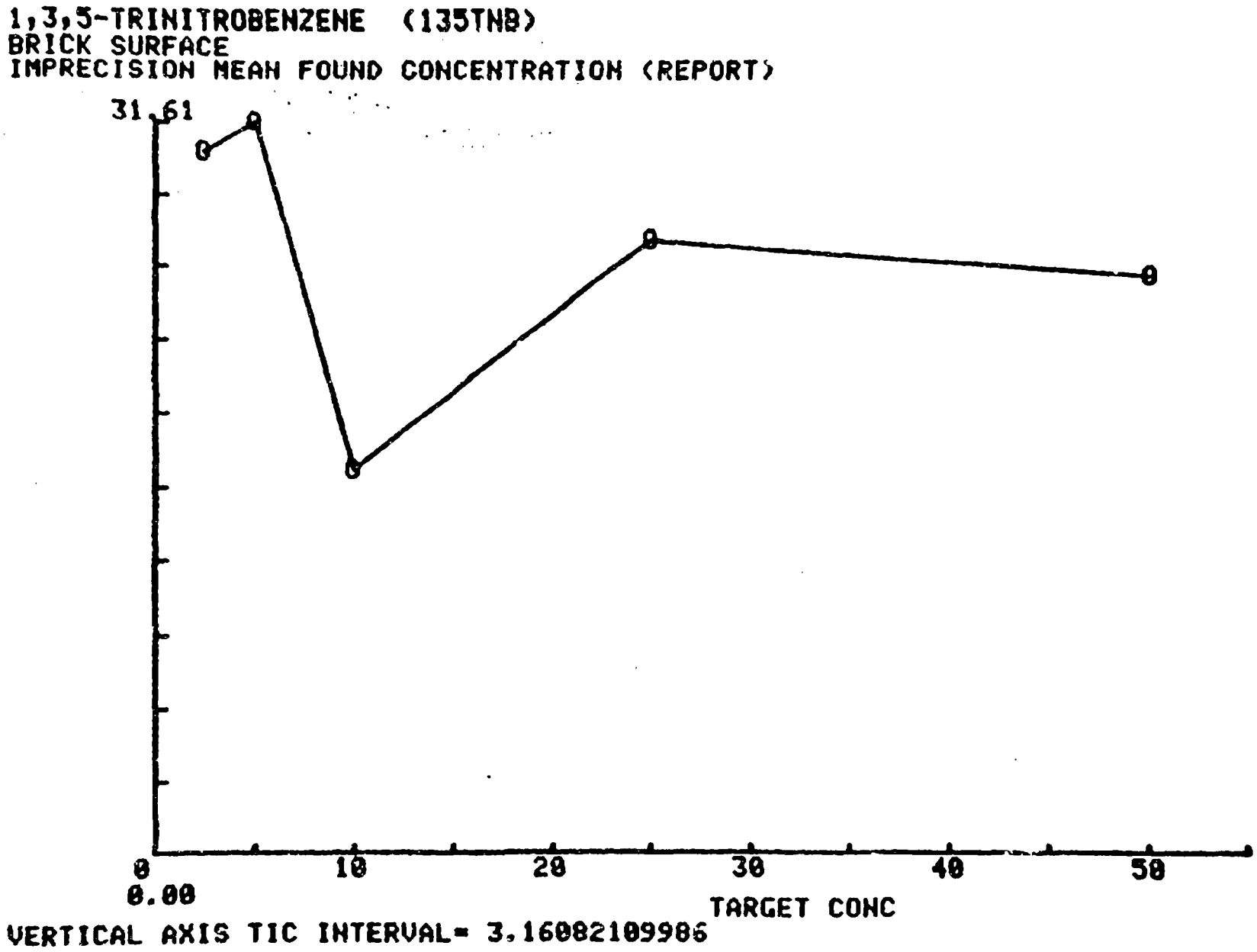

Figure II-42. TNB on Brick - Graph of Imprecision

Table II-44. TNB on Transite - Target vs. Found Concentrations

1,3,5-TRINITROBENZENE (135TNB)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.860
	2.050
	1.780
	1.540
5.000	1.600
	3.760
	4.620
	3.730
10.000	3.270
	8.230
	8.220
	8.140
25.000	6.990
	17.090
	20.220
	18.330
50.000	12.180
	33.330
	34.930
	39.400

Table II-45. TNB on Transite - Analysis of Target-Found Concentration Points

```
1,3,5-TRINITROBENZENE (135TNB)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 11.5135  SD= 12.010847849

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.555752427184
SLOPE= 0.592310679612
 USE FOR ACCURACY
R= 0.889392237864
MEAN SQR DEV OF POINTS FROM REGRESSION= 31.8226365831
ST ERROR EST= 5.64115560786
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 10.840373461
x(d)= 34.6225232479
```

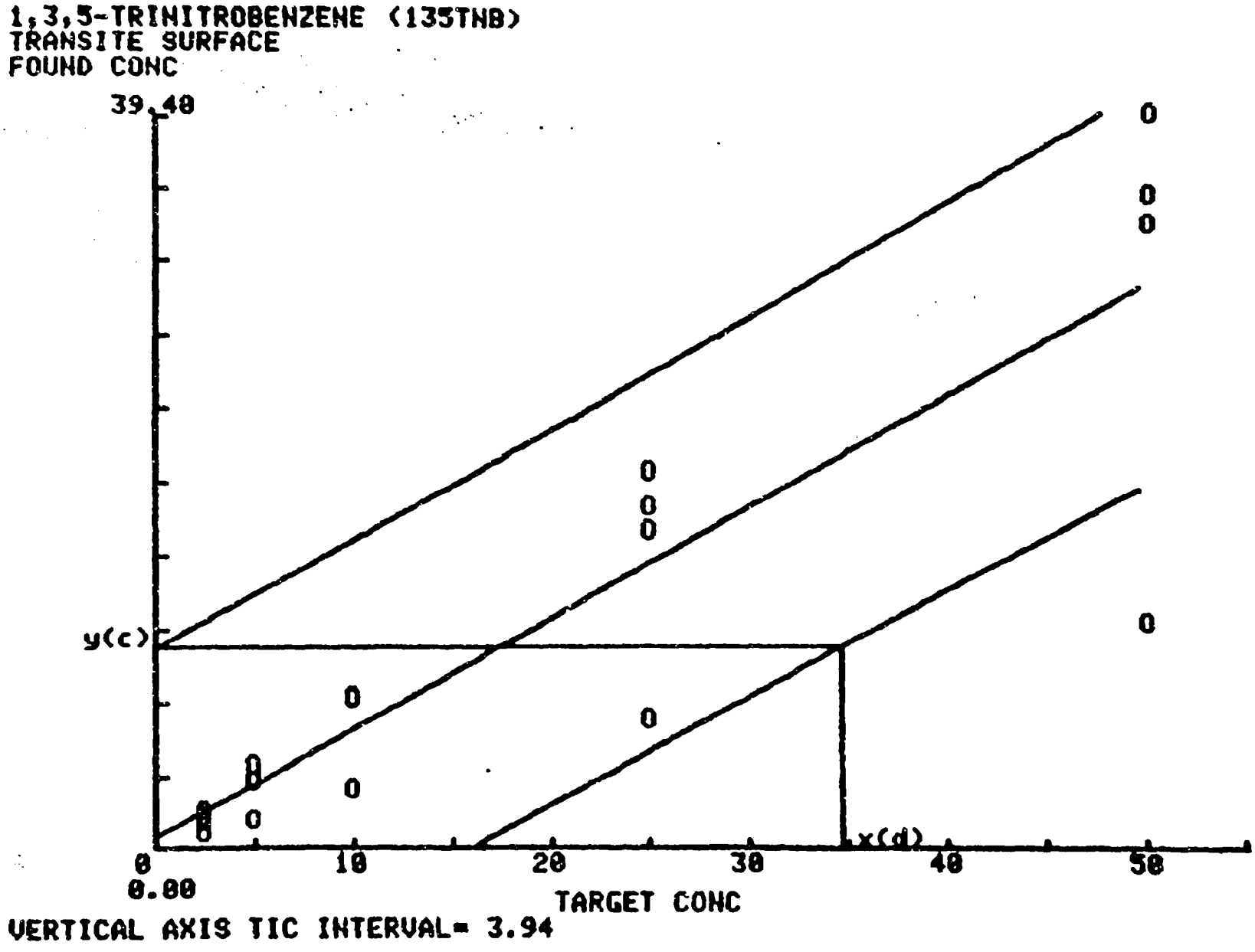

Figure II-43. TNB on Transite - Graph of Target-Found Concentration Points

Table II-46. TNB on Transite - Inaccuracy and Imprecision Data

1,3,5-TRINITROBENZENE (135TNB)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.558	0.510	-37.700	32.715
5.000	3.428	1.286	-31.450	37.529
10.000	6.965	2.464	-30.350	35.372
25.000	15.658	5.920	-37.370	37.889
50.000	29.960	12.128	-40.080	40.482
Means		4.462	-35.390	36.781

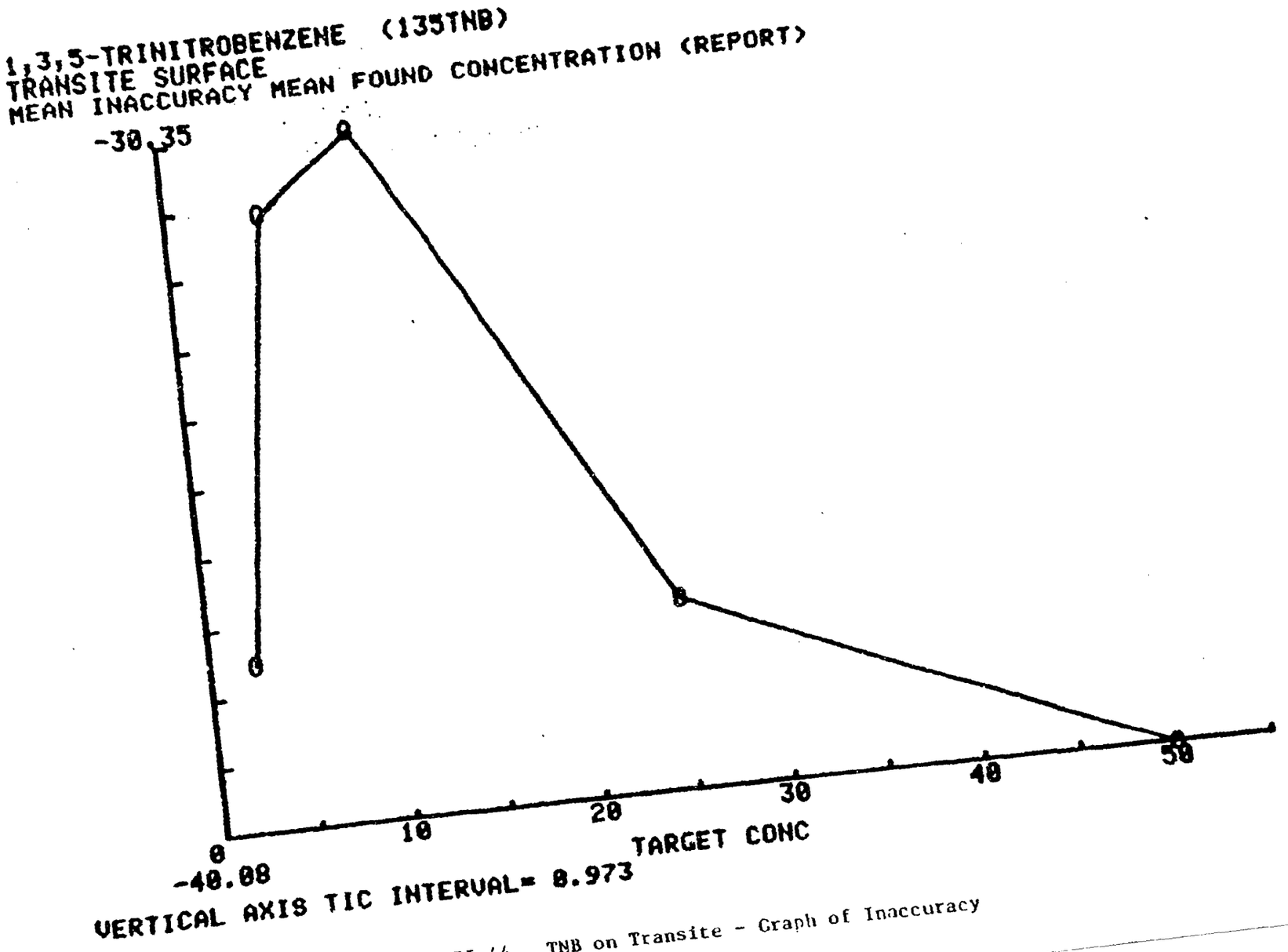

Figure II-44. TNB on Transite - Graph of Inaccuracy

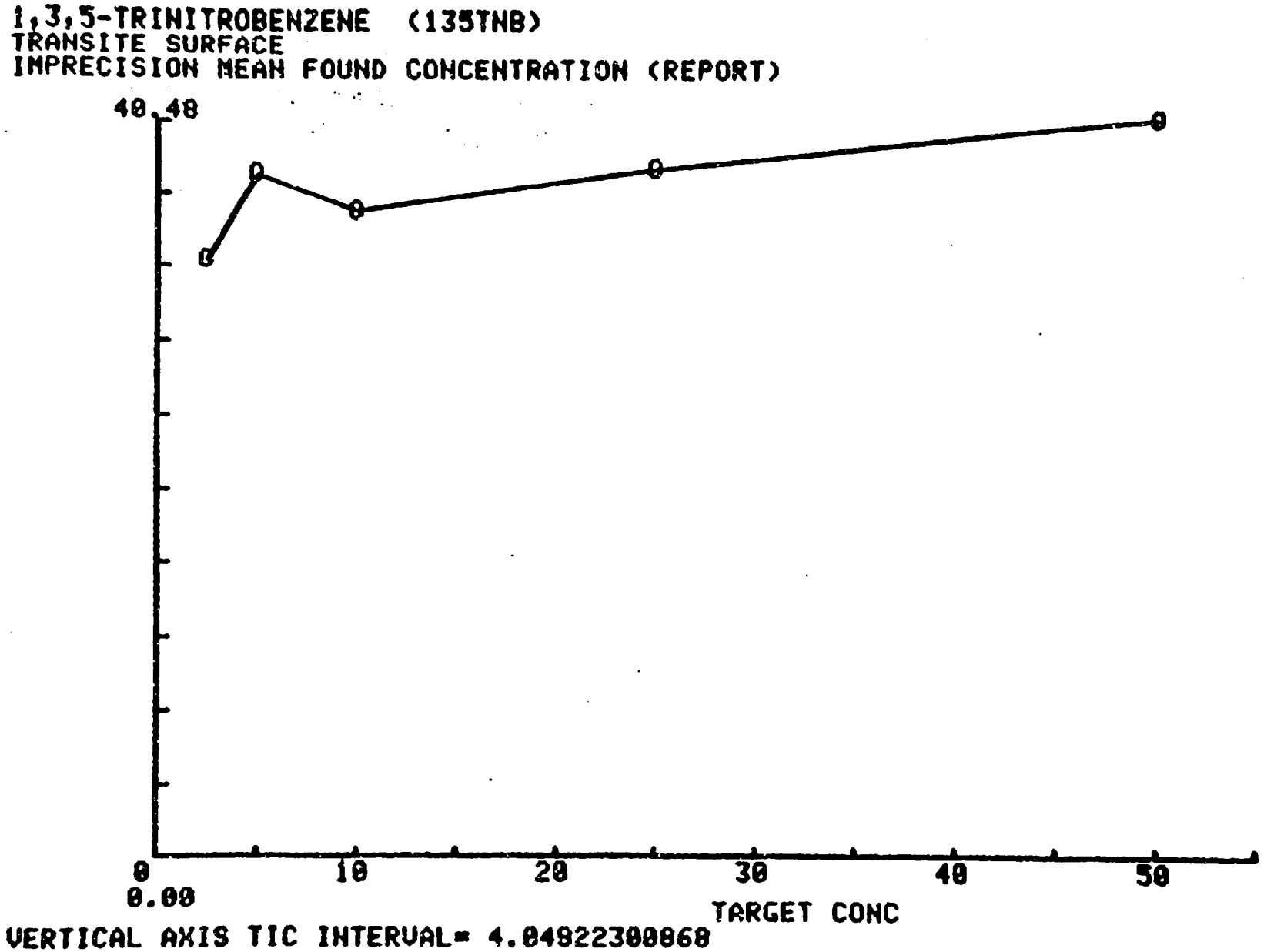

Figure II-45. TNB on Transite - Graph of Imprecision

Table II-47. TNB on Transite (3 days) - Target vs. Found Concentrations

1,3,5-TRINITROBENZENE (135TNB)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.050 1.780 1.540
5.000	3.760 4.620 3.730
10.000	8.230 8.220 8.140
25.000	17.090 20.220 18.330
50.000	33.330 34.930 39.400

Table II-48. TNB on Transite (3 days) - Analysis of Target-Found Concentration Points

```
1,3,5-TRINITROBENZENE (135TNB)
TRANSITE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 13.6913333333  SD= 13.0087014102

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.541645091694
SLOPE= 0.710793959008
 USE FOR ACCURACY
R= 0.994192846865
MEAN SQR DEV OF POINTS FROM REGRESSION= 2.11048858187
ST ERROR EST= 1.45275207171
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 3.28917417064
x(d)= 7.64791513283
```

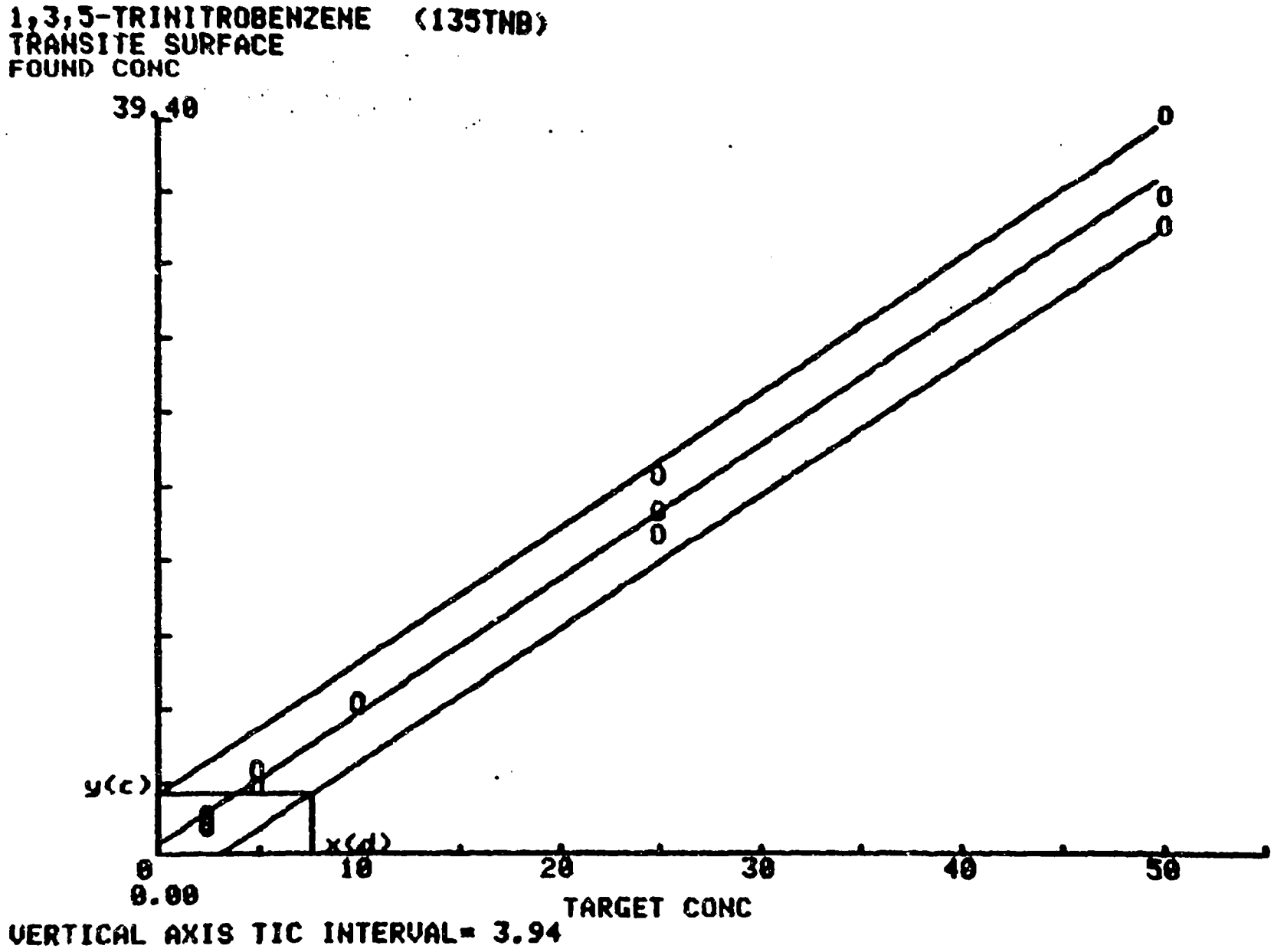

Figure II-46. TNB on Transite (3 days) - Graph of Target-Found Concentration Points

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Table II-49. TNB on Transite (3 days) - Inaccuracy and Imprecision Data

1,3,5-TRINITROBENZENE (135TNB)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.790	0.255	-28.400	14.254
5.000	4.037	0.505	-19.267	12.520
10.000	8.197	0.049	-18.033	0.602
25.000	18.547	1.576	-25.813	8.499
50.000	35.887	3.146	-28.227	8.767
Means		1.106	-23.948	8.928

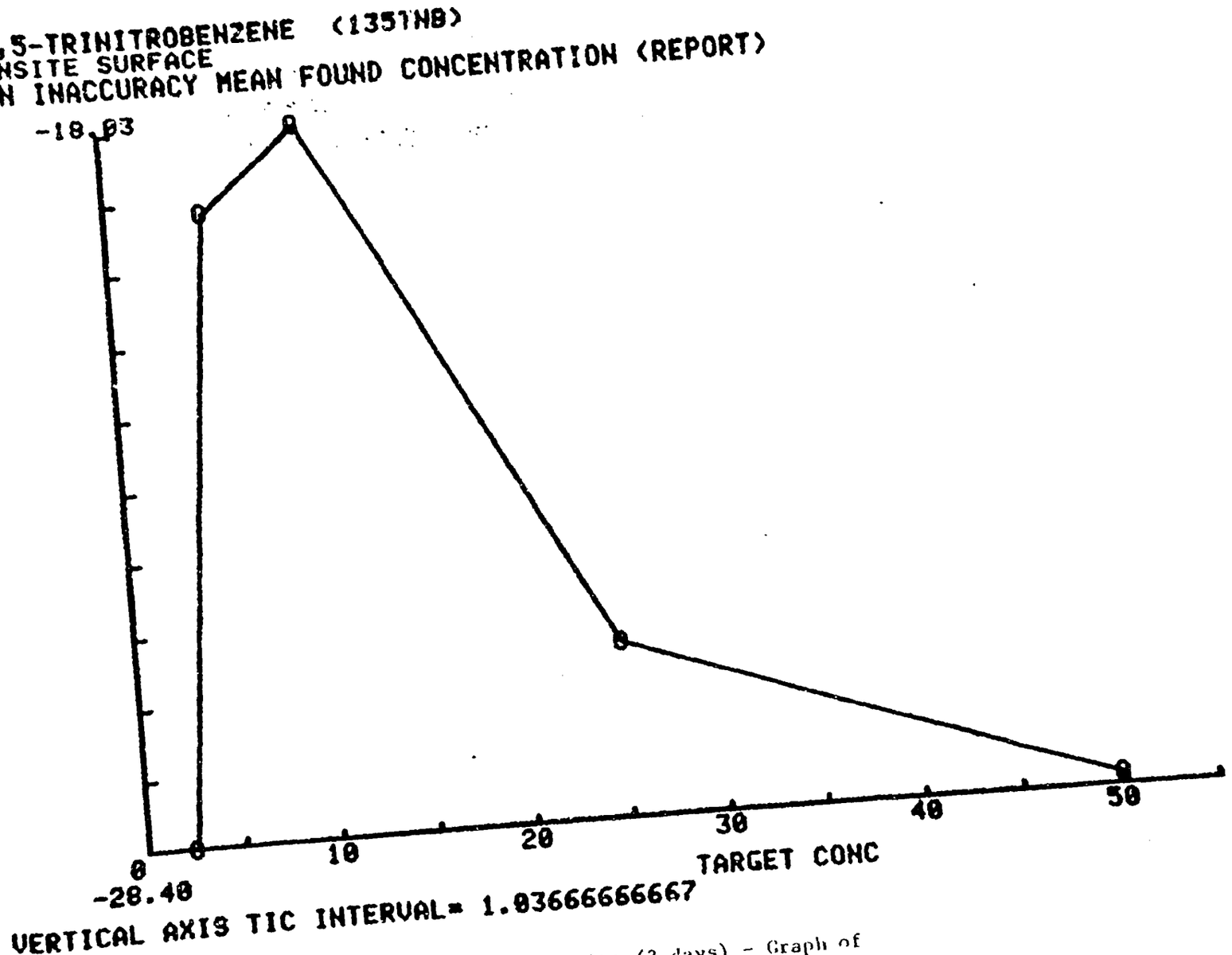

Figure II-47. TNB on Transite (3 days) - Graph of Inaccuracy

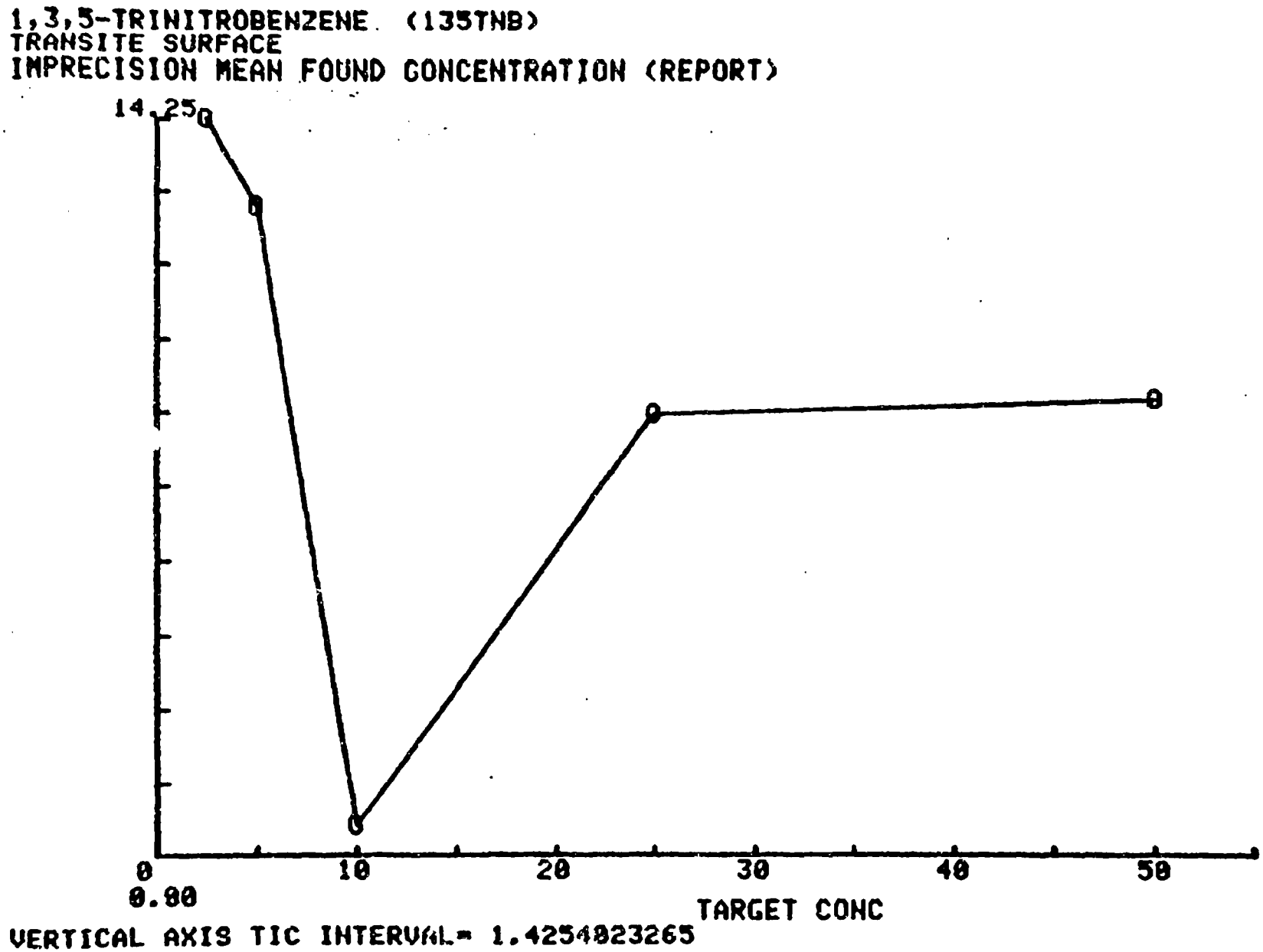

Figure II-48. TNB on Transite - Graph of Imprecision

Table II-50. 2,4-DNT on Metal - Target vs. Found Concentrations

2,4-DINITROTOLUENE (24DNT)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.120
	2.300
	2.480
	2.070
5.000	3.710
	4.370
	4.170
	4.840
10.000	9.020
	8.720
	10.040
	11.180
25.000	21.060
	20.820
	25.960
	21.740
50.000	39.160
	38.400
	45.230
	46.510

Table II-51. 2,4-DNT on Metal - Analysis of Target-Found Concentration Points

```
2,4-DINITROTOLUENE  (24DNT)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 16.192  SD= 15.3408483262

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.59741302589
SLOPE= 0.842950647249
 USE FOR ACCURACY
R= 0.990992138847
MEAN SQR DEV OF POINTS FROM REGRESSION= 4.45523971932
ST ERROR EST= 2.11974387819
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 4.44559634128
x(d)= 9.04498923486
```

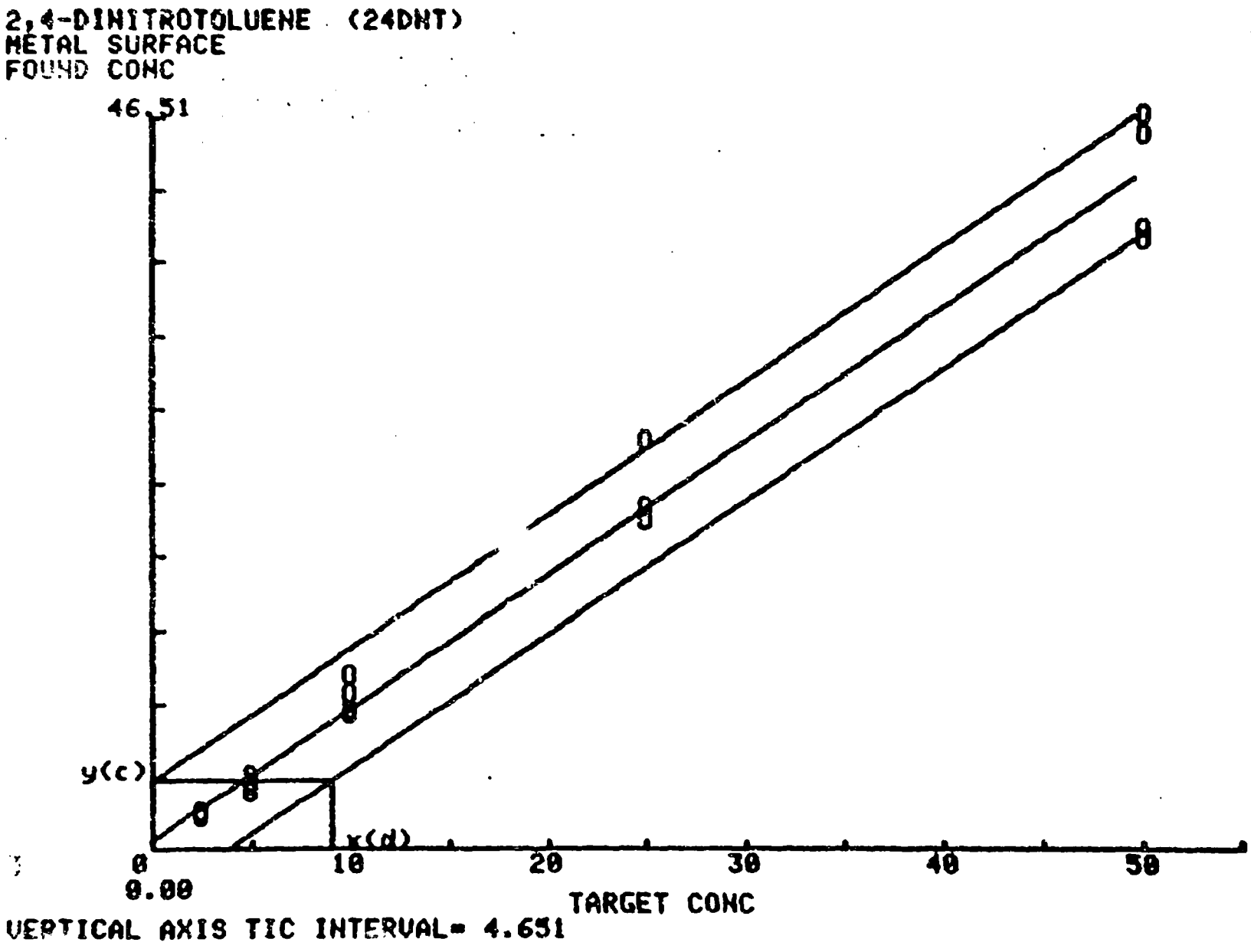

Figure II-49. 2,4-DNT on Metal - Graph of Target-Found Concentration Points

Table II-52. 2,4-DNT on Metal - Inaccuracy and Imprecision Data

2,4-DINITROTOLUENE (24DNT)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.243	0.187	-10.300	8.322
5.000	4.273	0.468	-14.550	10.965
10.000	9.740	1.114	-2.600	11.436
25.000	22.380	2.420	-10.480	10.812
50.000	42.325	4.138	-15.350	9.777
Means		1.665	-10.656	10.263

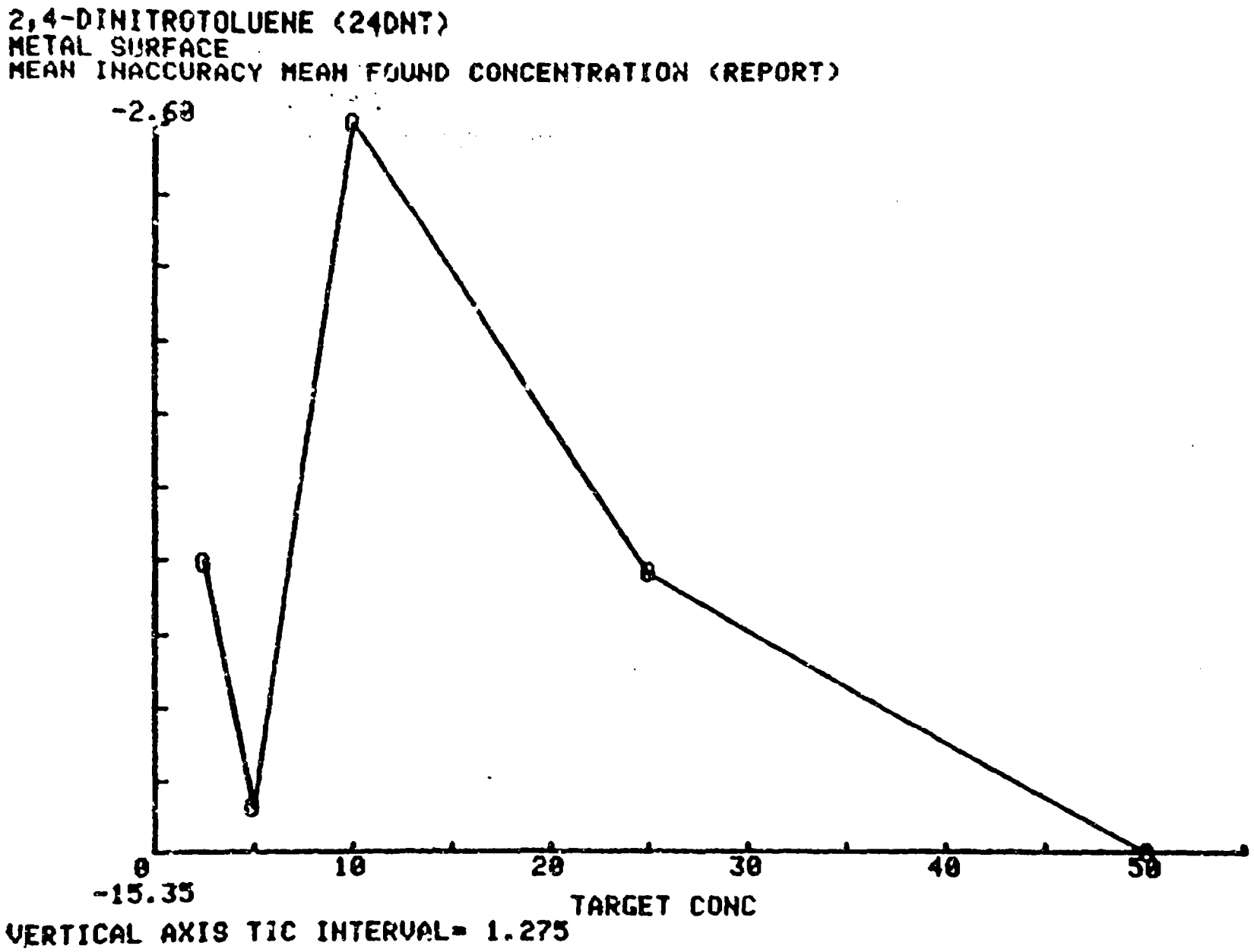

Figure II-50. 2,4-DNT on Metal - Graph of Inaccuracy

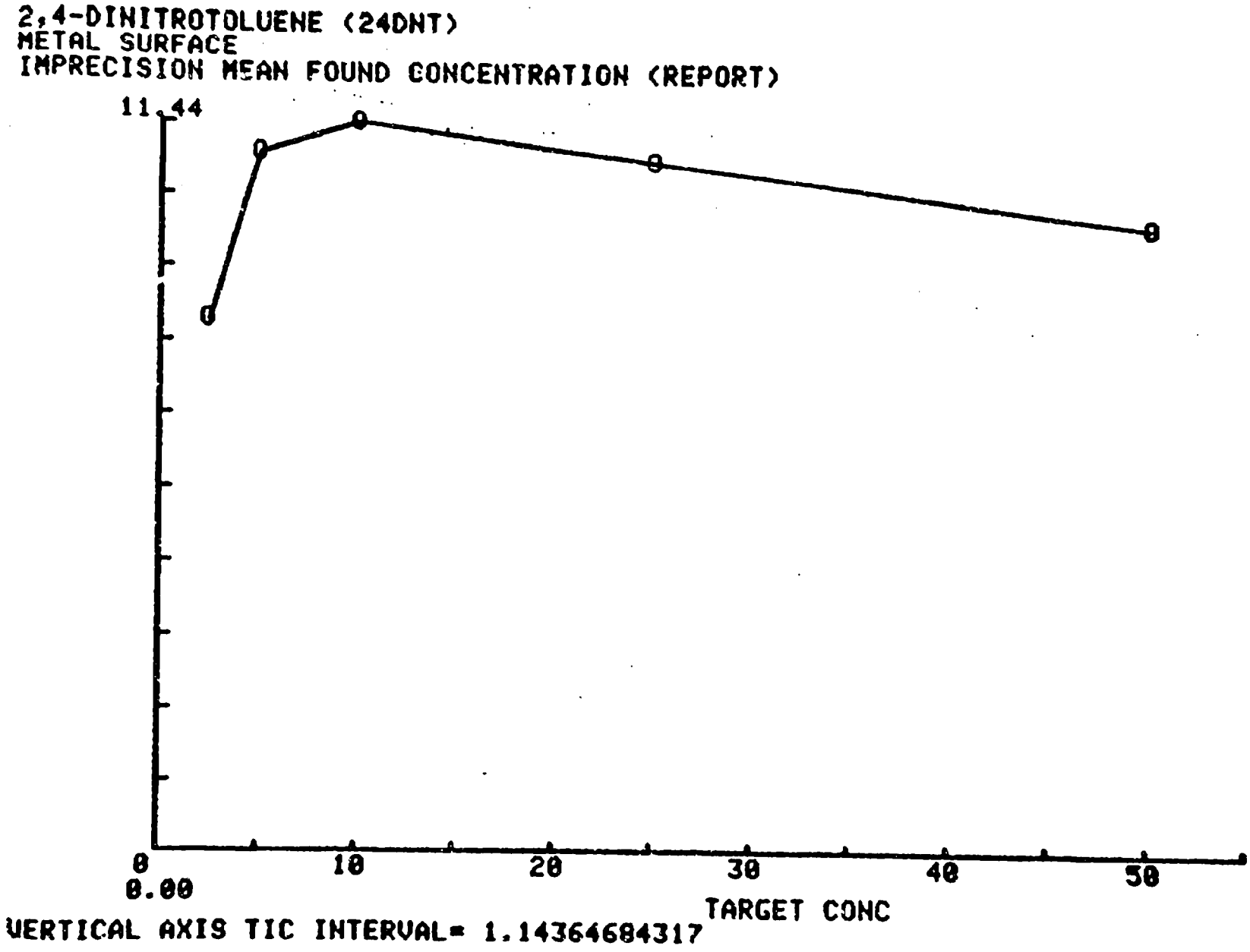

Figure II-51. 2,4-DNT on Metal - Graph of Imprecision

Table II-53. 2,4-DNT on Concrete - Target vs. Found Concentrations

2,4-DINITROTOLUENE (24DNT)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.530
	2.140
	2.100
	2.090
5.000	4.340
	4.510
	4.140
	3.830
10.000	6.310
	8.360
	7.890
	8.160
25.000	23.120
	20.680
	22.670
	17.900
50.000	33.880
	41.990
	44.240
	36.070

Table II-54. 2,4-DNT on Concrete - Analysis of Target Found Concentration Points

```
2,4-DINITROTOLUENE  (24DNT)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 14.8475  SD= 14.301442281

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.364439724919
SLOPE= 0.782868122977
 USE FOR ACCURACY
R= 0.987247878379
MEAN SQR DEV OF POINTS FROM REGRESSION= 5.47110764003
ST ERROR EST= 2.33903989706
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 4.62883883032
x(d)= 10.7804175652
```

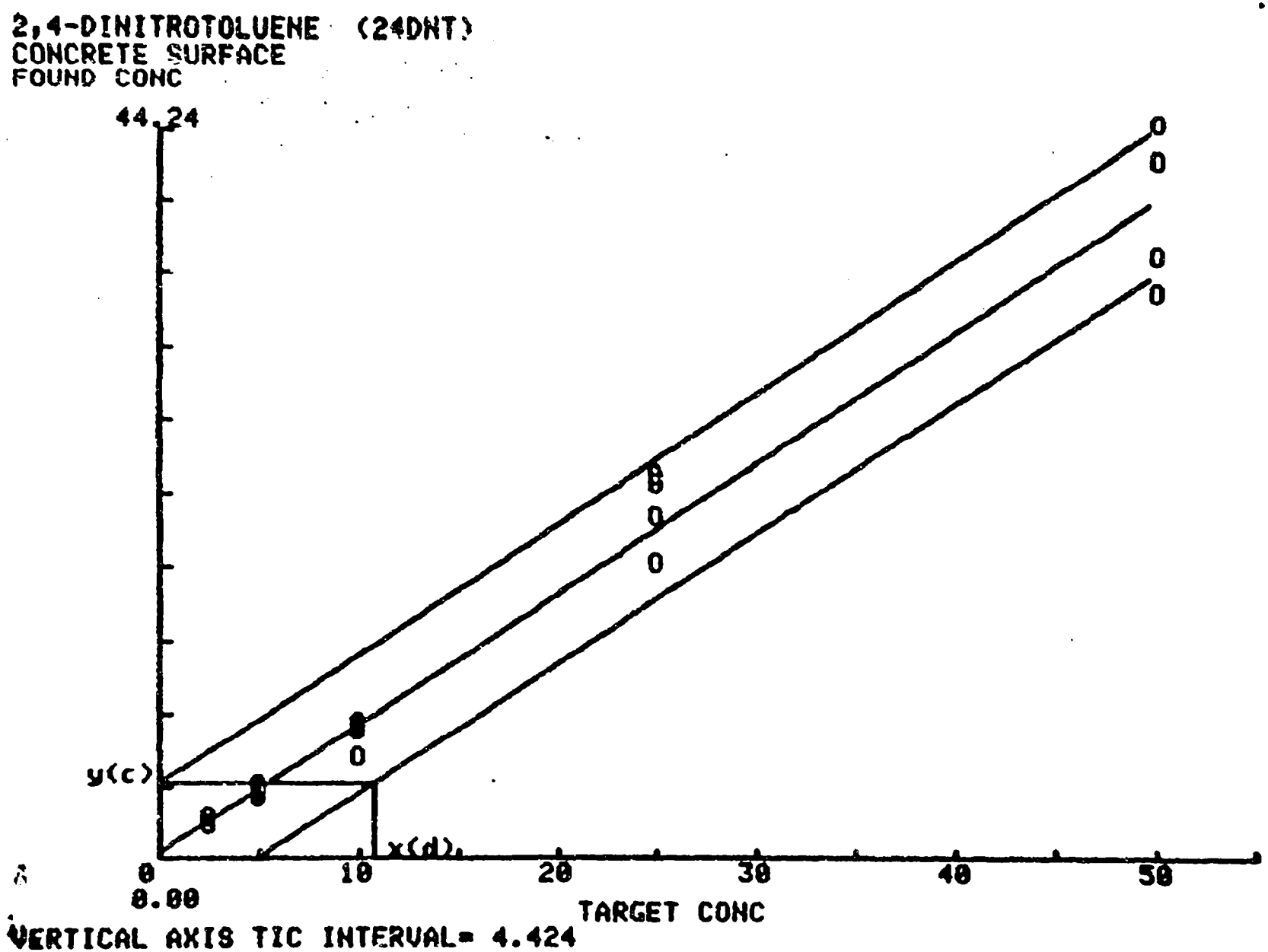

Figure II-52. 2,4-DNT on Concrete - Graph of Target-Found Concentration Points

Table II-55. 2,4-DNT on Concrete - Inaccuracy and Imprecision Data

2,4-DINITROTOLUENE (24DNT)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT
INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.215	0.211	-11.400	9.531
5.000	4.205	0.292	-15.900	6.948
10.000	7.680	0.933	-23.200	12.154
25.000	21.093	2.378	-15.630	11.273
50.000	39.045	4.871	-21.910	12.476
Means		1.737	-17.608	10.476

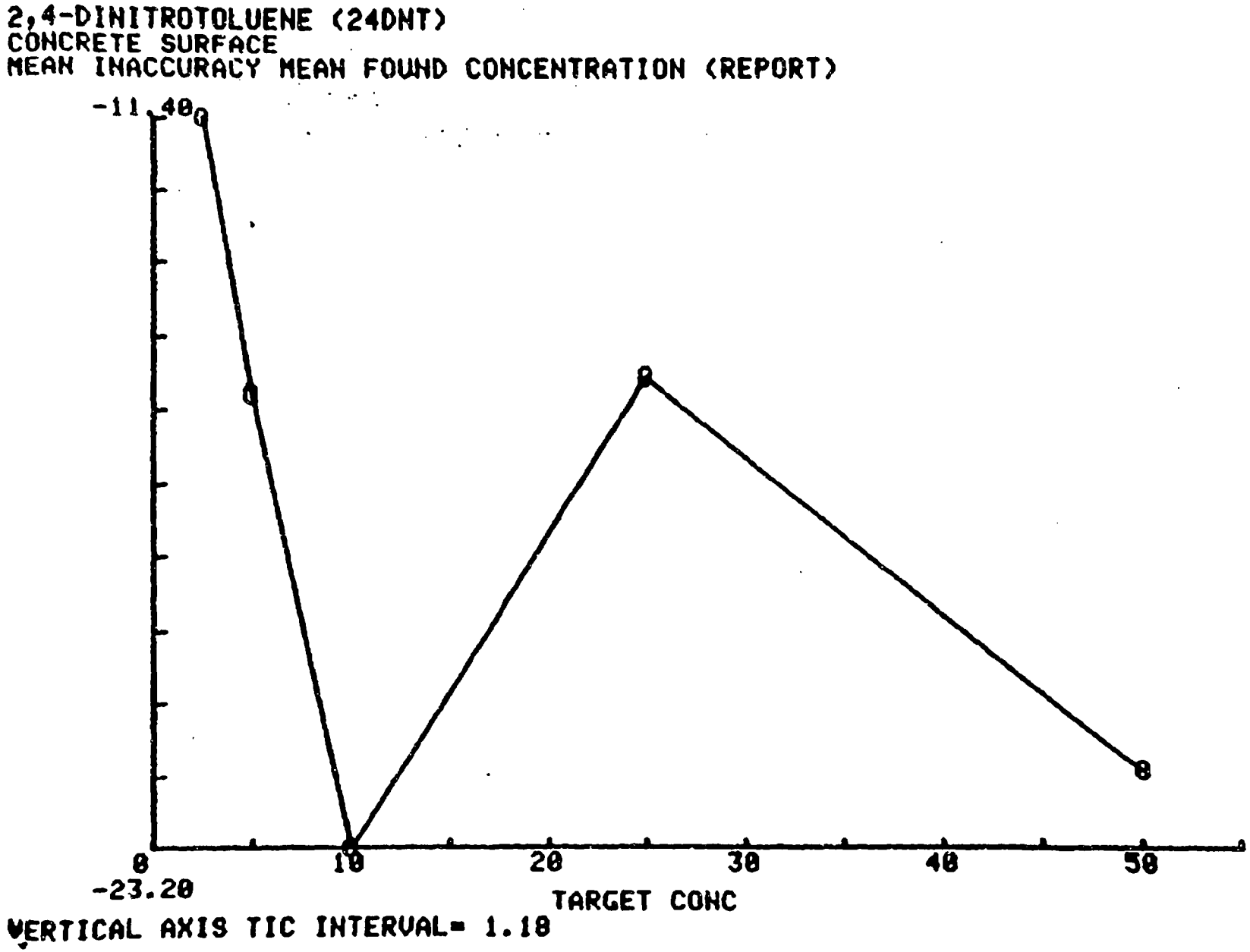

Figure II-53. 2,4-DNT on Concrete - Graph of Inaccuracy

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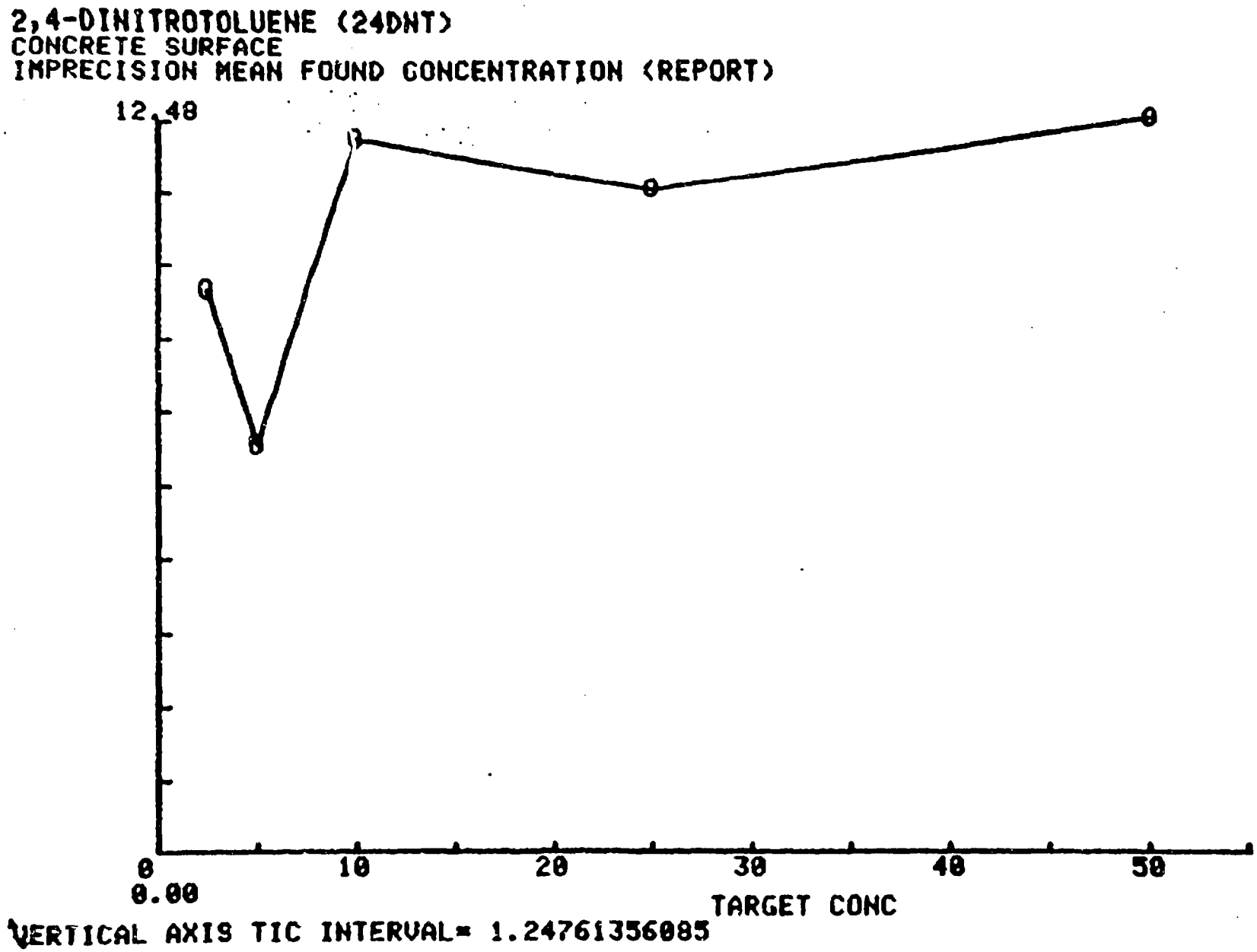

Figure II-54. 2,4-DNT on Concrete - Graph of Imprecision

Table II-56. 2,4-DNT on Brick - Target vs. Found Concentrations

2,4-DINITROTOLUENE (24DNT)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.530
	2.270
	1.040
	1.780
5.000	2.410
	5.420
	4.160
	4.740
10.000	7.570
	6.300
	7.420
	9.830
25.000	22.860
	14.260
	13.890
	20.880
50.000	37.560
	37.440
	22.770
	42.410

Table II-57. 2,4-DNT on Brick - Analysis of Target-Found Concentration Points

```
2,4-DINITROTOLUENE  (24DNT)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 13.327  SD= 13.1141246071

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.494765372168
SLOPE= 0.693634304207
 USE FOR ACCURACY
R= 0.953912839867
MEAN SQR DEV OF POINTS FROM REGRESSION= 16.347255196
ST ERROR EST= 4.04317390128
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 7.86604073574
x(d)= 20.9893901903
```

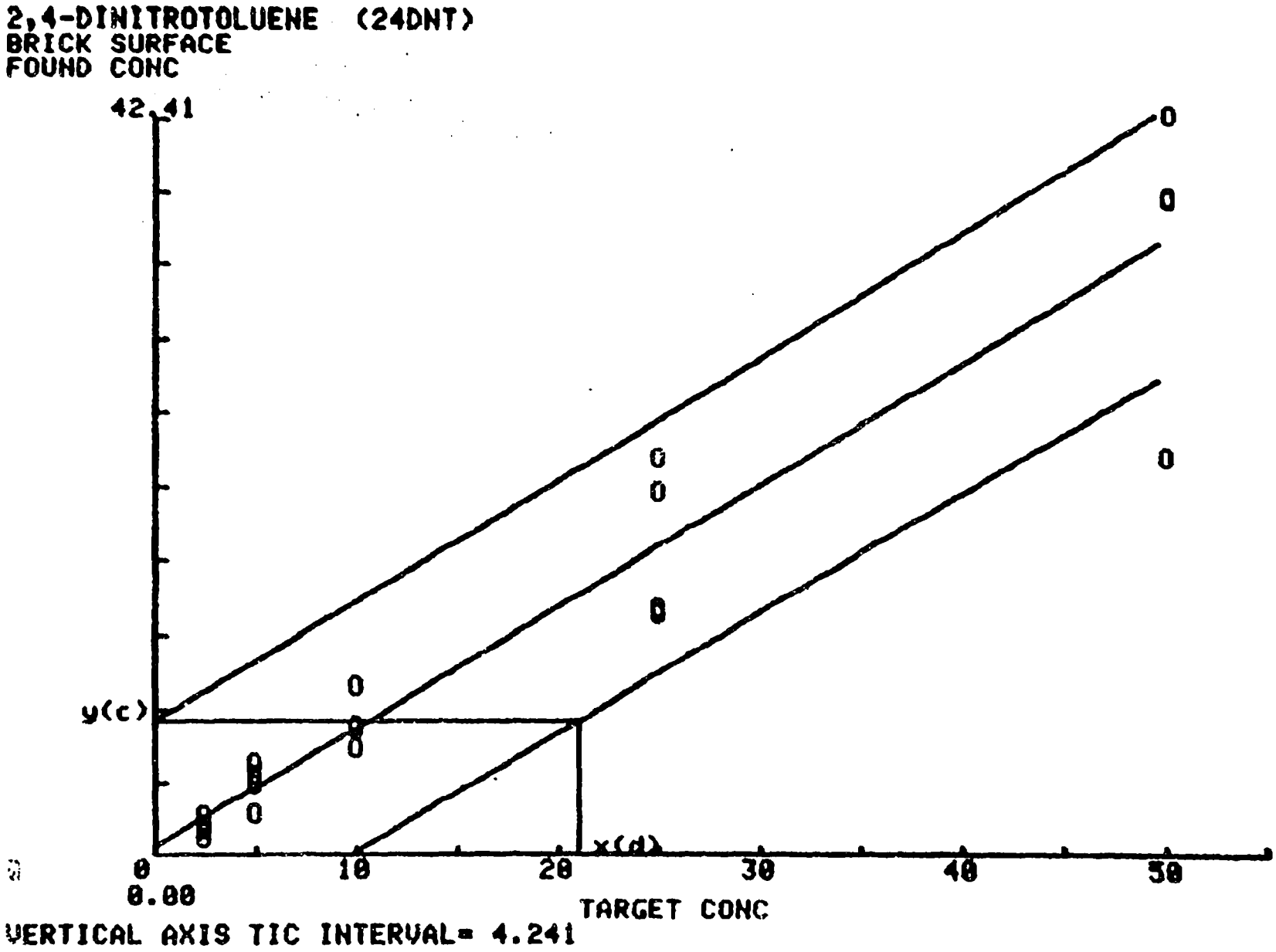

Figure II-55. 2,4-DNT on Brick - Graph of Target-Found Concentration Points

Table II-58. 2,4-DNT on Brick - Inaccuracy and Imprecision Data

2,4-DINITROTOLUENE (24DNT)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.655	0.512	-33.800	30.961
5.000	4.183	1.289	-16.350	30.819
10.000	7.780	1.479	-22.200	19.016
25.000	17.973	4.575	-28.110	25.455
50.000	35.045	8.505	-29.910	24.267
Means		3.272	-26.074	26.104

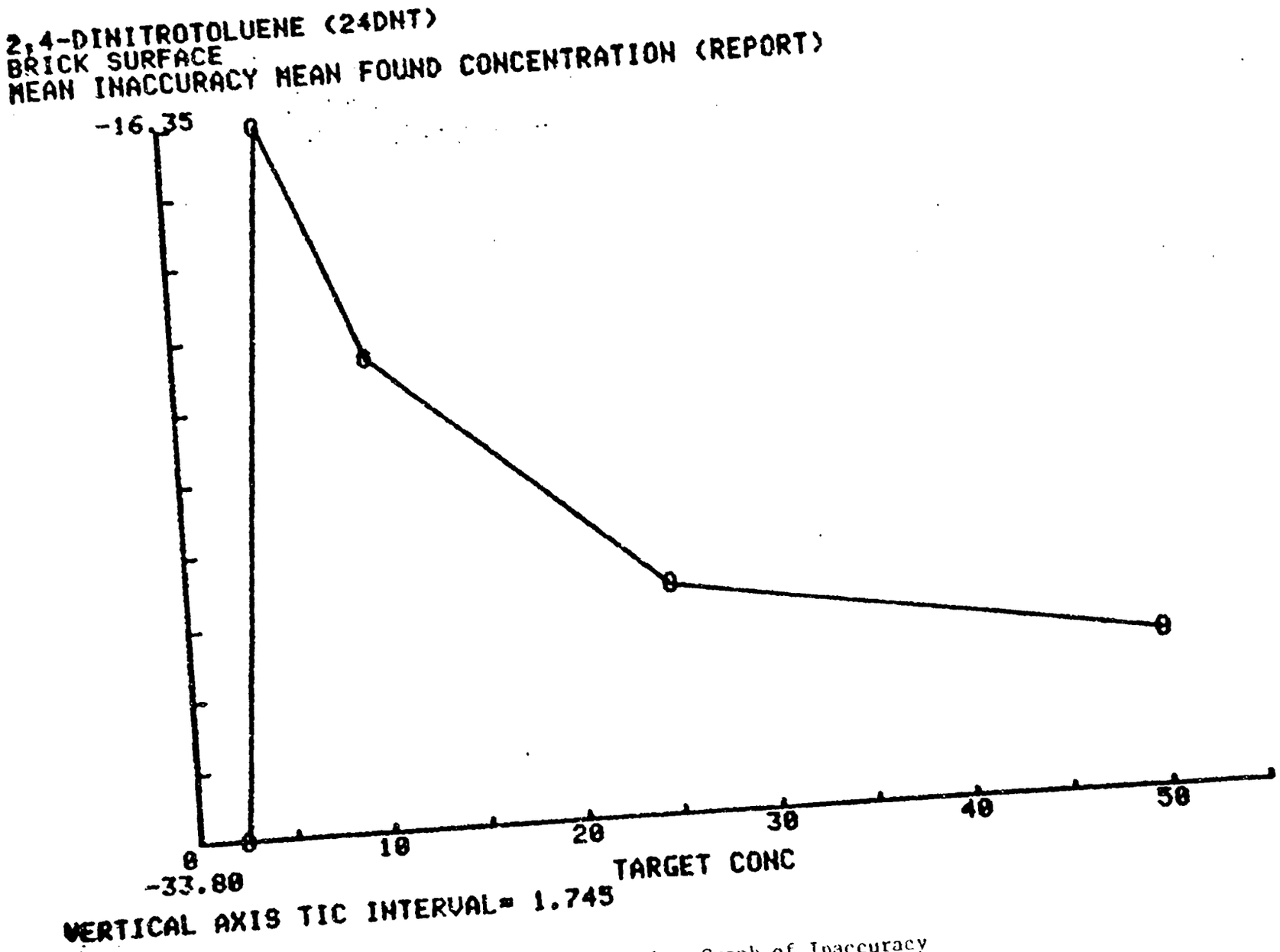

Figure II-56. 2,4-DNT on Brick - Graph of Inaccuracy

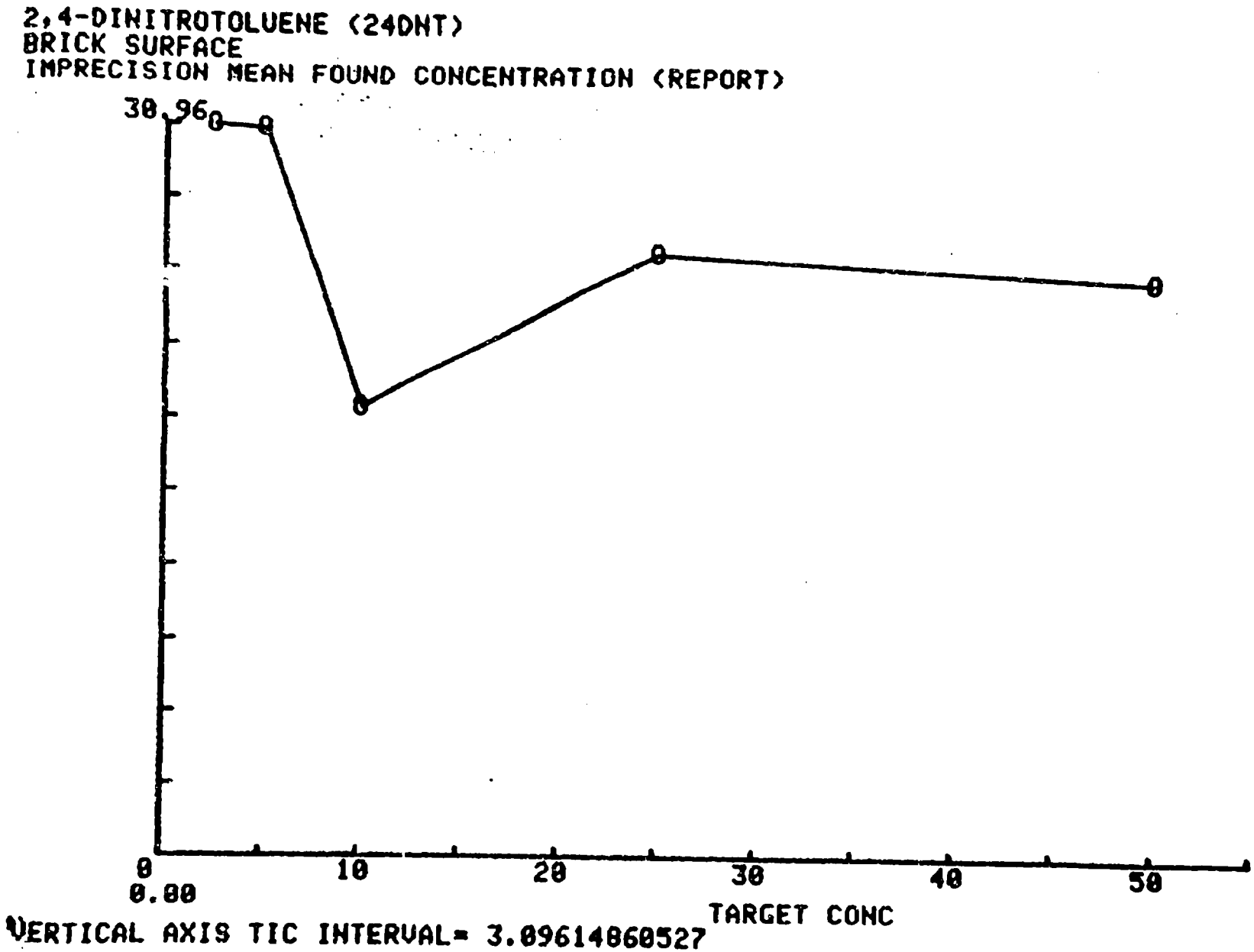

Figure II-57. 2,4-DNT on Brick - Graph of Imprecision

Table II-59. 2,4-DNT on Transite - Target vs. Found Concentrations

2,4-DINITROTOLUENE (24DNT)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.700
	2.220
	2.040
	1.660
5.000	1.540
	3.940
	4.250
	3.050
10.000	2.850
	7.620
	7.190
	8.020
25.000	7.950
	16.380
	18.930
	21.220
50.000	11.620
	37.580
	39.370
	41.520

Table II-60. 2,4-DNT on Transite - Analysis of Target-Found Concentration Points

```
2,4-DINITROTOLUENE (24DNT)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 11.9825  SD= 13.2377478109

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.0521541262134
SLOPE= 0.65052184466
 USE FOR ACCURACY
R= 0.886268306037
MEAN SQR DEV OF POINTS FROM REGRESSION= 39.6820662251
ST ERROR EST= 6.29937030385
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 11.4324849867
x(d)= 35.2284612374
```

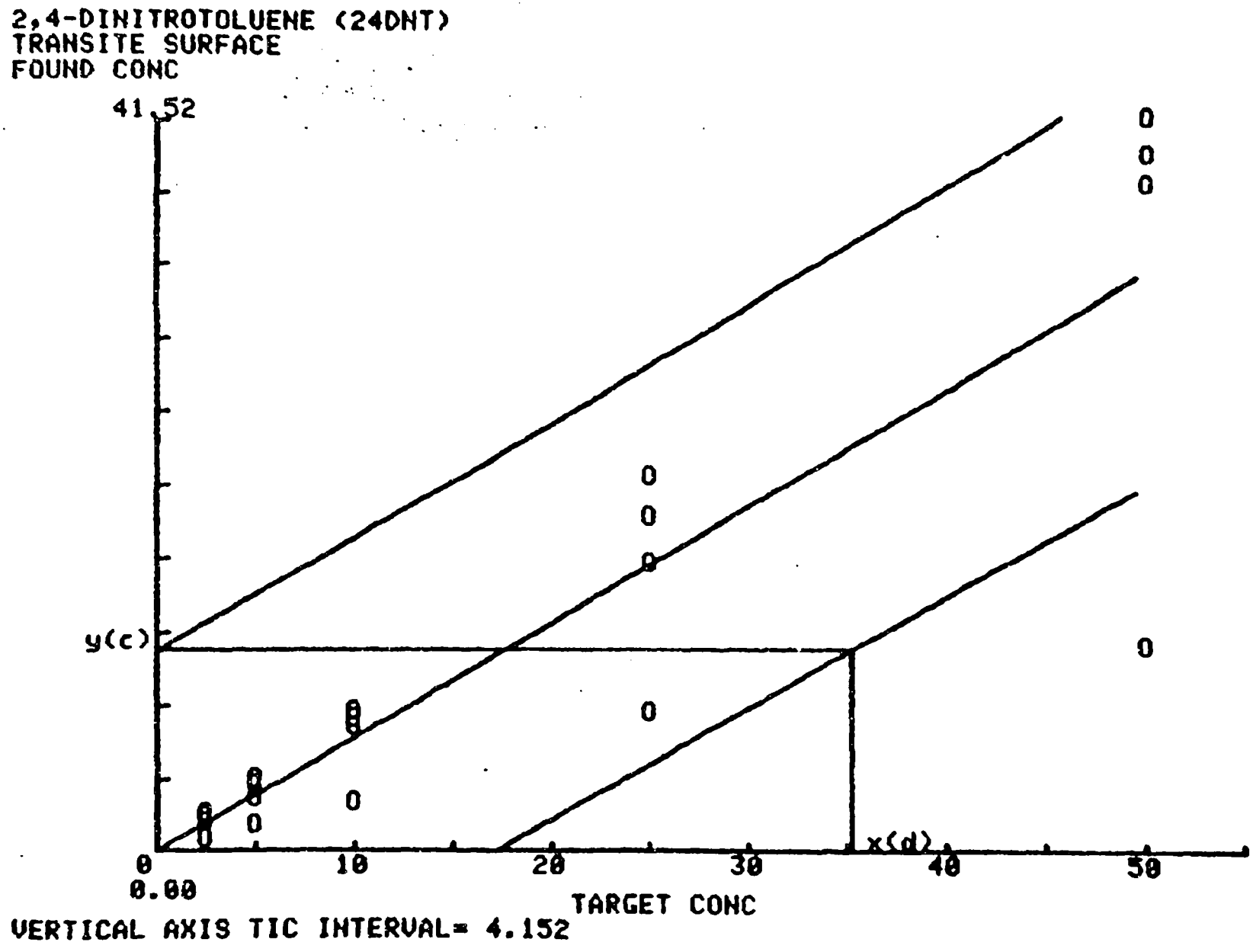

Figure II-58. 2,4-DNT on Transite - Graph of Target-Found Concentration Points

Table II-61. 2,4-DNT on Transite - Inaccuracy and Imprecision Data

2,4-DINITROTOLUENE (24DNT)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con	Mn Found Conc	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.655	0.678	-33.800	40.973
5.000	3.195	1.215	-36.100	38.026
10.000	6.4[illegible]	2.404	-35.800	37.446
25.000	16.120	5.794	-35.520	35.945
50.000	32.523	14.028	-34.955	43.133
Means		4.824	-35.235	39.104

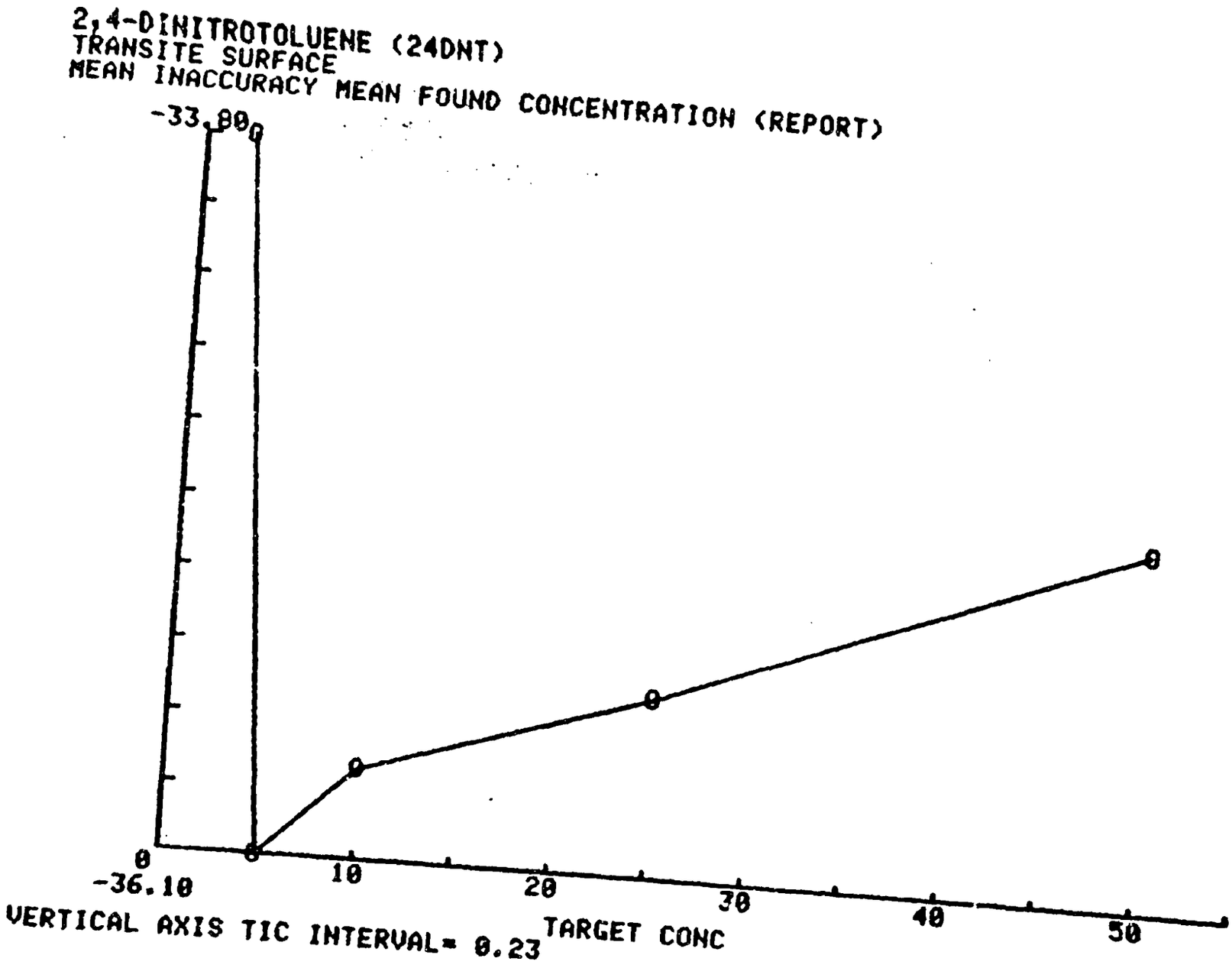

Figure II-59. 2,4-DNT on Transite - Graph of Inaccuracy

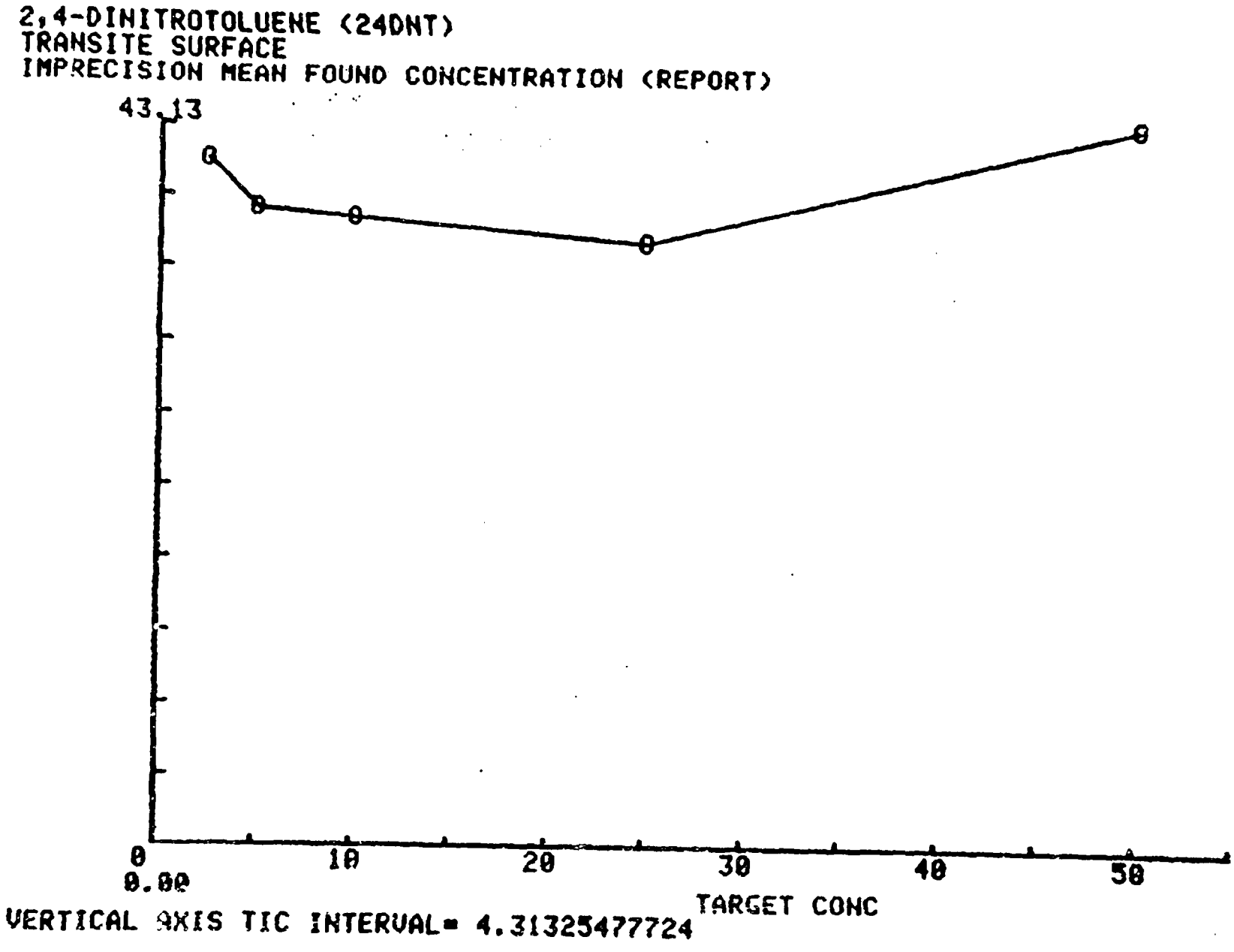

Figure II-60. 2,4-DNT on Transite - Graph of Imprecision

Table II-62. 2,4-DNT on Transite (3 days) - Target vs. Found Concentrations

2,4-DINITROTOLUENE (24DNT)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.220 2.040 1.660
5.000	3.940 4.250 3.050
10.000	7.620 7.190 8.020
25.000	16.380 18.930 21.220
50.000	37.580 39.370 41.520

Table II-63. 2,4-DNT on Transite (3 days) - Analysis of Target-Found Concentration Points

```
2,4-DINITROTOLUENE (24DNT)
TRANSITE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 14.3326666667  SD= 14.4185805061

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.270698489752
SLOPE= 0.789371089536
 USE FOR ACCURACY
R= 0.996138122967
MEAN SQR DEV OF POINTS FROM REGRESSION= 1.72591231227
ST ERROR EST= 1.31373981909
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 2.21392254463
x(d)= 6.23754930521
```


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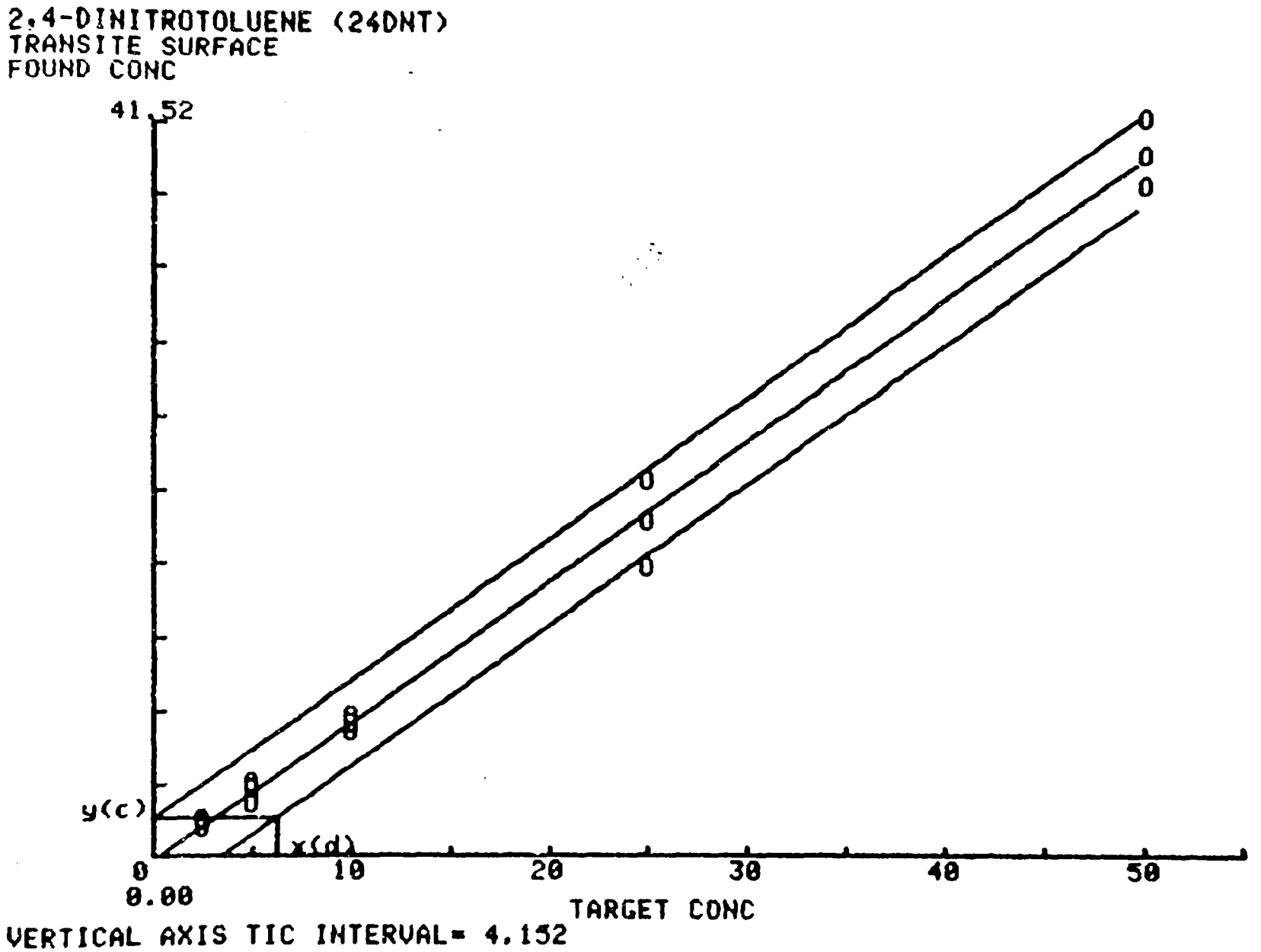

Figure II-61. 2,4-DNT on Transite (3 days) - Graph of Target-Found Concentration Points.

Table II-64. 2,4-DNT on Transite (3 days) - Inaccuracy and Imprecision Data

2,4-DINITROTOLUENE (24DNT)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.973	0.286	-21.067	14.488
5.000	3.747	0.623	-25.067	16.626
10.000	7.610	0.415	-23.900	5.455
25.000	18.843	2.421	-24.627	12.849
50.000	39.490	1.973	-21.020	4.996
Means		1.144	-23.136	10.883

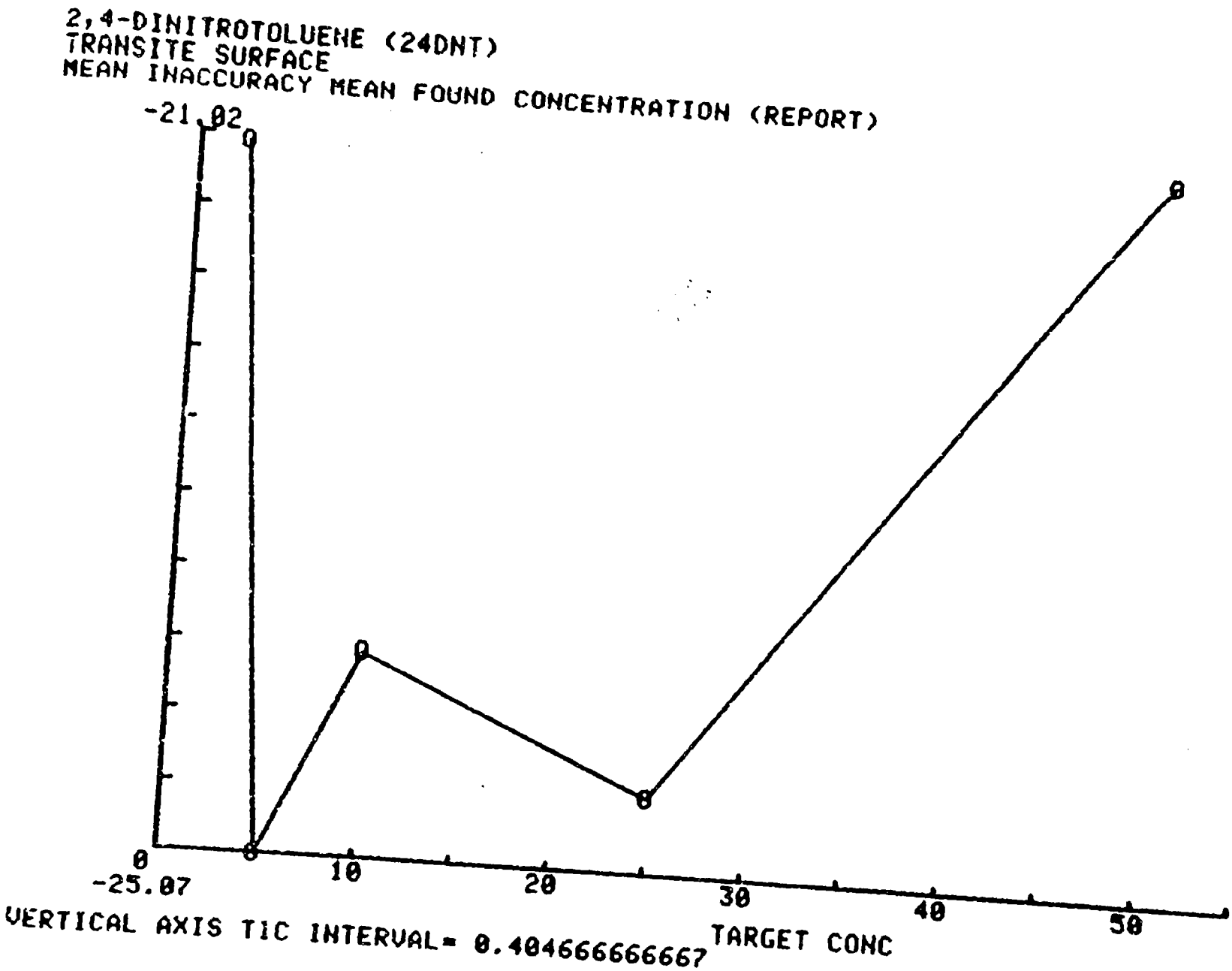

Figure II-62. 2,4-DNT on Transite (3 days) - Graph of Inaccuracy

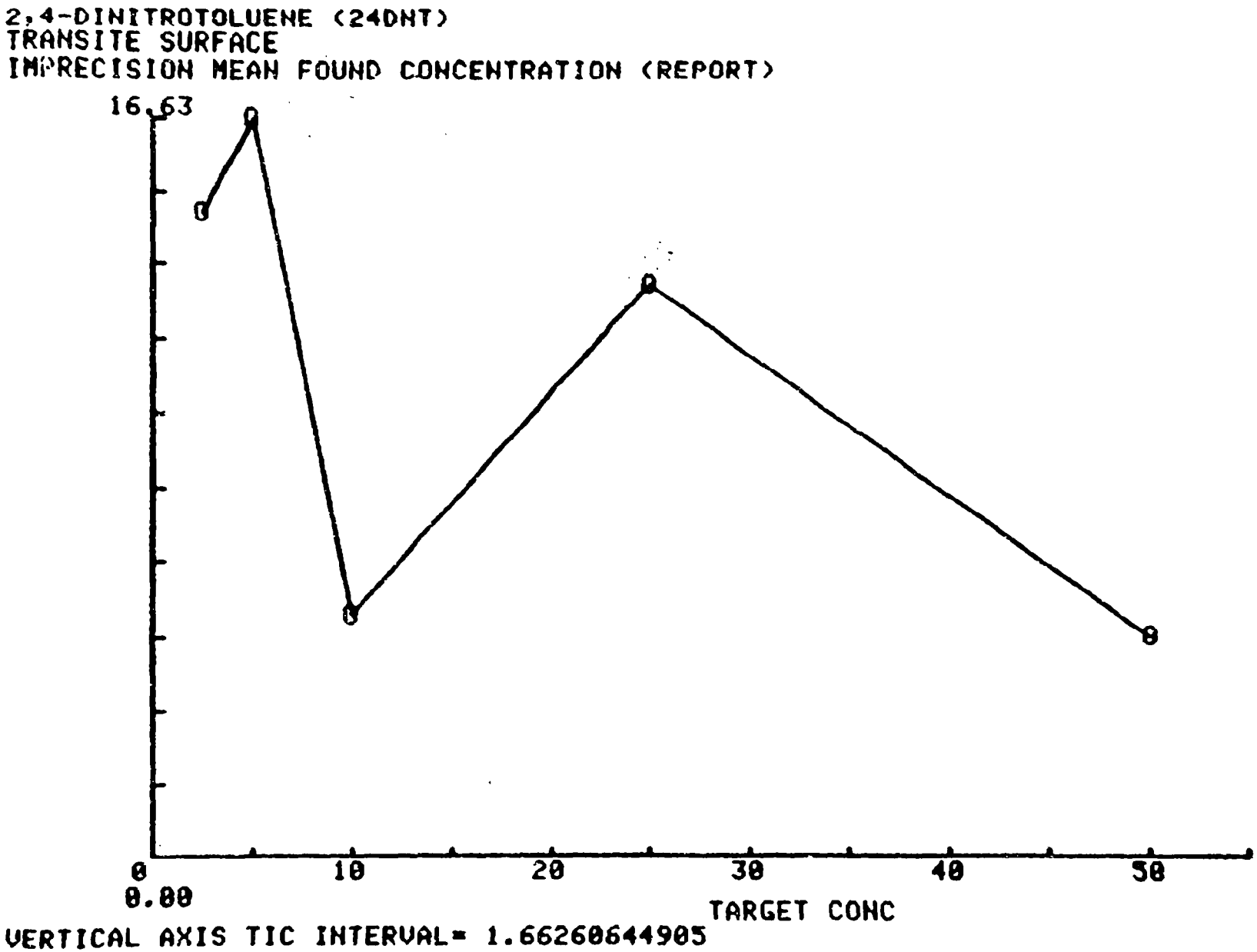

Figure II-63. 2,4-DNT on Transite (3 days) - Graph of Imprecision

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Table II-65. TNT on Metal - Target vs. Found Concentrations

2,4,6-TRINITROTOLUENE (246TNT)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.920
	2.140
	2.120
	1.810
5.000	3.360
	4.510
	4.020
	3.910
10.000	9.560
	9.090
	8.070
	8.680
25.000	23.630
	24.690
	21.180
	20.570
50.000	48.040
	50.620
	43.920
	50.080

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Table II-66. TNT on Metal - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROTOLUENE  (246TNT)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 17.096  SD= 17.6143310075

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.90170105178
SLOPE= 0.972848705502
 USE FOR ACCURACY
R= 0.996085433419
MEAN SQR DEV OF POINTS FROM REGRESSION= 2.55903491889
ST ERROR EST= 1.59969838373
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 2.01477436407
x(d)= 5.35490116603
```


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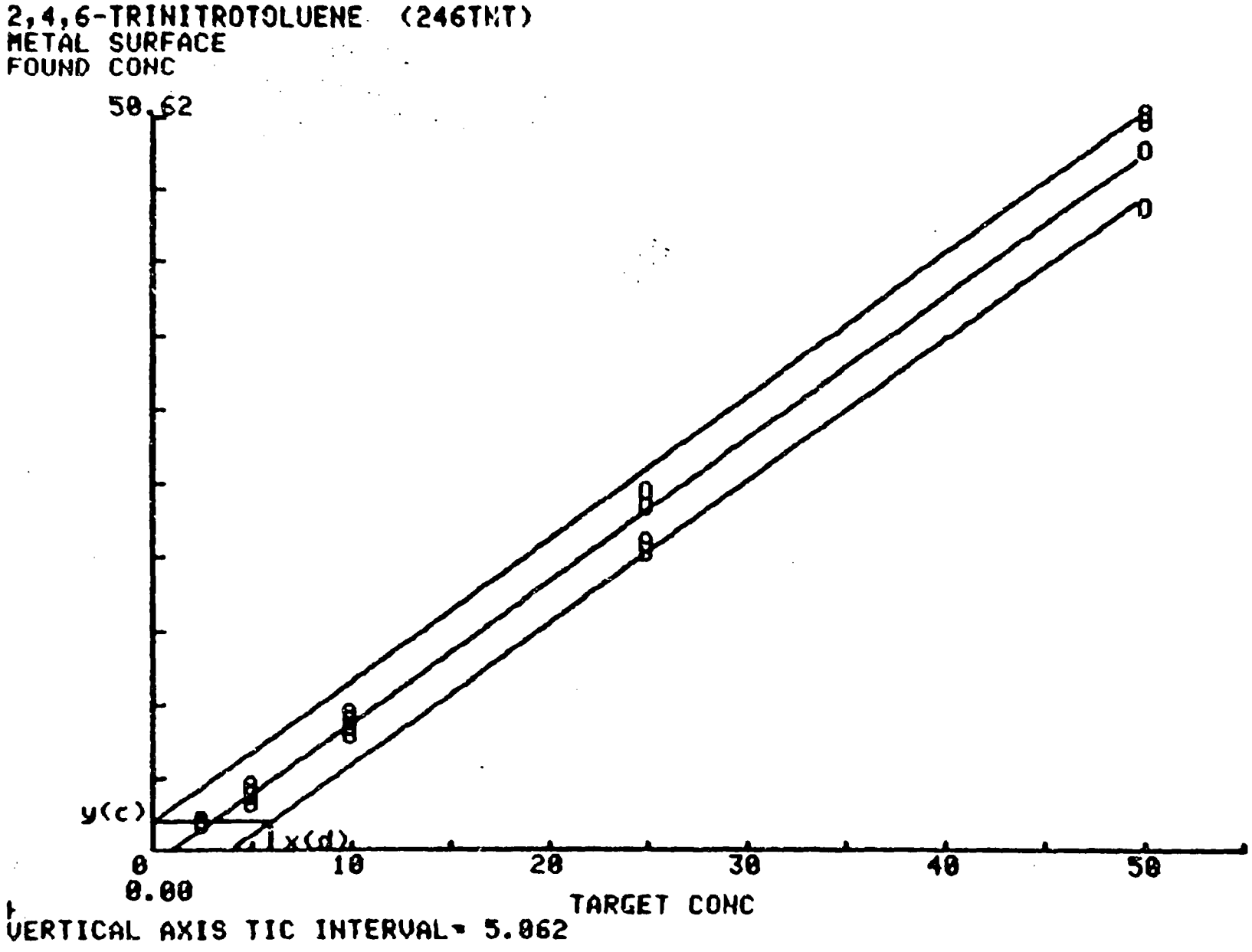

Figure II-64. TNT on Metal - Graph of Target-found Concentration Points

Table II-67. TNT on Metal - Inaccuracy and Imprecision Data

2,4,6-TRINITROTOLUENE (246TNT)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.998	0.160	-20.100	7.993
5.000	3.950	0.472	-21.000	11.948
10.000	8.850	0.632	-11.500	7.143
25.000	22.518	1.961	-9.930	8.710
50.000	48.165	3.040	-3.670	6.312
Means		1.253	-13.240	8.421

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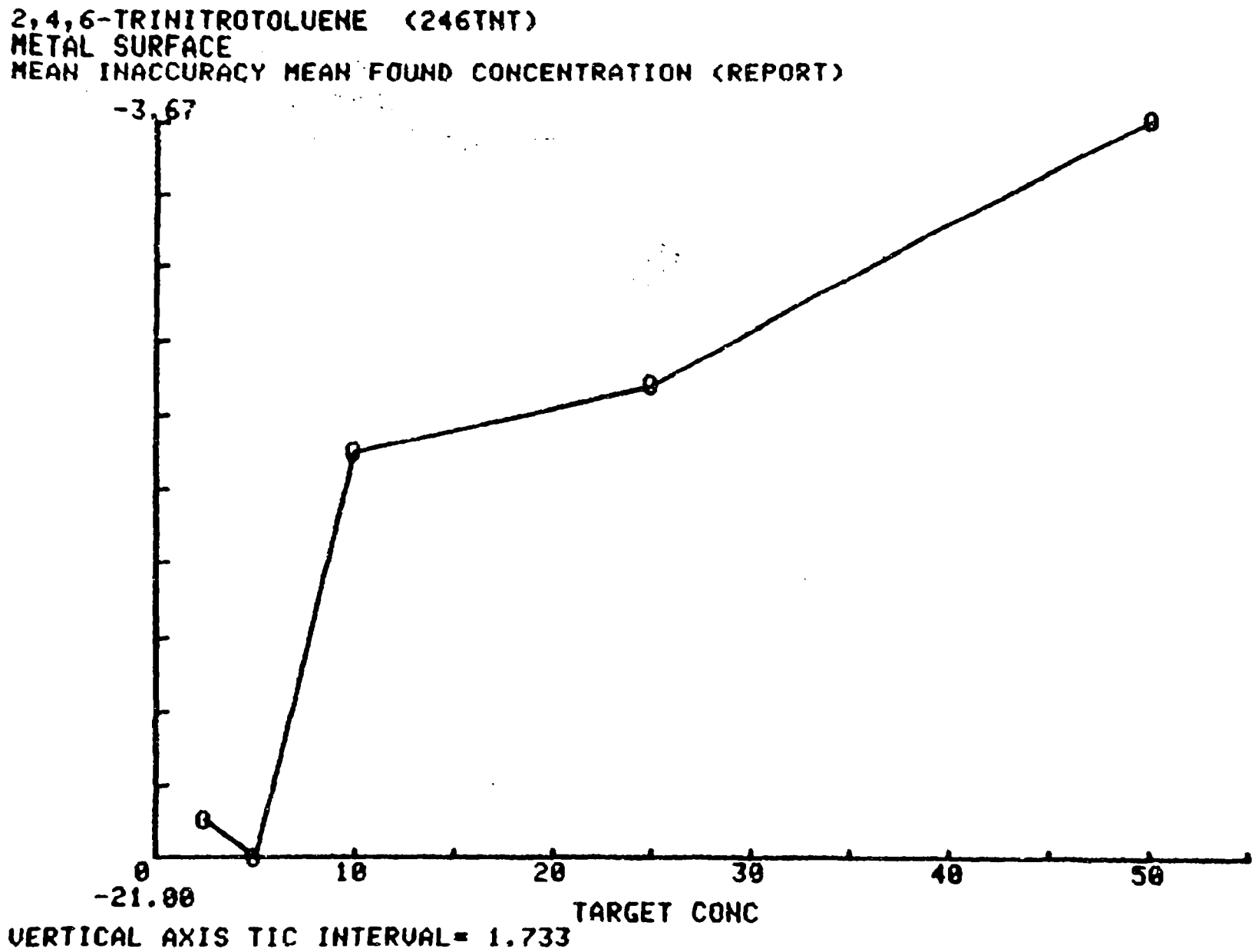

Figure II-65. TNT on Metal - Graph of Inaccuracy

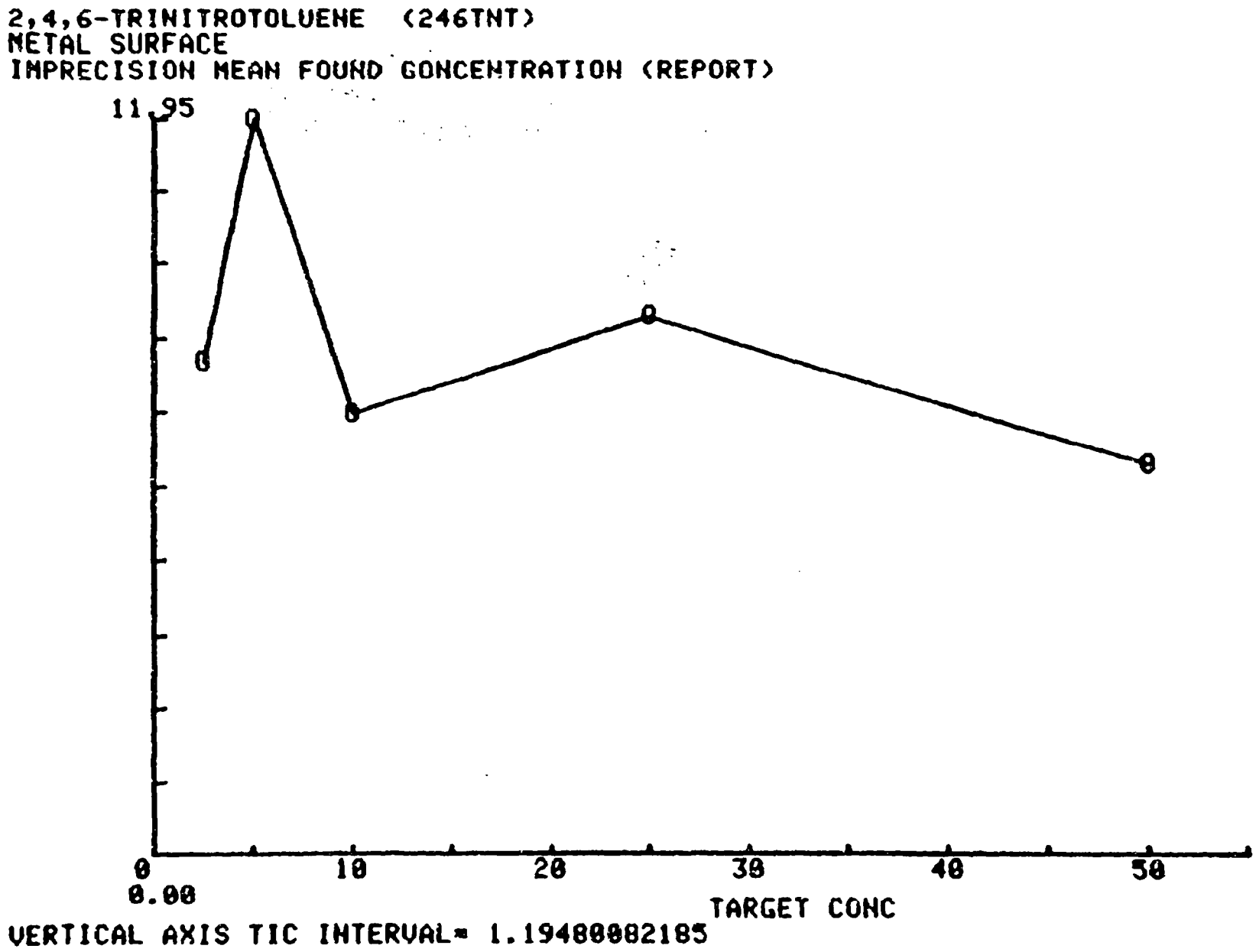

Figure II-66. TNT on Met. I - Graph of Imprecision

Table II-68. TNT on Concrete - Target vs. Found Concentrations

2,4,6-TRINITROTOLUENE (246TNT)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.540
	2.020
	1.310
	1.790
5.000	3.950
	4.430
	3.090
	3.200
10.000	6.960
	7.630
	5.250
	6.690
25.000	19.840
	20.130
	14.290
	17.430
50.000	40.730
	43.930
	27.160
	35.640

Table II-69. TNT on Concrete Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROTOLUENE (246TNT)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 13.3505  SD= 13.7346130078

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.36244538835
SLOPE= 0.741240291262
 USE FOR ACCURACY
R= 0.973329817619
MEAN SQR DEV OF POINTS FROM REGRESSION= 10.4794771204
ST ERROR EST= 3.23720205122
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 5.53942979924
x(d)= 15.7269052076
```

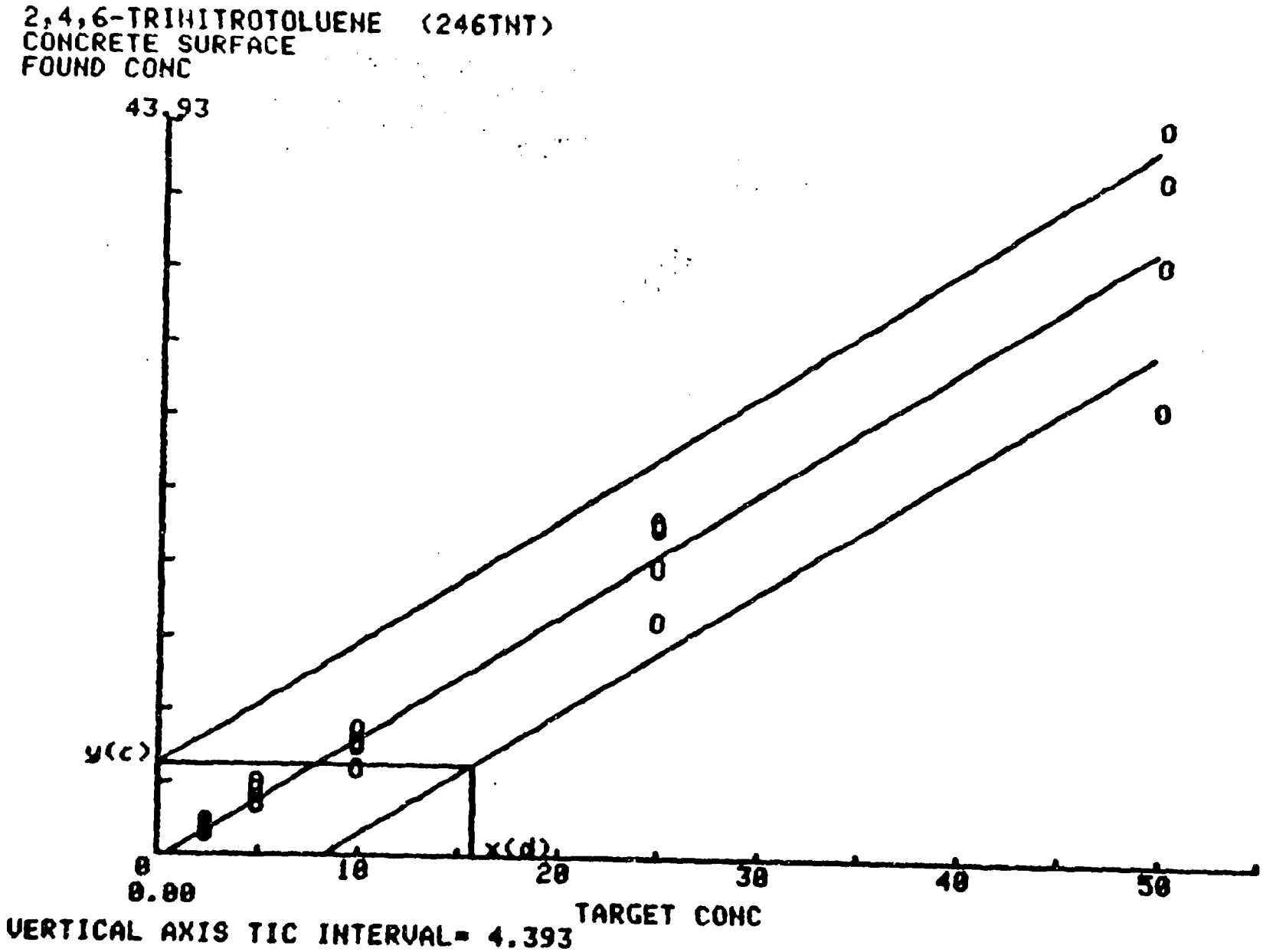

Figure II-67. TNT on Concrete - Graph of Target-Found Concentration Points

Table II-70. TNT on Concrete - Inaccuracy and Imprecision Data

2,4,6-TRINITROTOLUENE (246TNT)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.665	0.307	-33.400	18.456
5.000	3.668	0.636	-26.650	17.340
10.000	6.633	1.003	-33.675	15.120
25.000	17.923	2.707	-28.310	15.105
50.000	36.865	7.315	-26.270	19.843
Means		2.394	-29.661	17.173

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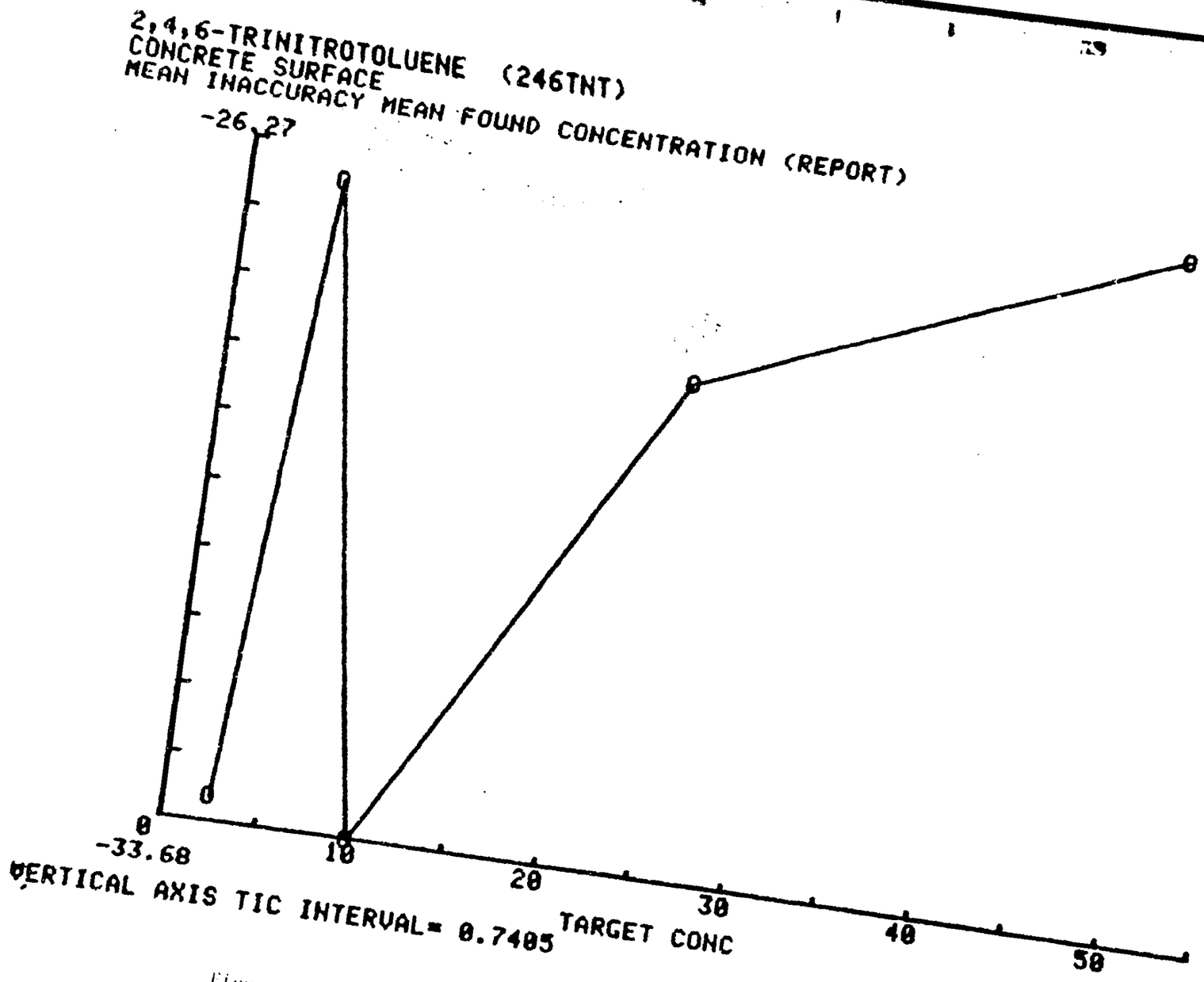

Figure II-68. TNT on Concrete - Graph of Inaccuracy

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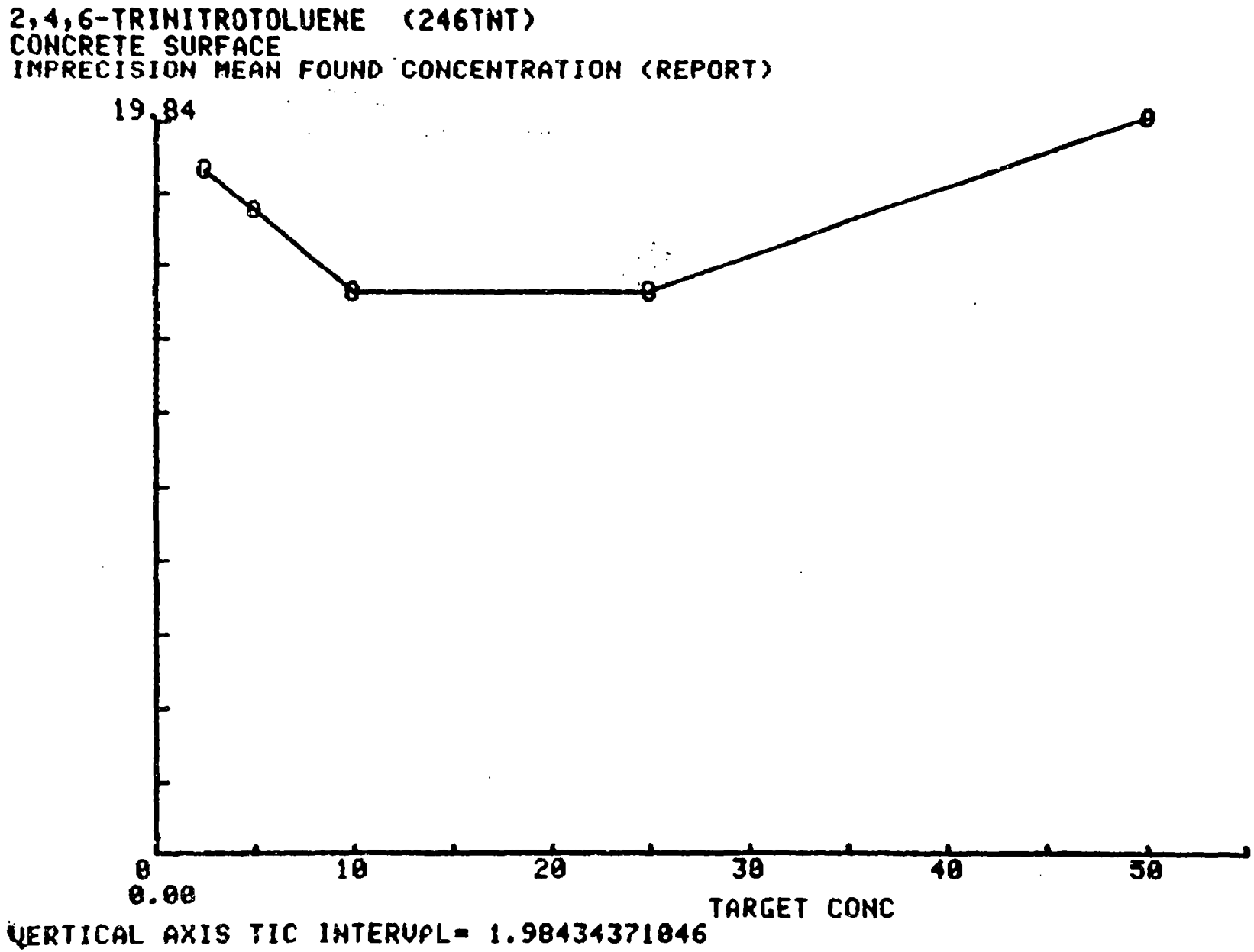

Figure II-69. TNT on Concrete - Graph of Imprecision

Table II-71. TNT on Brick - Target vs. Found Concentrations

2,4,6-TRINITROTOLUENE (246TNT)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.470
	1.960
	0.890
	1.800
5.000	2.320
	5.930
	4.100
	4.180
10.000	8.080
	6.280
	7.310
	9.400
25.000	20.760
	15.210
	13.750
	20.760
50.000	36.650
	34.530
	24.570
	38.460

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Table II-72. TNT on Brick - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROTOLUENE  (246TNT)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 12.9205  SD= 12.3402646372

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.645345873786
SLOPE= 0.66352184466
 USE FOR ACCURACY
R= 0.969724100462
MEAN SQR DEV OF POINTS FROM REGRESSION= 9.58589122507
ST ERROR EST= 3.09610904606
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 6.28998864488
x(d)= 16.8001912189
```

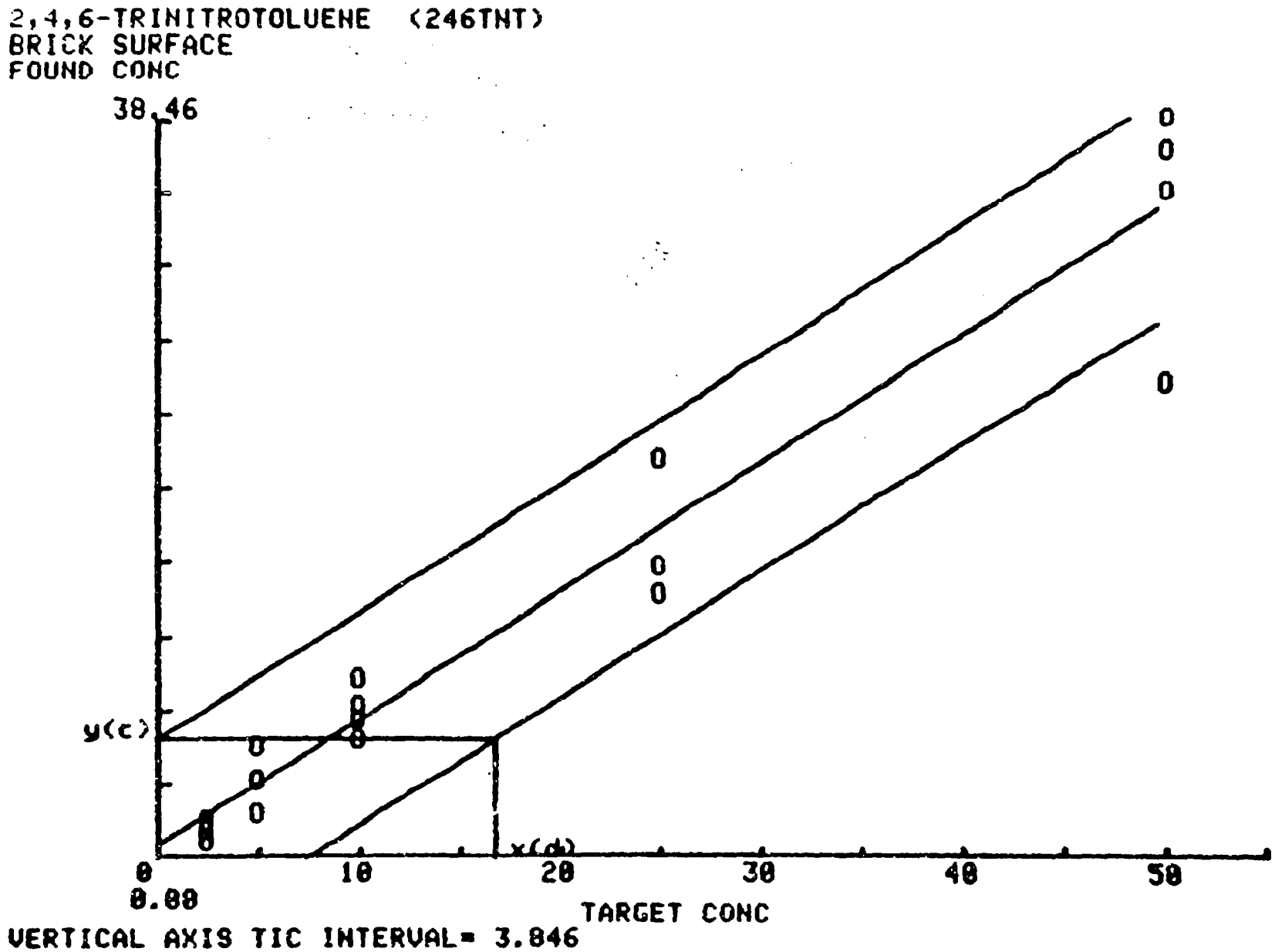

Figure II-70. TNT on Brick - Graph of Target-Found Concentration Points

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Table II-73. TNT on Brick - Inaccuracy and Imprecision Data

2,4,6-TRINITROTOLUENE (246TNT)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.530	0.473	-38.800	30.911
5.000	4.133	1.474	-17.350	35.672
10.000	7.768	1.315	-22.325	16.925
25.000	17.620	3.674	-29.520	20.854
50.000	33.553	6.200	-32.895	18.478
Means		2.627	-28.178	24.568

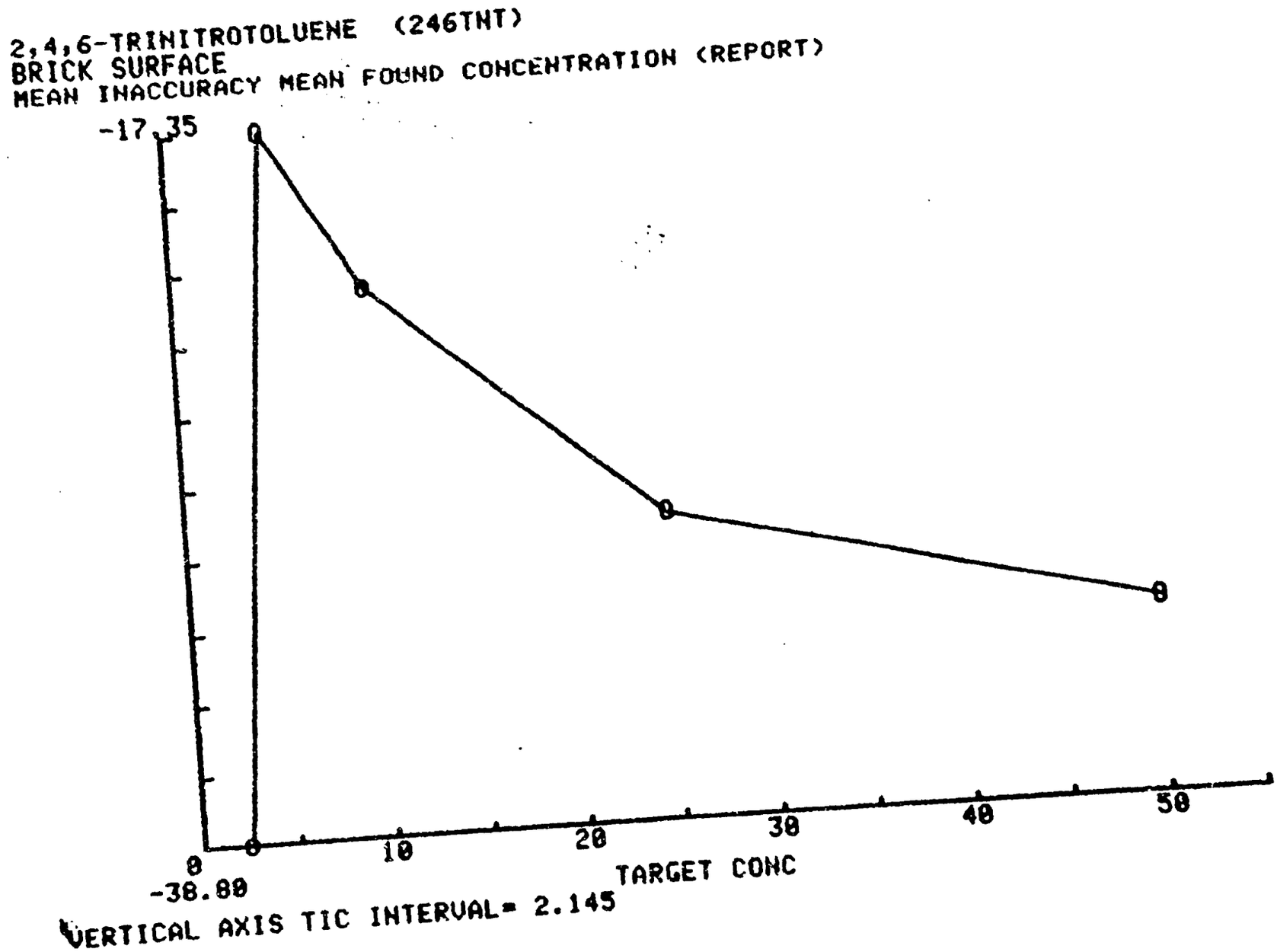

Figure II-71. TNT on Brick - Graph of Inaccuracy

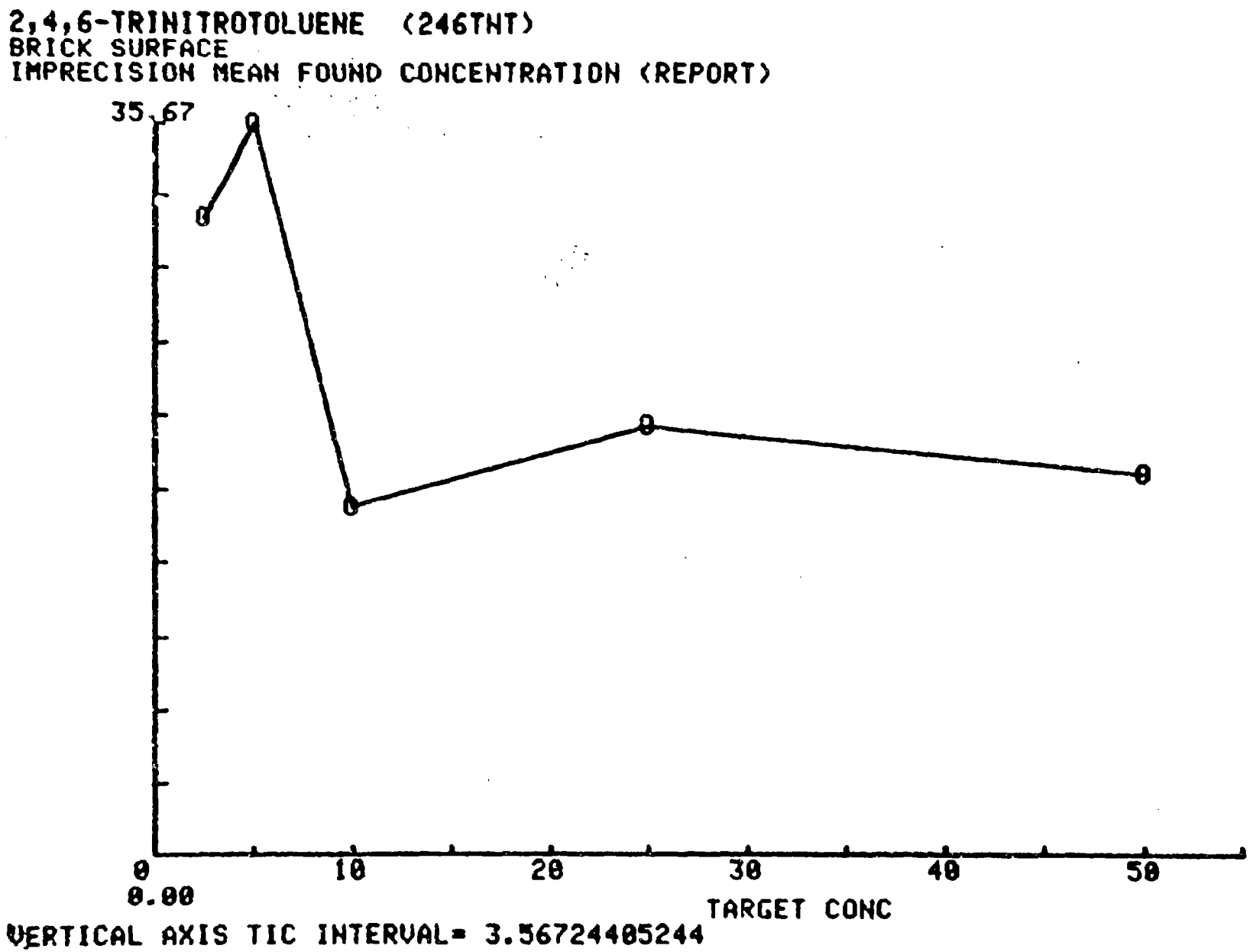

Figure II-72. TNT on Brick - Graph of Imprecision

Table II-74. TNT on Transite - Target vs. Found Concentrations

2,4,6-TRINITROTOLUENE (246TNT)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.160
	1.770
	1.770
	0.900
5.000	1.560
	3.900
	3.510
	2.520
10.000	2.820
	7.770
	6.400
	5.880
25.000	6.450
	17.370
	16.330
	15.800
50.000	11.720
	28.790
	29.470
	32.170

Table II-75. TNT on Transite - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROTOLUENE  (246TNT)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 9.903  SD= 10.1474591583

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.496468446602
SLOPE= 0.508461165049
 USE FOR ACCURACY
R= 0.903686747162
MEAN SQR DEV OF POINTS FROM REGRESSION= 19.9286214266
ST ERROR EST= 4.46414845482
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 8.63523970102
x(d)= 31.8194111464
```

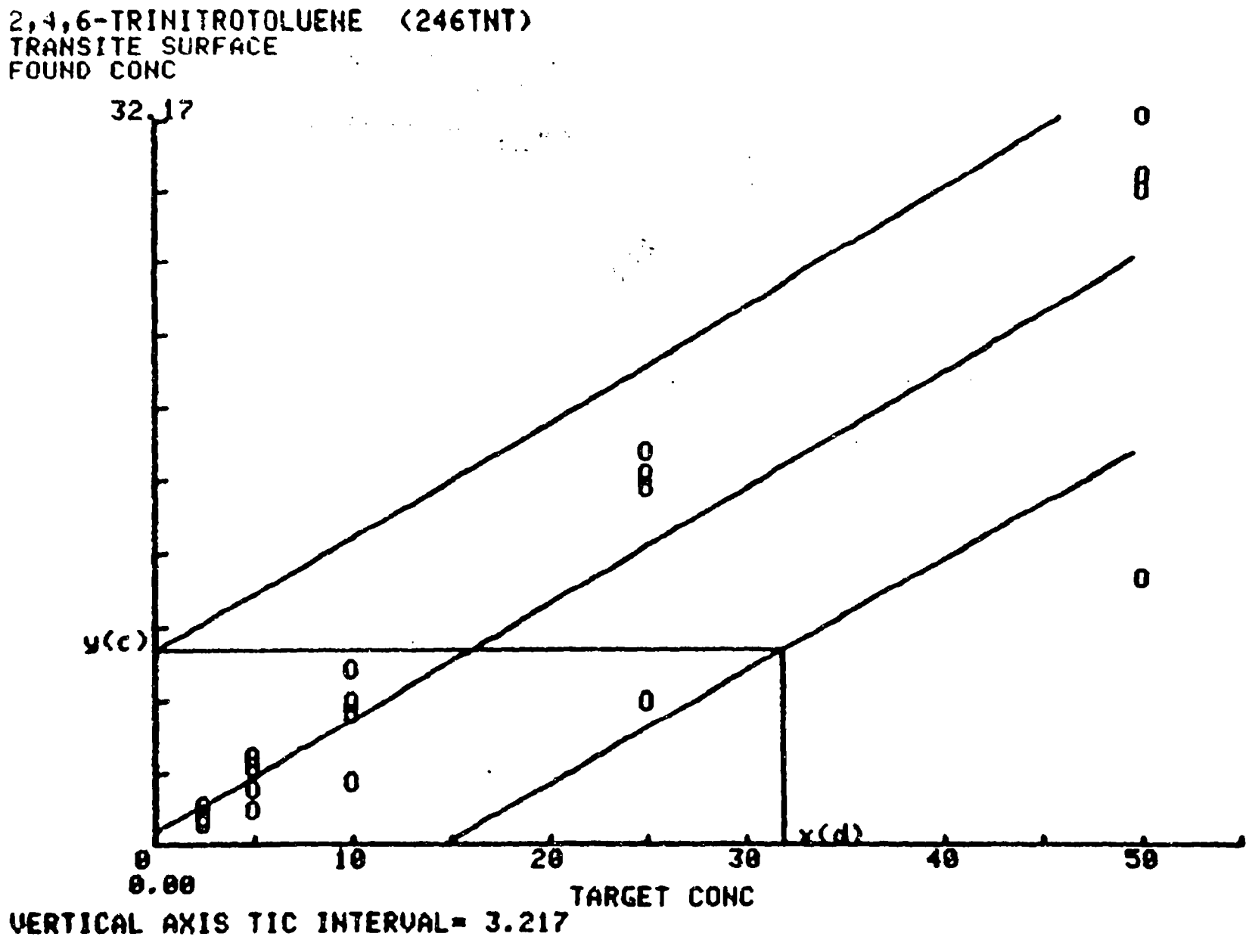

Figure II-73. TNT on Transite - Graph of Target-Found Concentration Points

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Table II-76. TNT on Transite - Inaccuracy and Imprecision Data

2,4,6-TRINITROTOLUENE (246TNT)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.400	0.440	-44.000	31.445
5.000	2.873	1.050	-42.550	36.562
10.000	5.718	2.090	-42.825	36.549
25.000	13.988	5.067	-44.050	36.226
50.000	25.538	9.327	-48.925	36.521
Means		3.595	-44.470	35.461

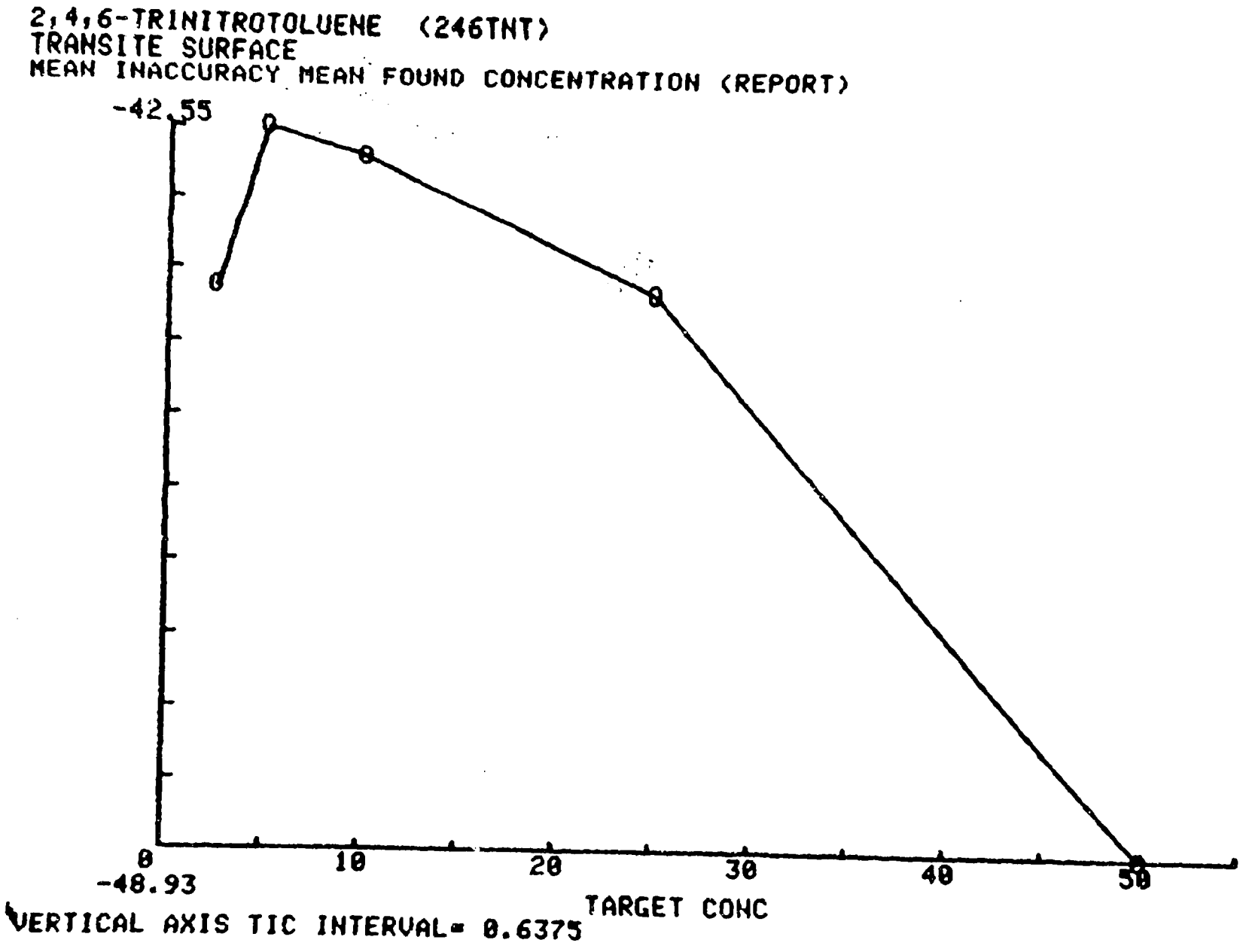

Figure II-74. TNT on Transite - Graph of Inaccuracy

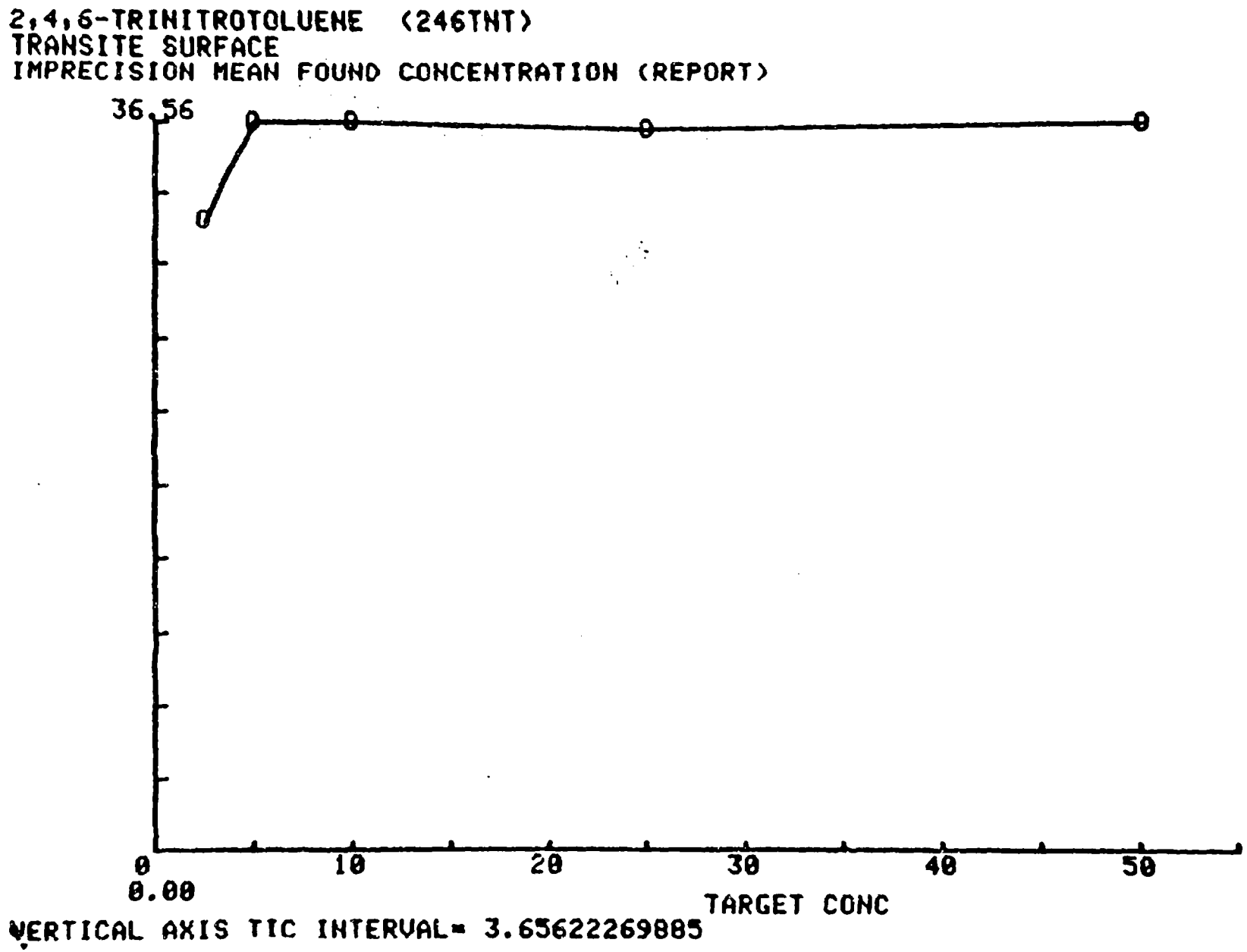

Figure II-75. TNT on Transite - Graph of Imprecision

Table II-77. TNT on Transite (3 days) - Target vs. Found Concentrations

2,4,6-TRINITROTOLUENE (246TNT)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.770 1.770 0.900
5.000	3.900 3.510 2.520
10.000	7.770 6.400 5.880
25.000	17.370 16.330 15.800
50.000	28.790 29.470 32.170

Table II-78. TNT on Transite (3 days) - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROTOLUENE  (246TNT)
TRANSITE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 11.6233333333  SD= 11.0214567787

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.468352211435
SLOPE= 0.602971952535
 USE FOR ACCURACY
R= 0.995448876481
MEAN SQR DEV OF POINTS FROM REGRESSION= 1.18801497594
ST ERROR EST= 1.08996099744
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 2.52974974353
x(d)= 6.77062537754
```


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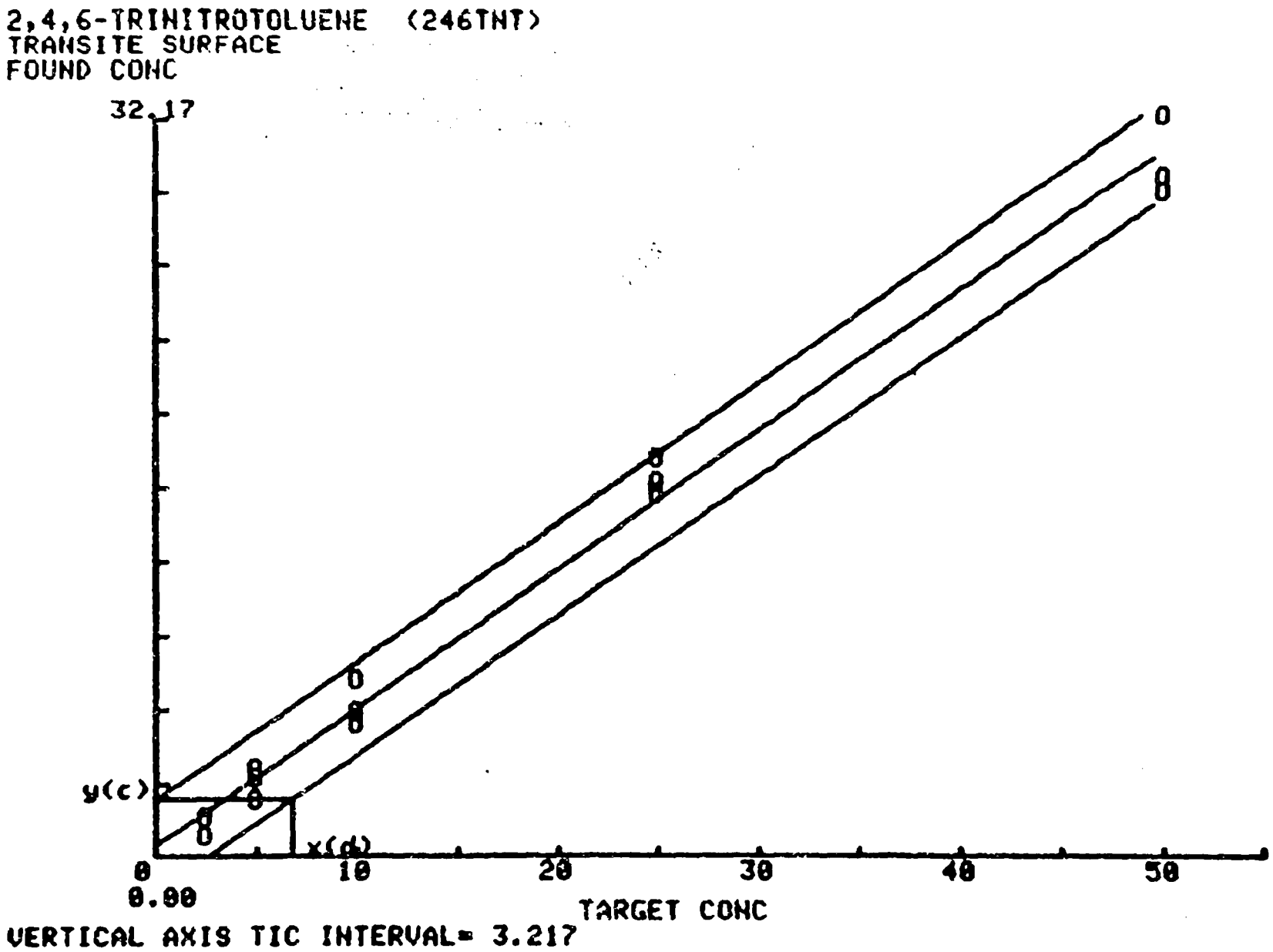

Figure II-76. TNT on Transite (3 days) - Graph of Target-Found Concentration Points

Table II-79. TNT on Transite (3 days) - Inaccuracy and Imprecision Data

2,4,6-TRINITROTOLUENE (246TNT)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.480	0.502	-40.800	33.939
5.000	3.310	0.711	-33.800	21.493
10.000	6.683	0.976	-33.167	14.609
25.000	16.500	0.799	-34.000	4.841
50.000	30.143	1.788	-39.713	5.931
Means		0.955	-36.296	16.162

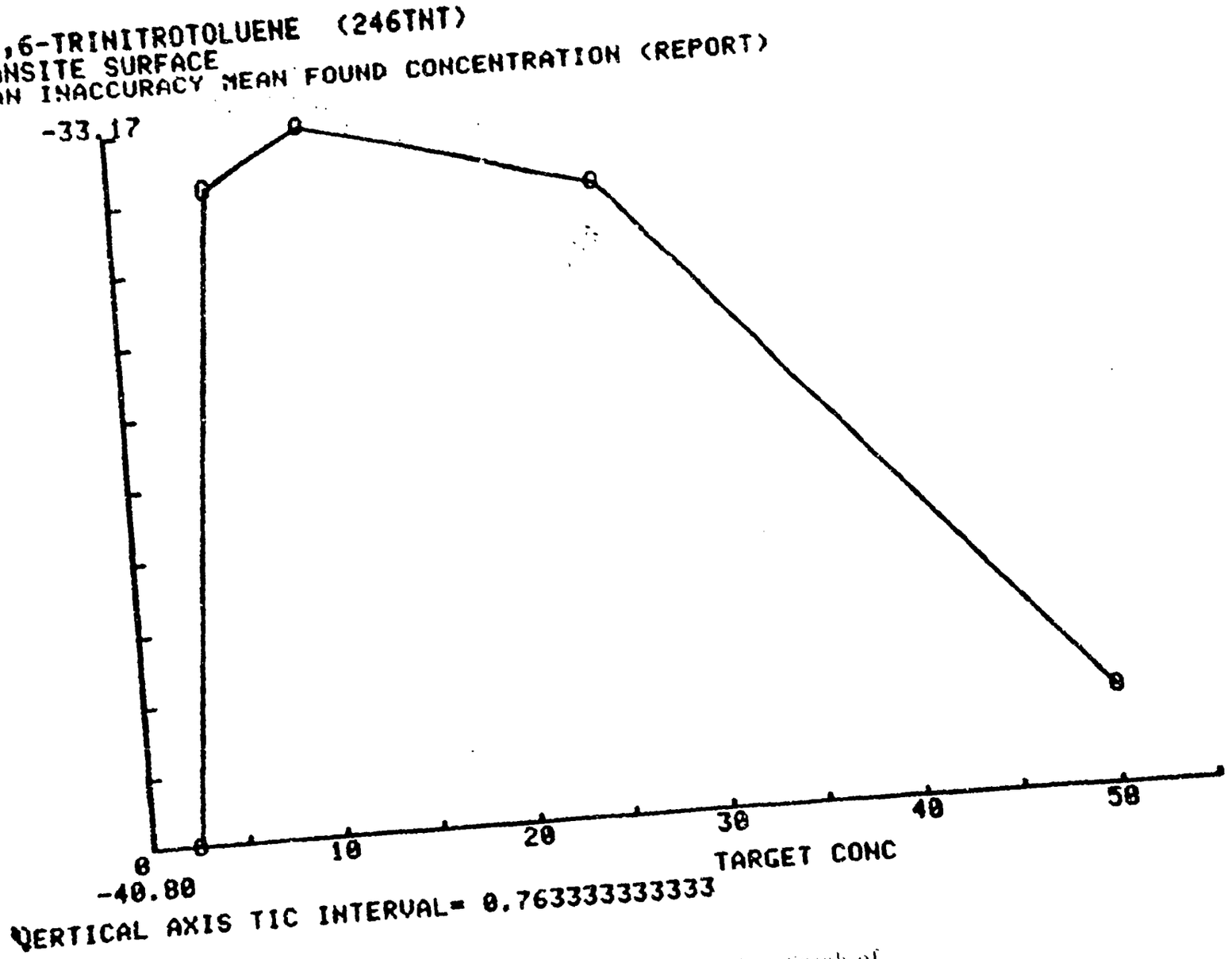

Figure II-77. TNT on Transite (3 days) - Graph of Inaccuracy

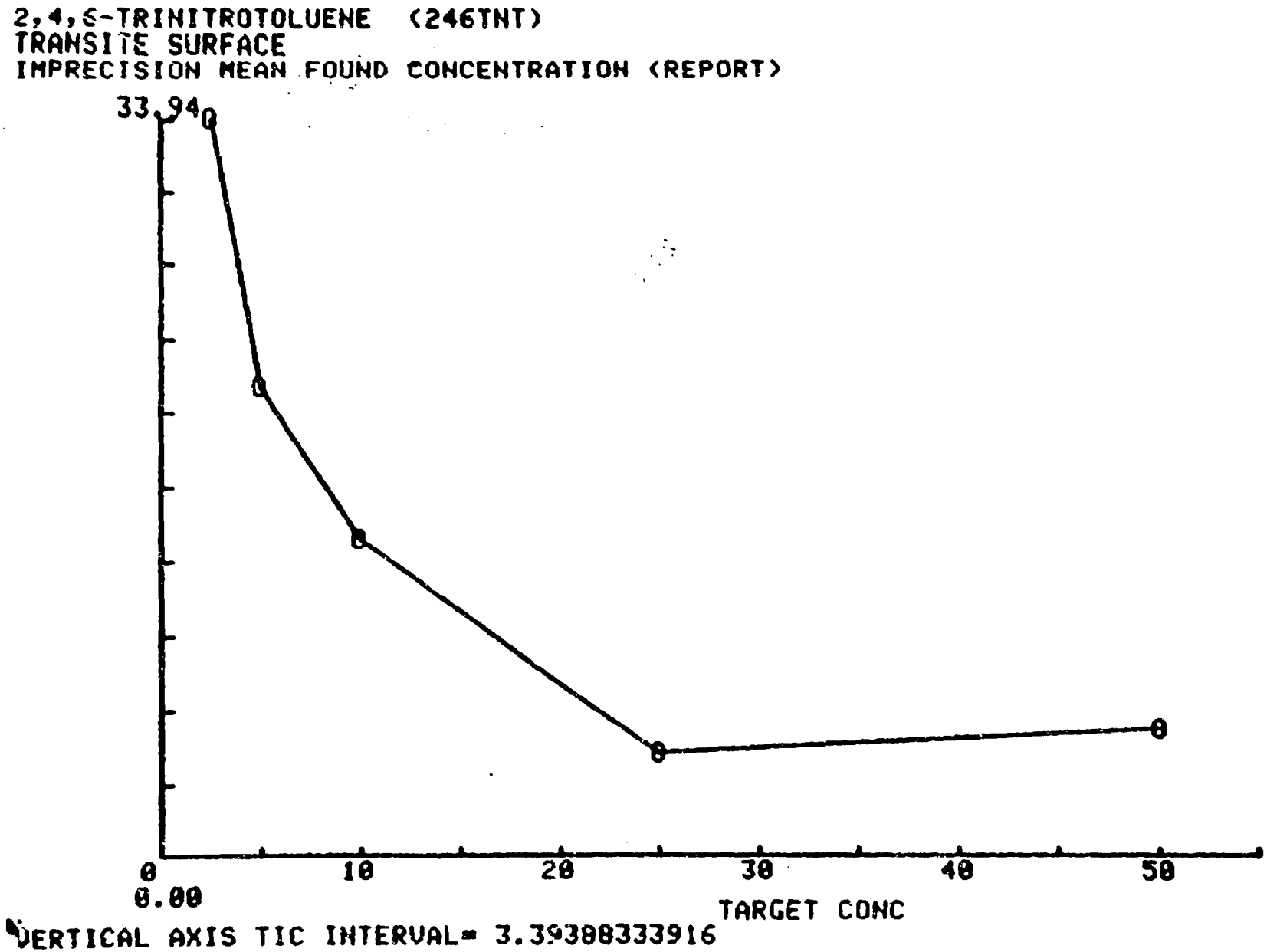

Figure II-78. TNT on Transite (3 days) - Graph of Imprecision

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Table II-80. Tetryl on Metal - Target vs. Found Concentrations

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	1.820
	0.810
	0.000
	0.000
5.000	2.660
	2.430
	0.110
	0.250
10.000	8.520
	8.140
	2.620
	2.070
25.000	22.940
	19.600
	8.610
	11.160
50.000	48.900
	46.740
	41.180
	32.350

Table II-81. Tetryl on Metal - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROPHENYLMETHYLNITRAMINE  (TETRYL)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 13.0455  SD= 16.5283732046

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -3.22953074434
SLOPE= 0.879731391586
 USE FOR ACCURACY
R= 0.959925250553
MEAN SQR DEV OF POINTS FROM REGRESSION= 22.6491360617
ST ERROR EST= 4.7591108478
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 5.44699848777
x(d)= 19.476685492
```

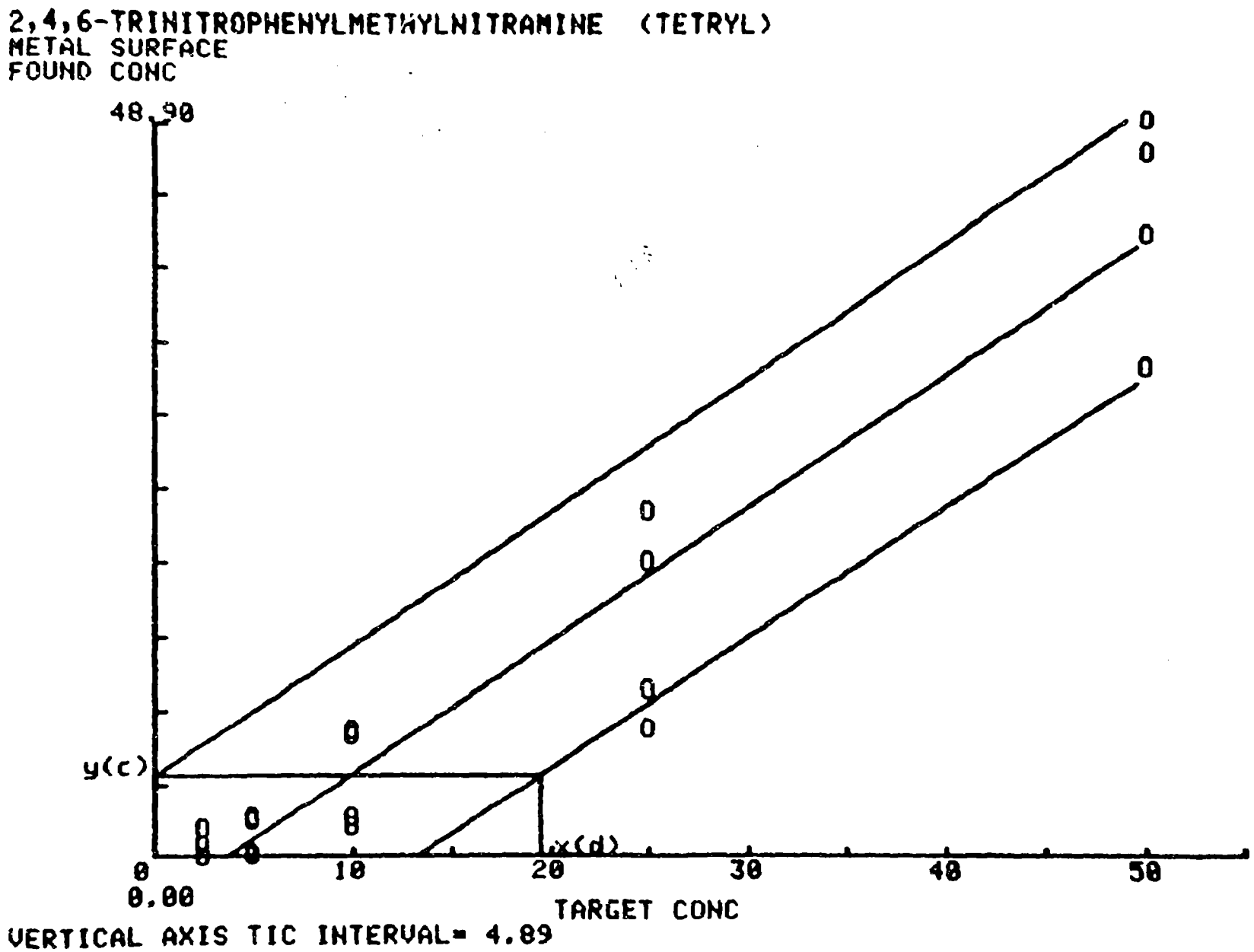

Figure II-79. Tetryl on Metal - Graph of Target-Found Concentration Points

Table II-82. Tetryl on Metal - Inaccuracy and Imprecision Data

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	0.658	0.864	-73.700	131.401
5.000	1.363	1.370	-72.750	100.540
10.000	5.338	3.466	-46.625	64.941
25.000	15.578	6.793	-37.690	43.610
50.000	42.293	7.383	-15.415	17.457
Means		3.975	-49.236	71.590

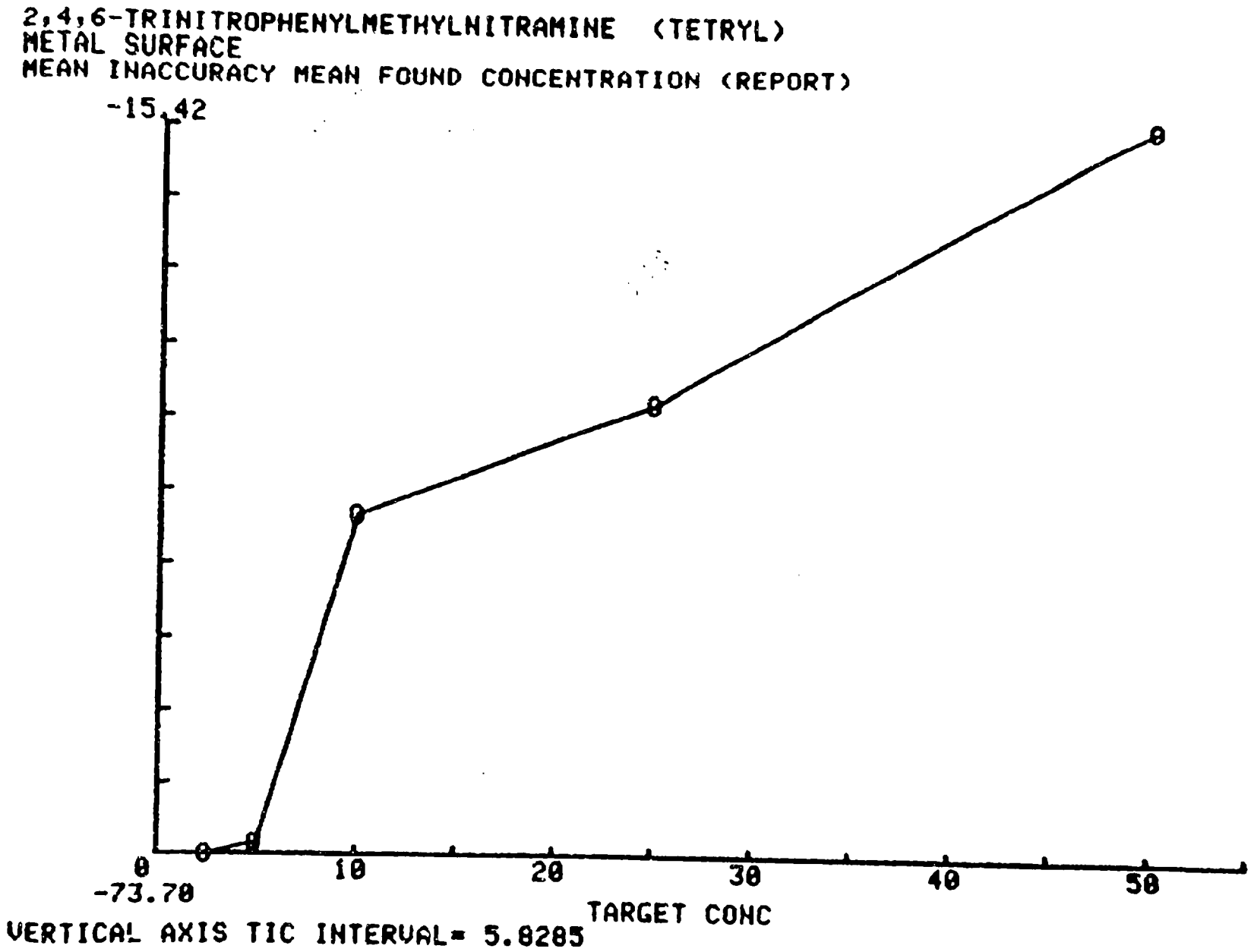

Figure II-80. Tetryl on Metal - Graph of Inaccuracy

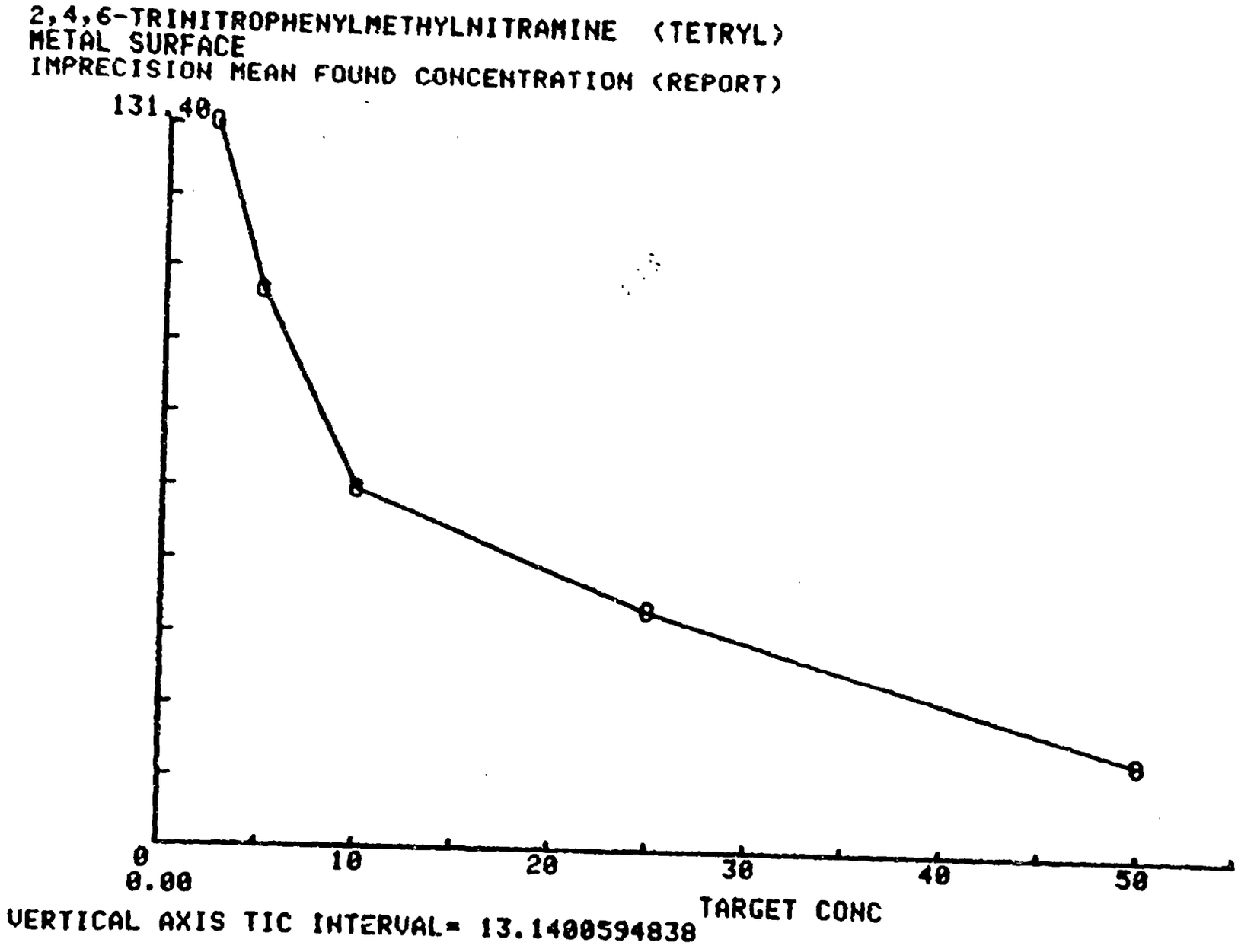

Figure II-81. Tetryl on Metal - Graph of Imprecision

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Table II-83. Tetryl on Concrete - Target vs. Found Concentrations

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.230 0.520 0.250 0.350
5.000	1.500 1.790 0.350 1.100
10.000	2.880 3.960 1.280 1.250
25.000	15.930 14.650 3.460 8.500
50.000	28.080 40.160 9.780 18.020

Table II-84. Tetryl on Concrete - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROPHENYLMETHYLNITRAMINE  (TETRYL)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 7.702  SD= 10.8150614277

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -1.68730380259
SLOPE= 0.507529935275
 USE FOR ACCURACY
R= 0.846350216412
MEAN SQR DEV OF POINTS FROM REGRESSION= 35.0255619146
ST ERROR EST= 5.91823976488
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 9.10248066865
x(d)= 42.9096479565
```

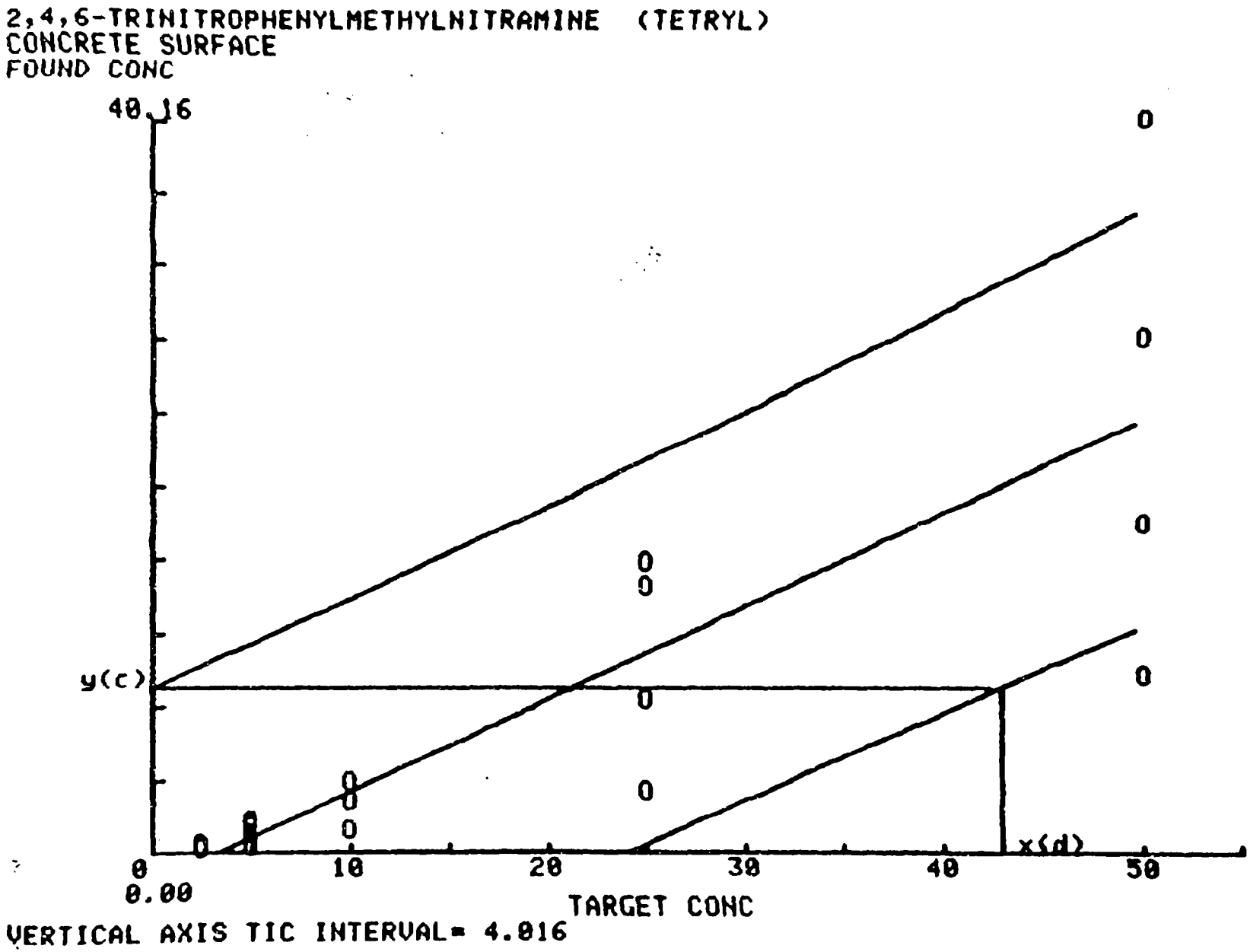

Figure II-82. Tetryl on Concrete - Graph of Target-Found Concentration Points

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Table II-35. Tetryl on Concrete - Inaccuracy and Imprecision Data

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	0.338	0.133	-86.500	39.262
5.000	1.185	0.624	-76.300	52.694
10.000	2.343	1.320	-76.575	56.353
25.000	10.635	5.779	-57.460	54.341
50.000	24.010	13.112	-51.980	54.610
Means		4.194	-69.763	51.452

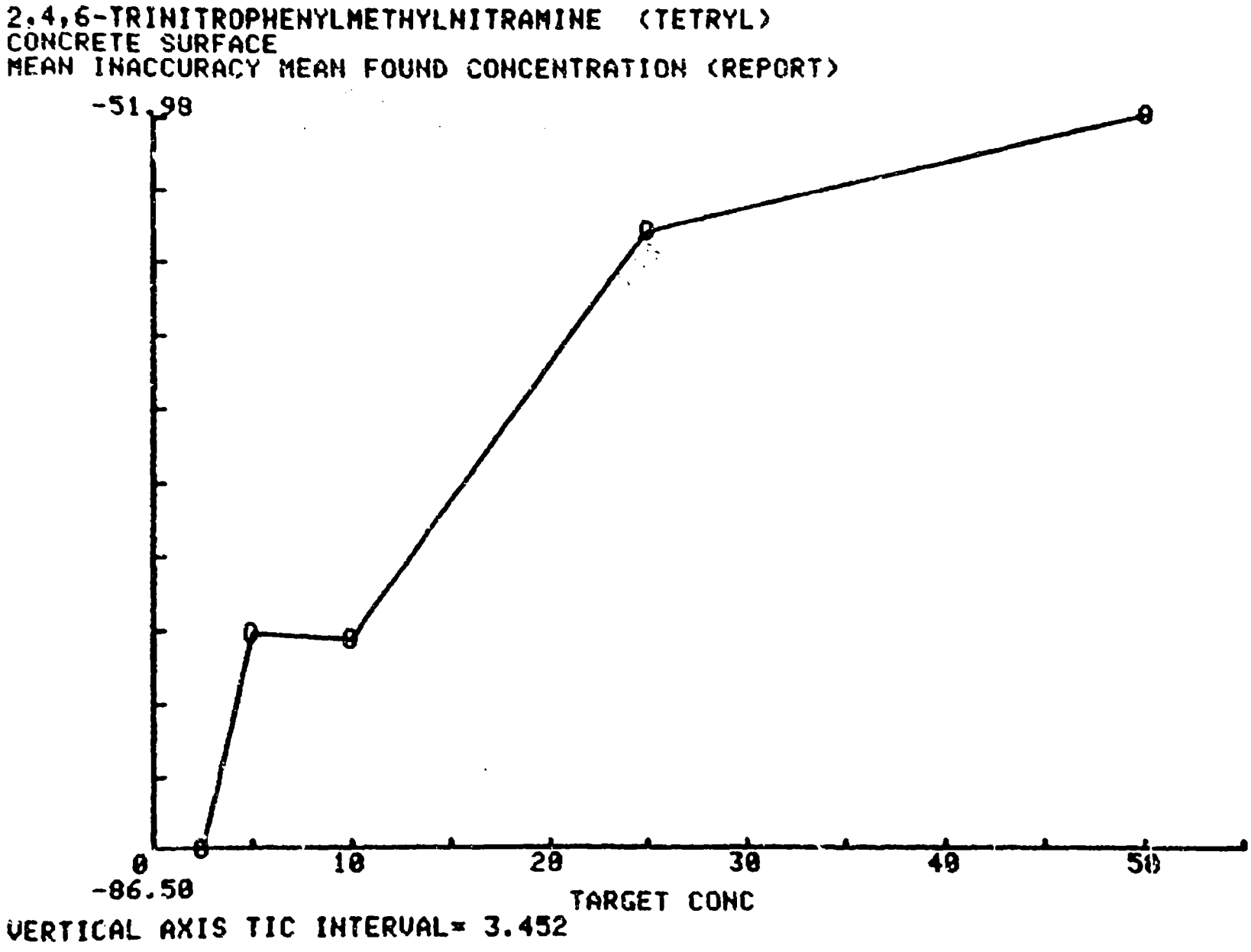

Figure II-83. Tetryl on Concrete - Graph of Inaccuracy

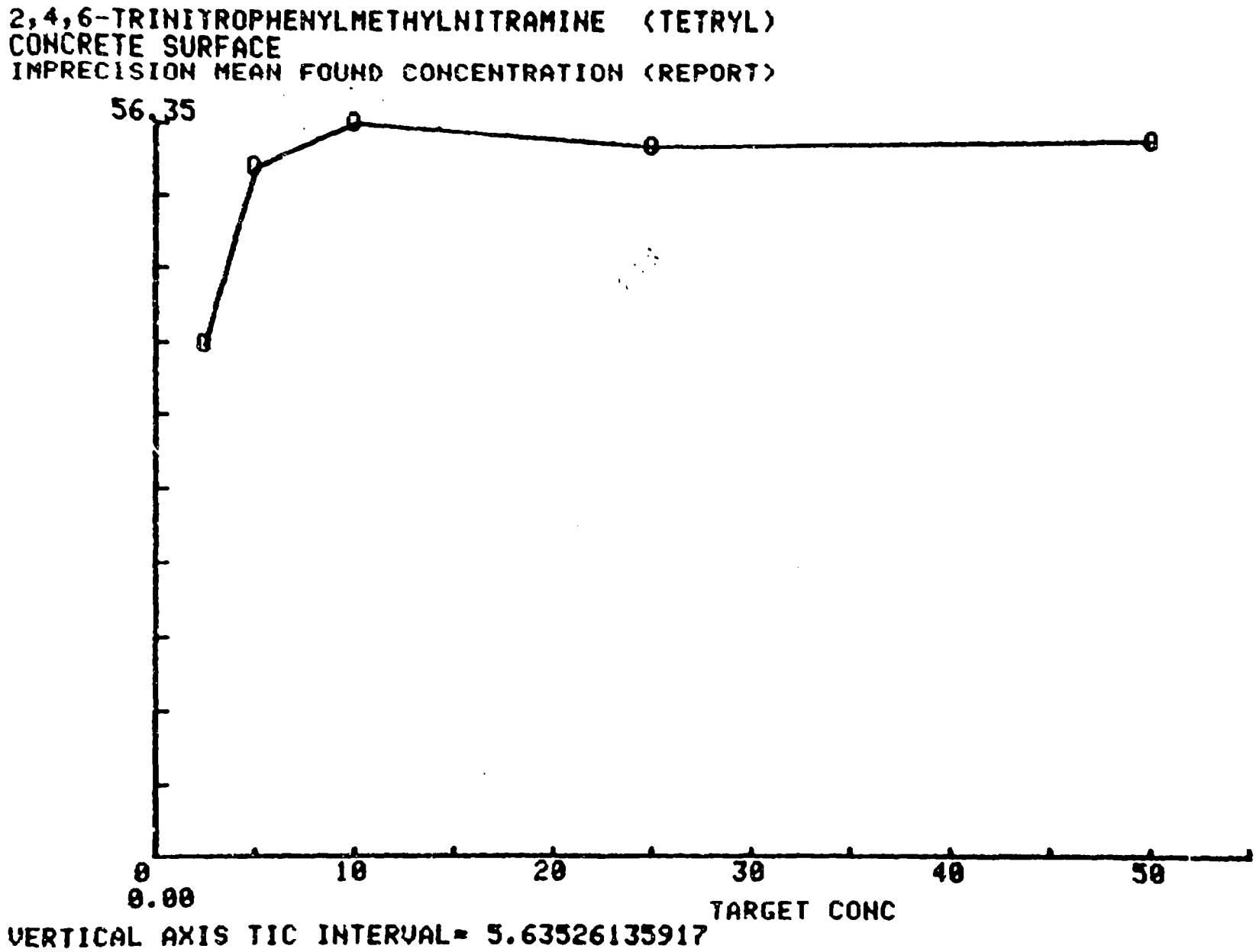

Figure II-84. Tetryl on Concrete - Graph of Imprecision

Table II-86. Tetryl on Brick - Target vs. Found Concentrations

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	2.210
	1.280
	0.620
	0.060
5.000	2.300
	6.050
	3.910
	0.600
10.000	9.340
	6.520
	8.060
	2.560
25.000	24.170
	17.540
	17.820
	11.820
50.000	41.510
	41.820
	30.920
	20.310

Table II-87. Tetryl on Brick - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROPHENYLMETHYLNITRAMINE  (TETRYL)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 12.471  SD= 13.2681609006

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.212591019417
SLOPE= 0.685599514563
 USE FOR ACCURACY
R= 0.931916945925
MEAN SQR DEV OF POINTS FROM REGRESSION= 24.441622711
ST ERROR EST= 4.94384695465
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 8.80073814918
x(d)= 26.0154833108
```

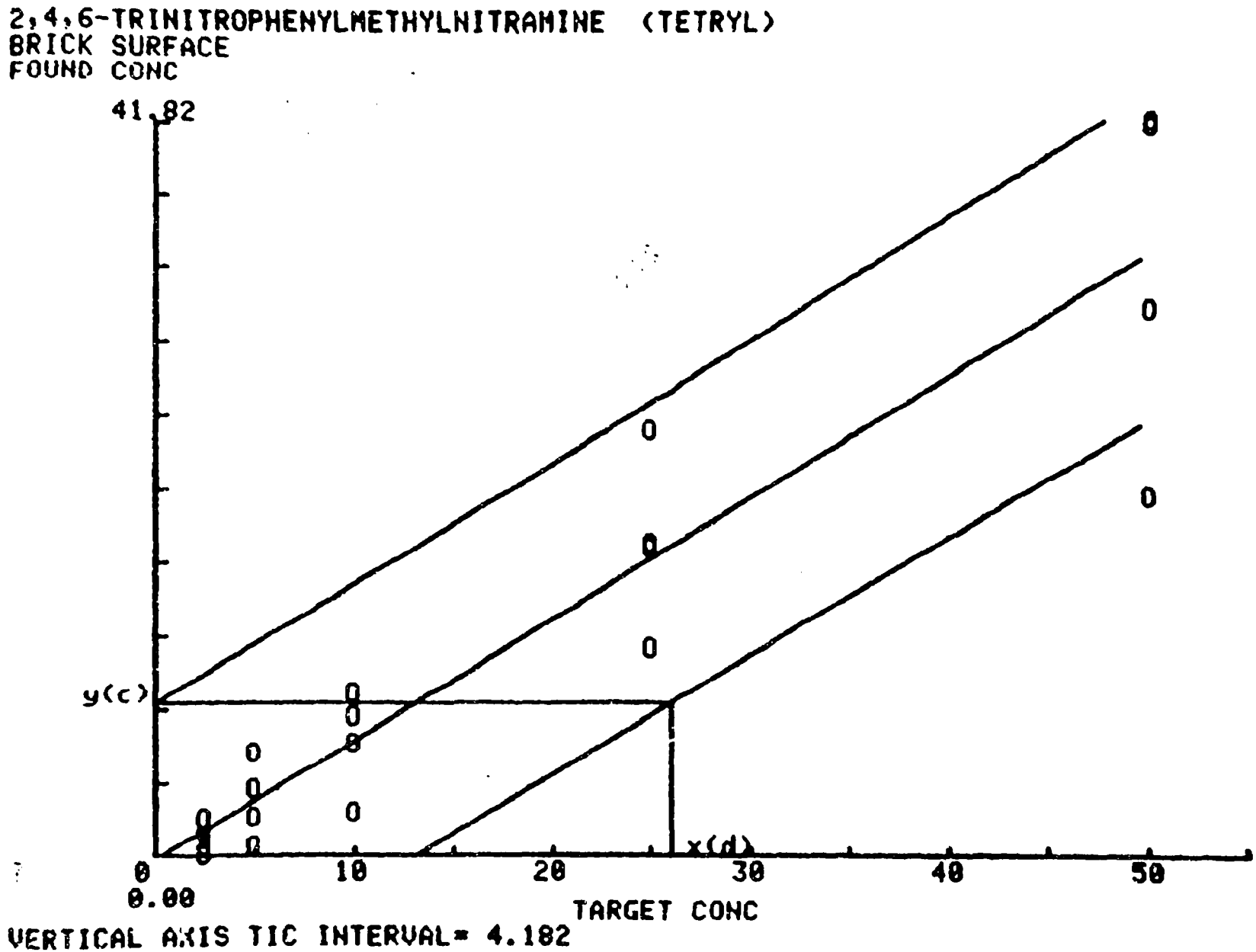

Figure II-35. Tetryl on Brick - Graph of Target-Found Concentration Points

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Table II-88. Tetryl on Brick - Inaccuracy and Imprecision Data

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.043	0.924	-58.300	88.667
5.000	3.215	2.323	-35.700	72.270
10.000	6.620	2.942	-33.800	44.441
25.000	17.838	5.046	-28.650	28.291
50.000	33.640	10.230	-32.720	30.409
Means		4.293	-37.834	52.816

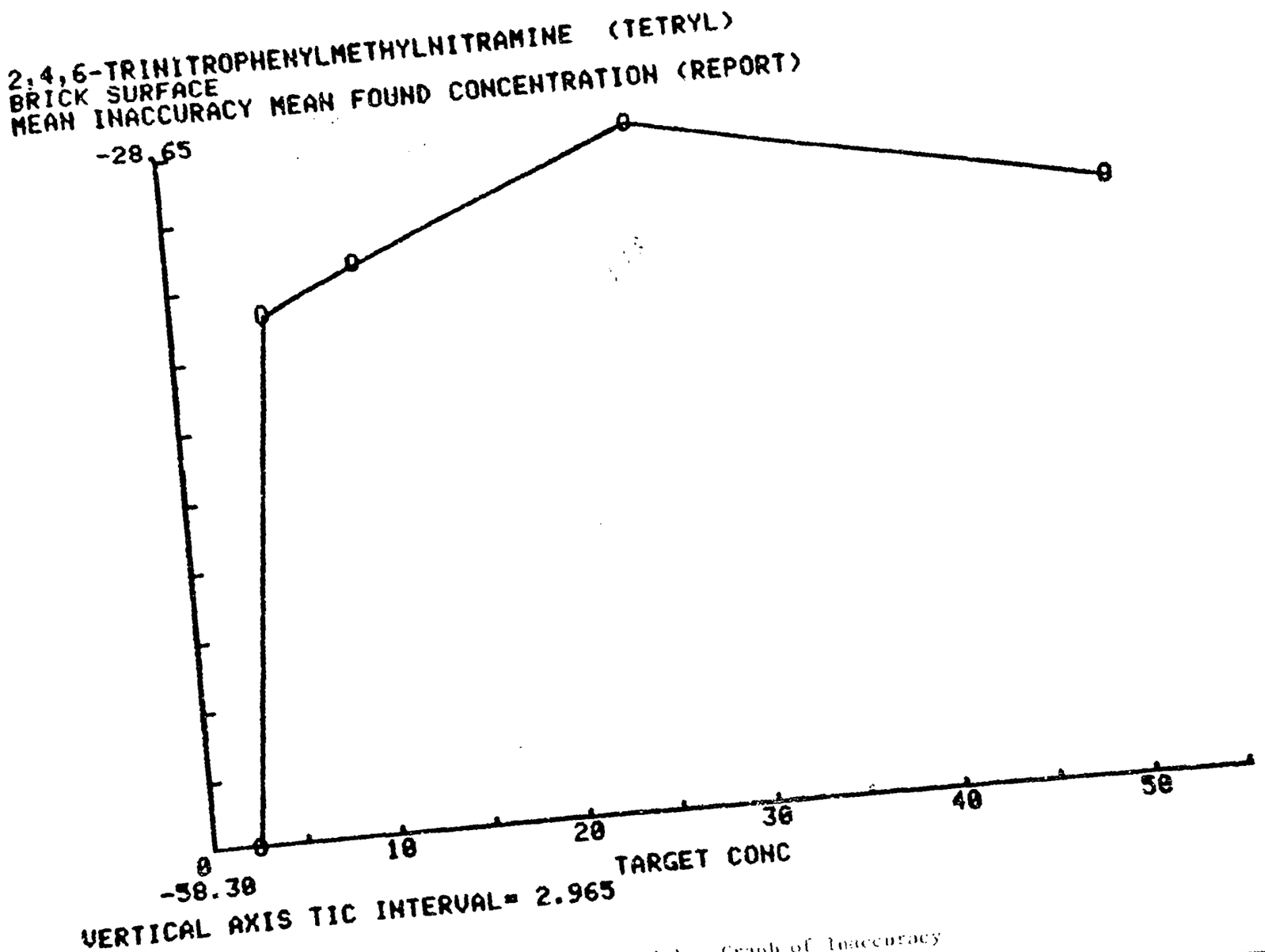

Figure II-86. Tetryl on Brick - Graph of Inaccuracy

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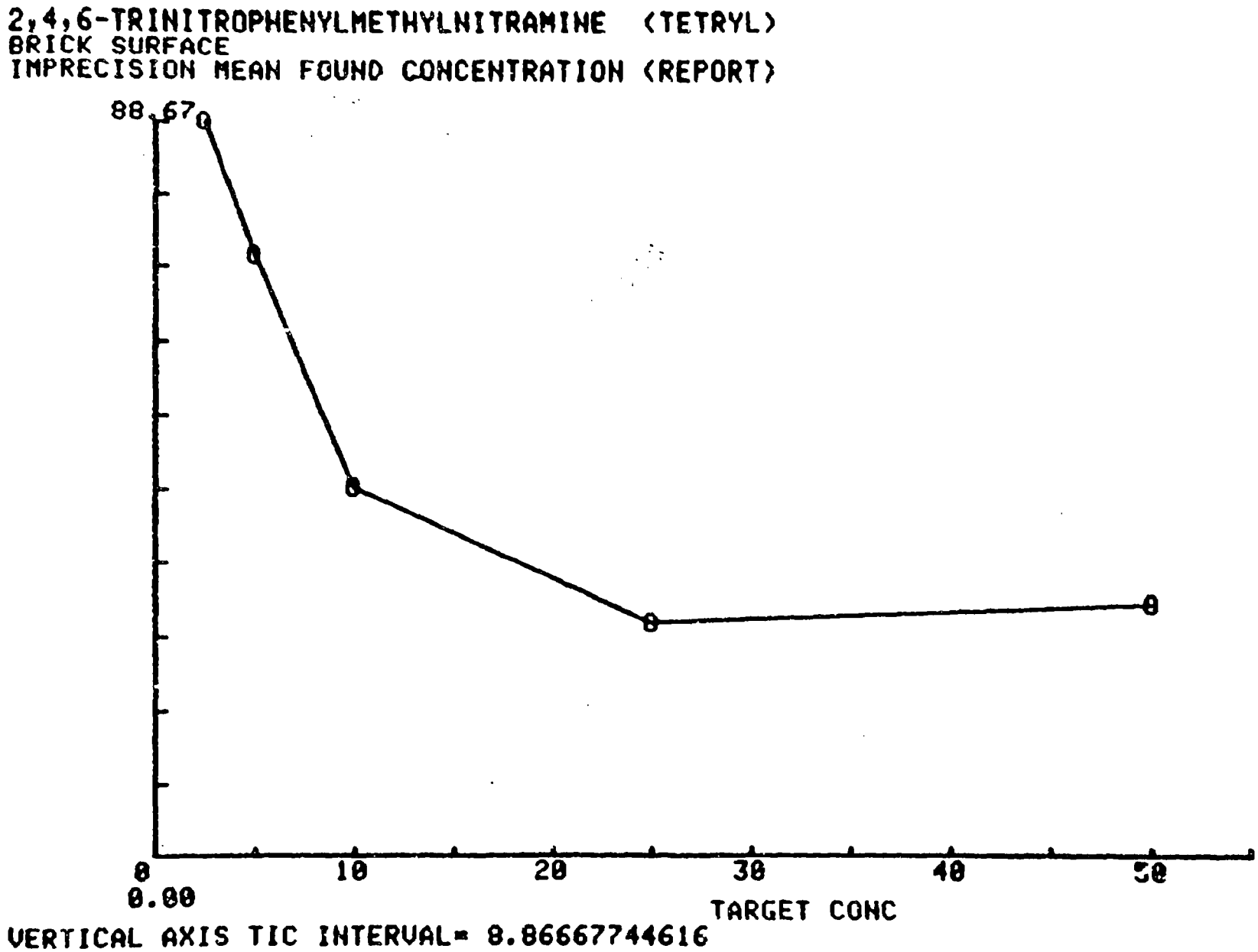

Figure II-87. Tetryl on Brick - Graph of Imprecision

Table II-89. Tetryl on Transite - Target vs. Found Concentrations

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
2.500	0.950
	1.340
	0.140
	0.170
5.000	1.460
	3.080
	0.540
	0.450
10.000	2.670
	7.850
	2.640
	0.900
25.000	6.880
	22.300
	9.080
	4.300
50.000	12.710
	40.460
	21.230
	35.070

Table II-90. Tetryl on Transite - Analysis of Target-Found Concentration Points

```
2,4,6-TRINITROPHENYLMETHYLNITRAMINE  (TETRYL)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC  OINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 8.711  SD= 11.9174652462

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -1.73395631068
SLOPE= 0.56459223301
 USE FOR ACCURACY
R= 0.854414170035
MEAN SQR DEV OF POINTS FROM REGRESSION= 40.4738695793
ST ERROR EST= 6.36190769968
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 9.86469728103
x(d)= 41.354710617
```

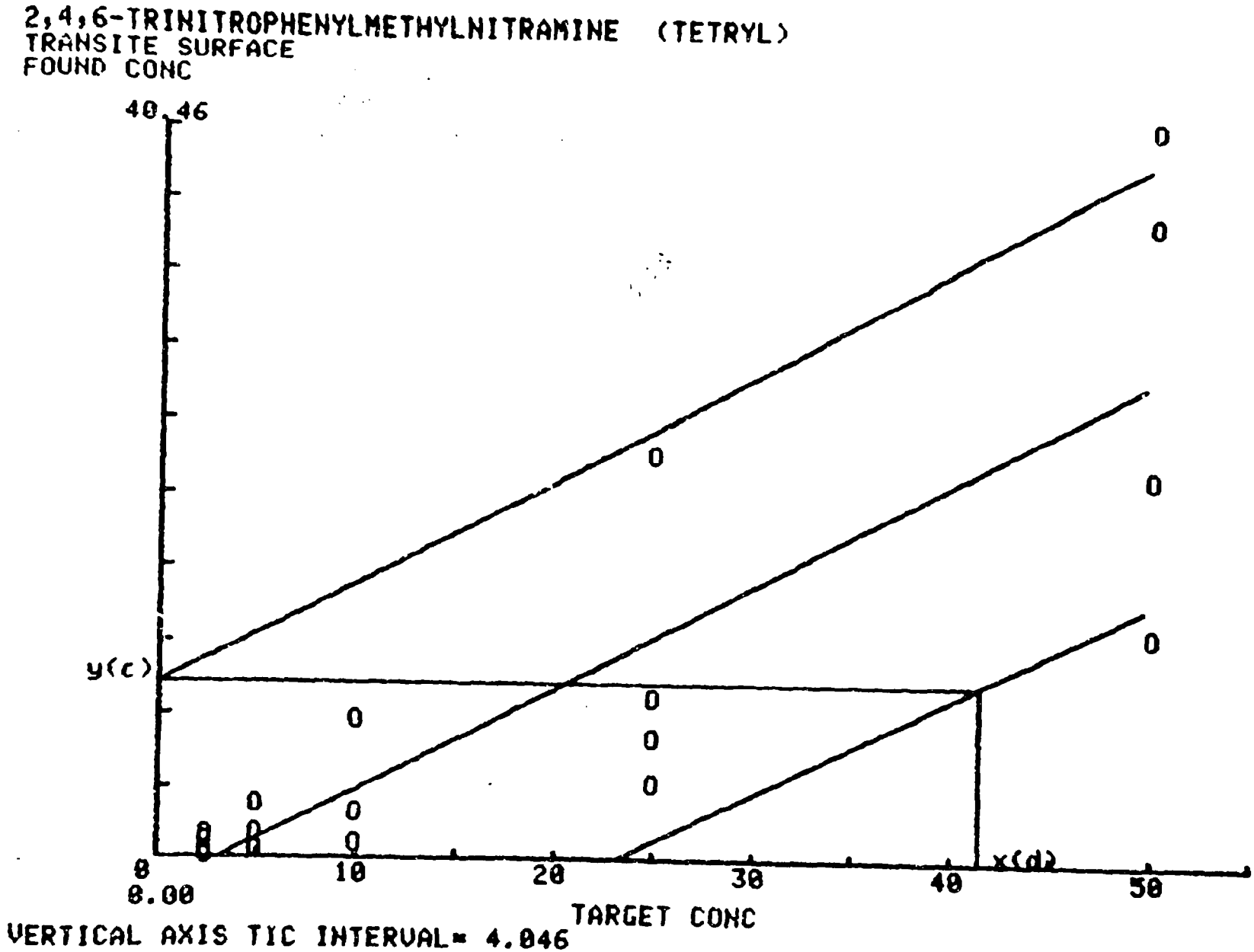

Figure II-88. Tetryl on Transite - Graph of Target-Found Concentration Points

Table II-91. Tetryl on Transite - Inaccuracy and Imprecision Data

2,4,6-TRINITROPHENYLMETHYLNITRAMINE (TETRYL)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	0.650	0.593	-74.000	91.302
5.000	1.383	1.220	-72.350	88.262
10.000	3.515	3.006	-64.850	85.522
25.000	10.640	8.015	-57.440	75.329
50.000	27.368	12.692	-45.265	46.376
Means		5.105	-62.781	77.358

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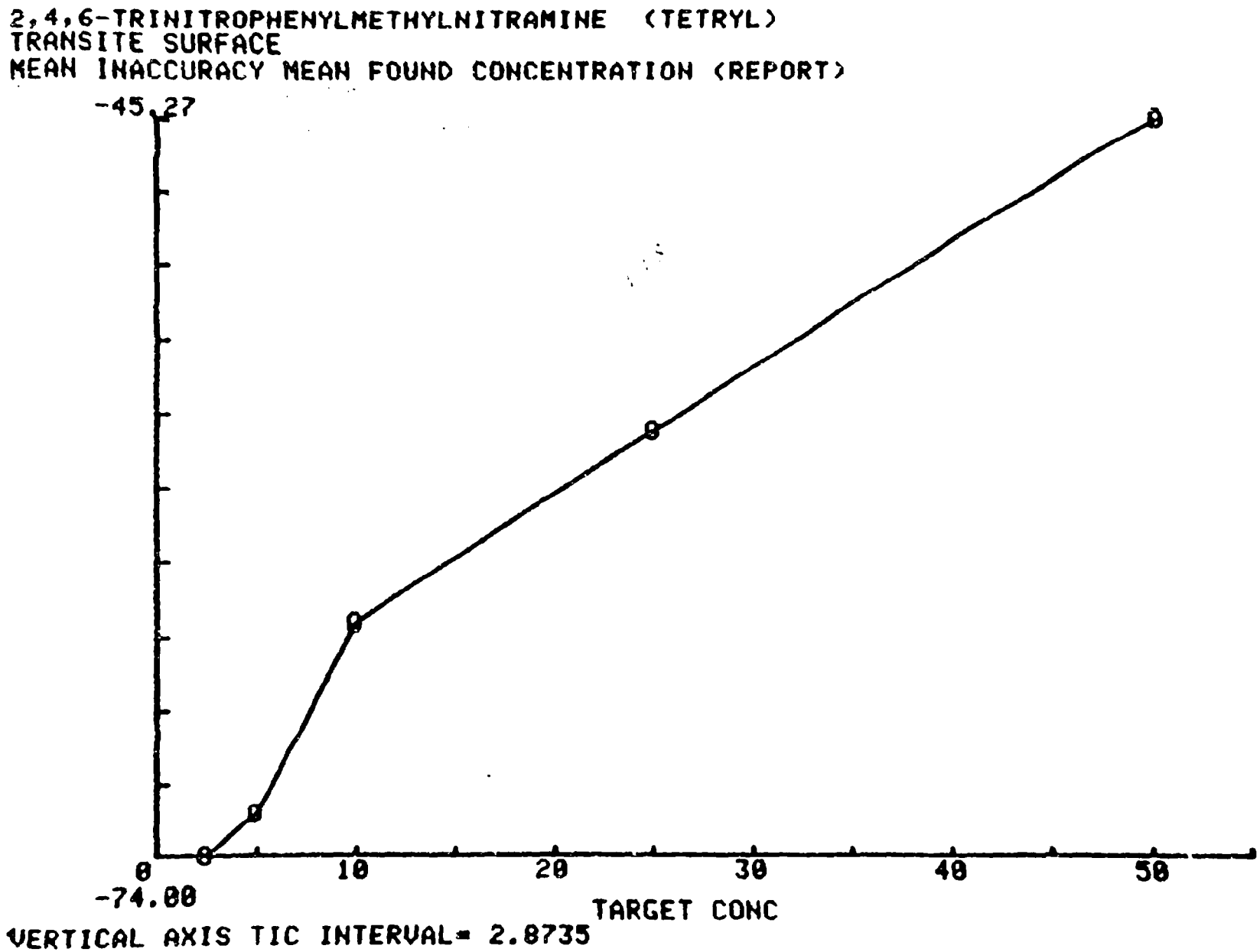

Figure II-89. Tetryl on Transite - Graph of Inaccuracy

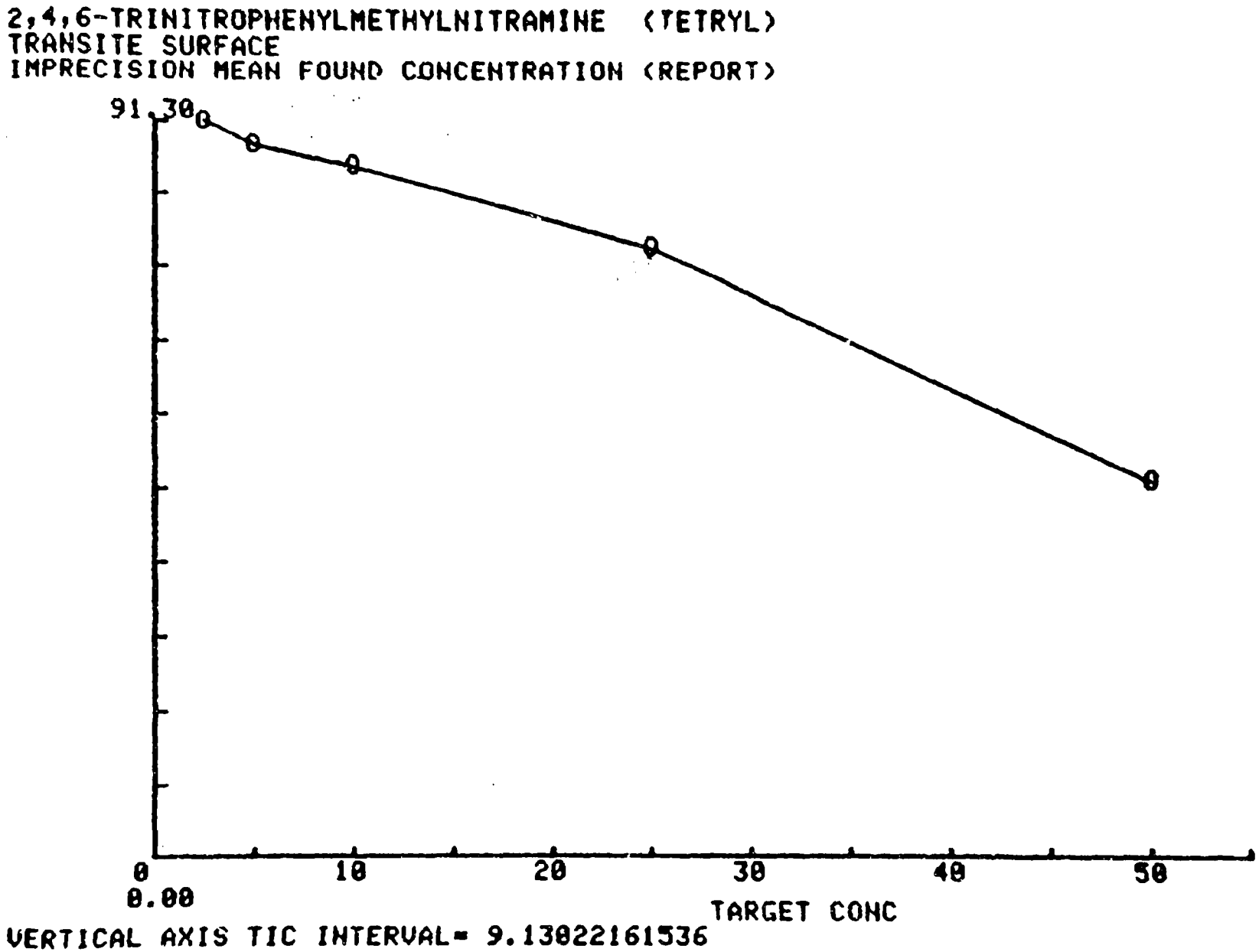

Figure II-90. Tetryl on Transite - Graph of Imprecision

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Table II-92. DPA on Metal - Target vs. Found Concentrations

DIPHENYLAMINE (DPA)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ng/ml	Found Conc ng/ml
2.500	2.050 2.610 2.560 2.410
5.000	3.770 5.070 4.980 4.720
10.000	9.520 10.140 10.270 9.910
25.000	25.240 25.420 24.400 21.800
50.000	49.370 47.940 47.220 43.510

Table II-93. DPA on Metal - Analysis of Target-Found Concentration Points

```
DIPHENYLAMINE  (DPA)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 17.6455  SD= 17.802404621

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.253584142395
SLOPE= 0.940103559871
 USE FOR ACCURACY
R= 0.997201187585
MEAN SQR DEV OF POINTS FROM REGRESSION= 1.70567937344
ST ERROR EST= 1.30601660534
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 2.63463632131
x(d)= 5.03549506469
```

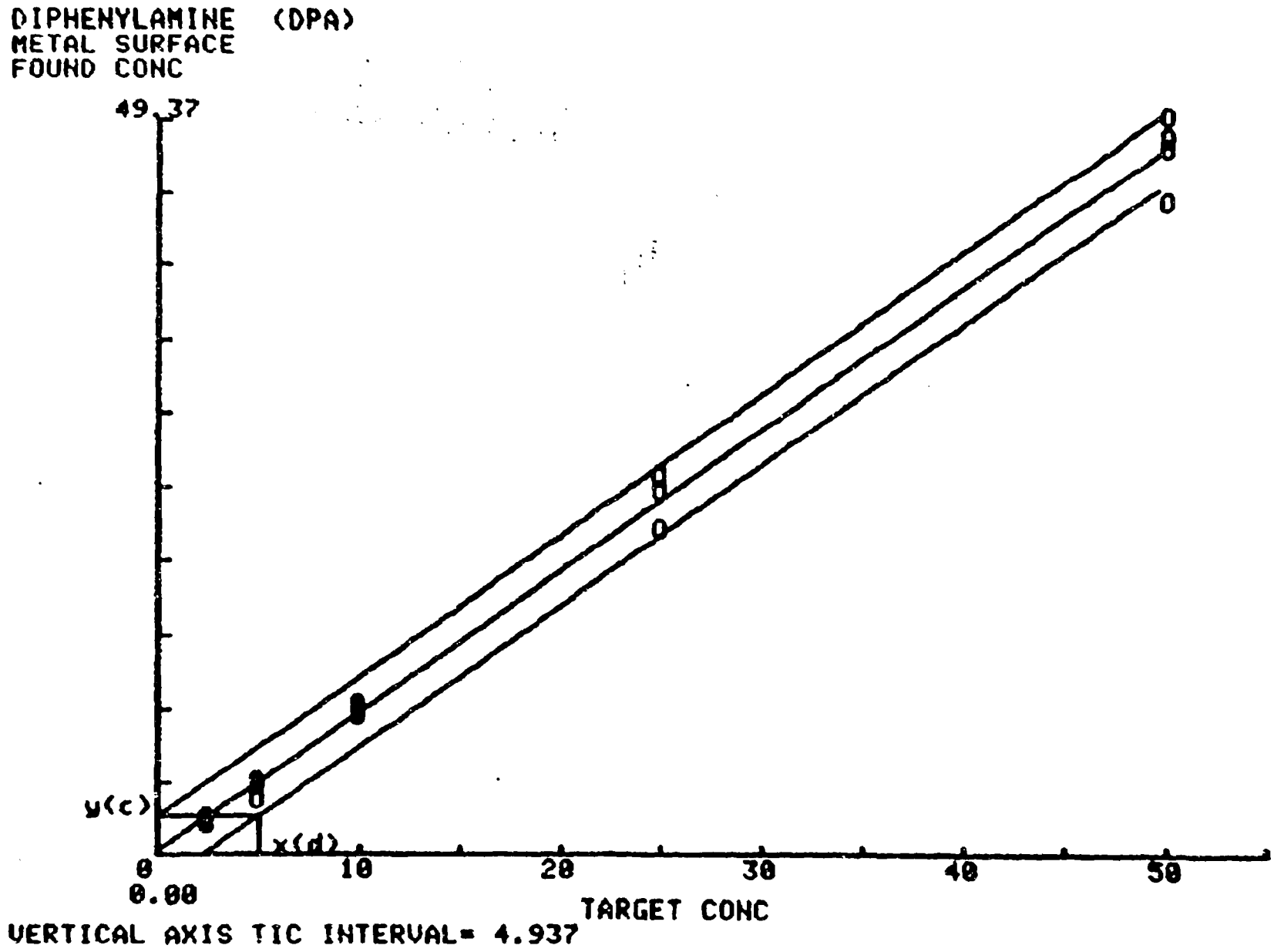

Figure II-91. DPA on Metal - Graph of Target-Found Concentration Points

Table II-94. DPA on Metal - Inaccuracy and Imprecision Data

DIPHENYLAMINE (DPA)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ng/ml	Mn Found Conc ng/ml	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.408	0.253	-3.700	10.510
5.000	4.635	0.595	-7.300	12.847
10.000	9.960	0.329	-0.400	3.303
25.000	24.215	1.670	-3.140	6.898
50.000	47.010	2.499	-5.980	5.315
Means		1.069	-4.104	7.774

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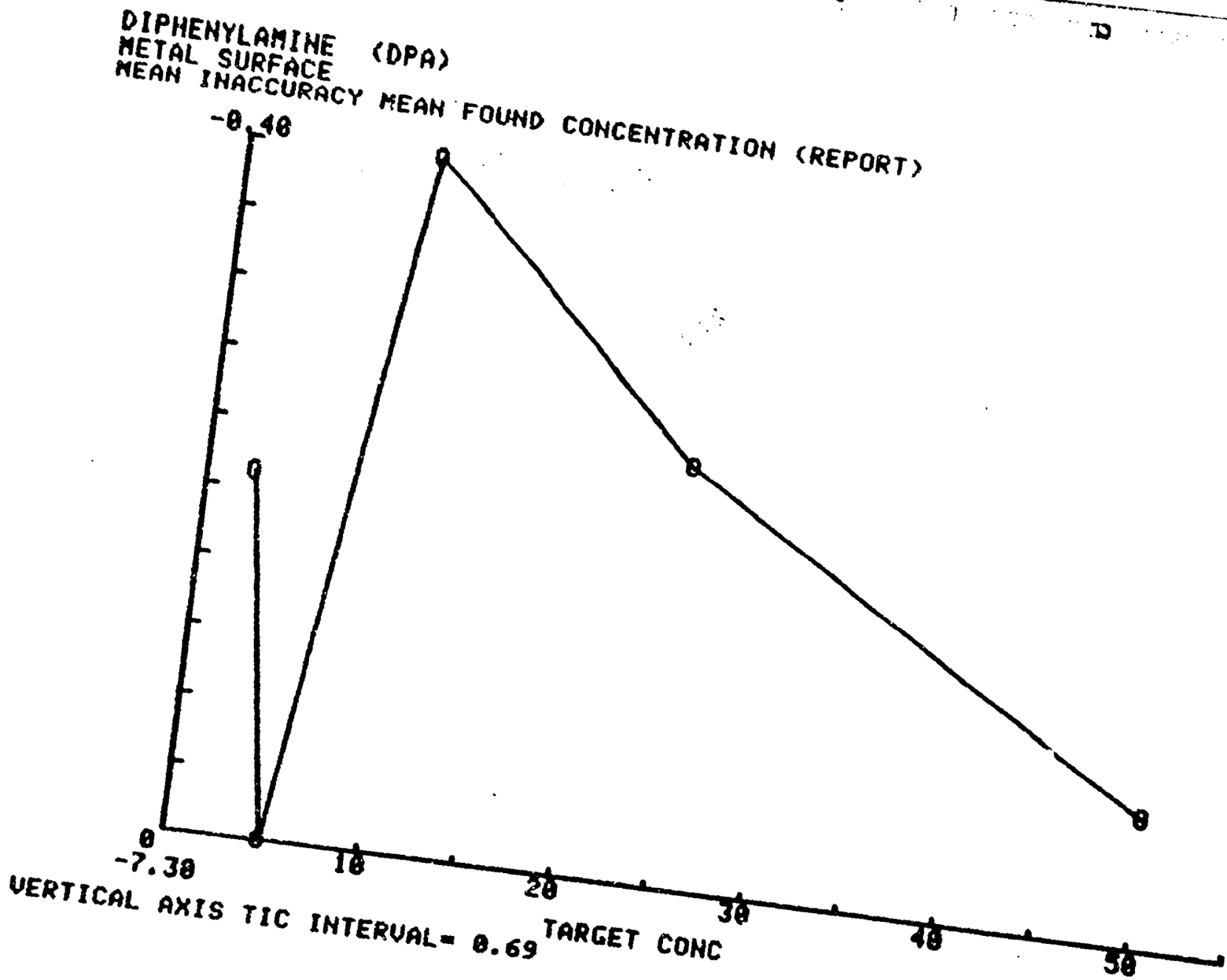

Figure II-92. DPA on Metal - Graph of Inaccuracy

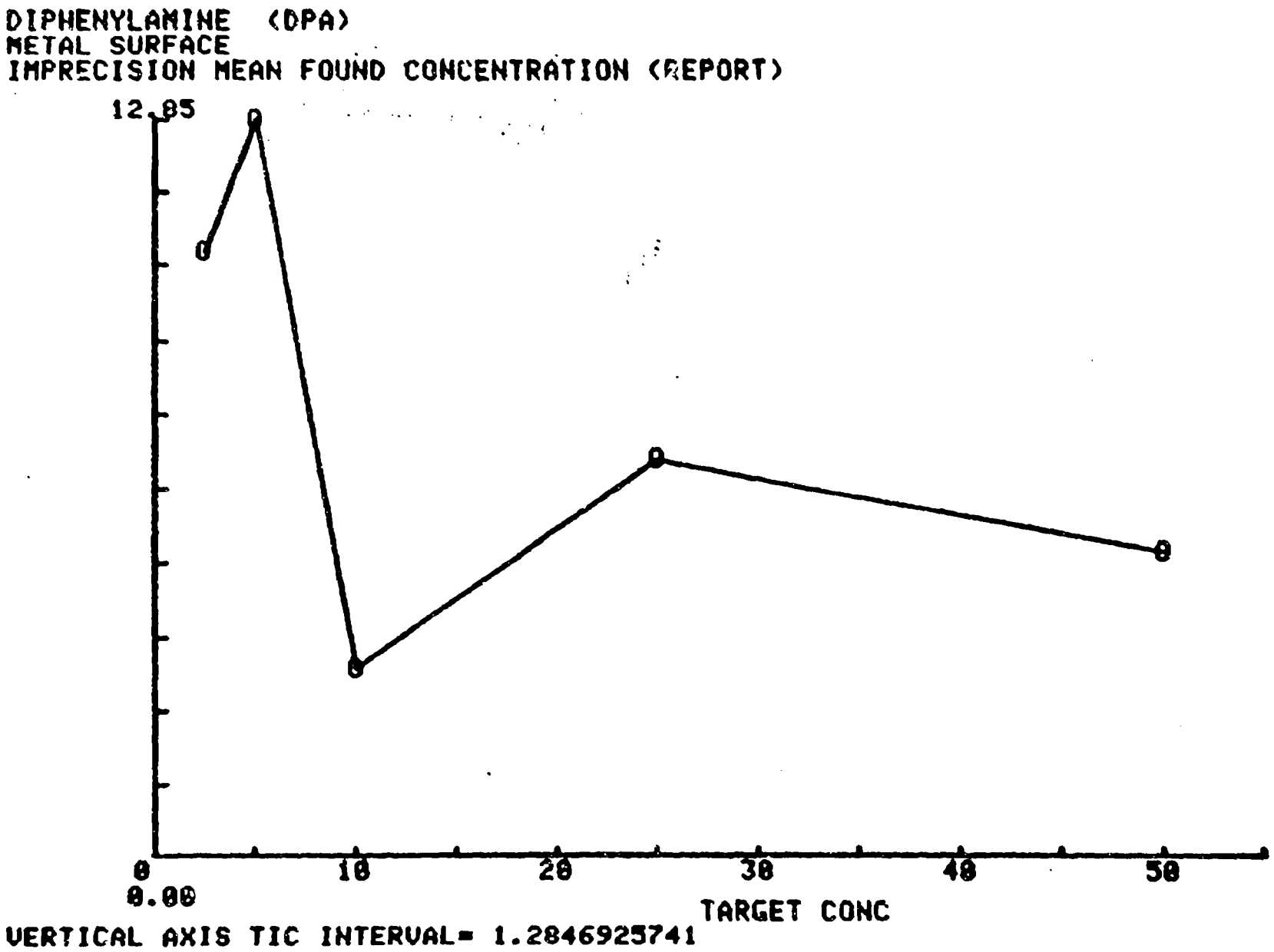

Figure II-93. DPA on Metal - Graph of Imprecision

Table II-95. DPA on Concrete - Target vs. Found Concentrations

DIPHENYLAMINE (DPA)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ng/ml	Found Conc ng/ml
2.500	2.010
	2.200
	1.720
	1.560
5.000	4.940
	4.130
	4.140
	2.950
10.000	5.300
	8.470
	7.470
	4.880
25.000	19.400
	21.100
	19.580
	9.750
50.000	35.410
	43.400
	47.480
	22.730

Table II-96. DPA on Concrete - Analysis of Target-Found Concentration Points

```
DIPHENYLAMINE  (DPA)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 13.431  SD= 14.2563485027

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.303319174757
SLOPE= 0.742395631068
 USE FOR ACCURACY
R= 0.939170713081
MEAN SQR DEV OF POINTS FROM REGRESSION= 25.3061729268
ST ERROR EST= 5.03052412049
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 8.86803467264
x(d)= 24.4266262877
```

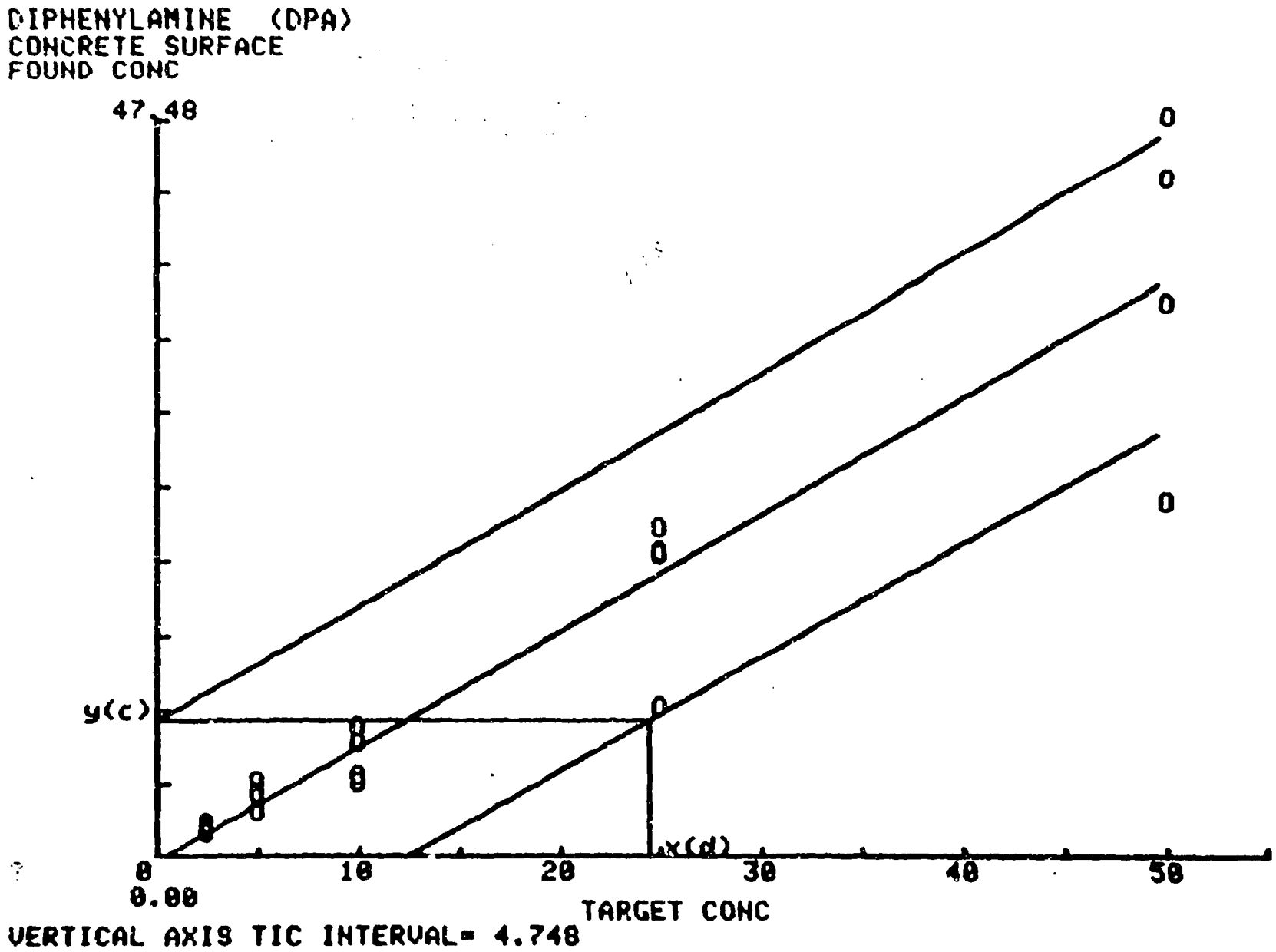

Figure II-94. DPA on Concrete - Graph of Target-Found Concentration Points

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Table II-97. DPA on Concrete - Inaccuracy and Imprecision Data

DIPHENYLAMINE (DPA)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ng/ml	Mn Found Conc ng/ml	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.873	0.287	-25.100	15.326
5.000	4.040	0.820	-19.200	20.292
10.000	6.530	1.721	-34.700	26.351
25.000	17.458	5.195	-30.170	29.756
50.000	37.255	10.904	-25.490	29.269
Means		3.785	-26.932	24.199

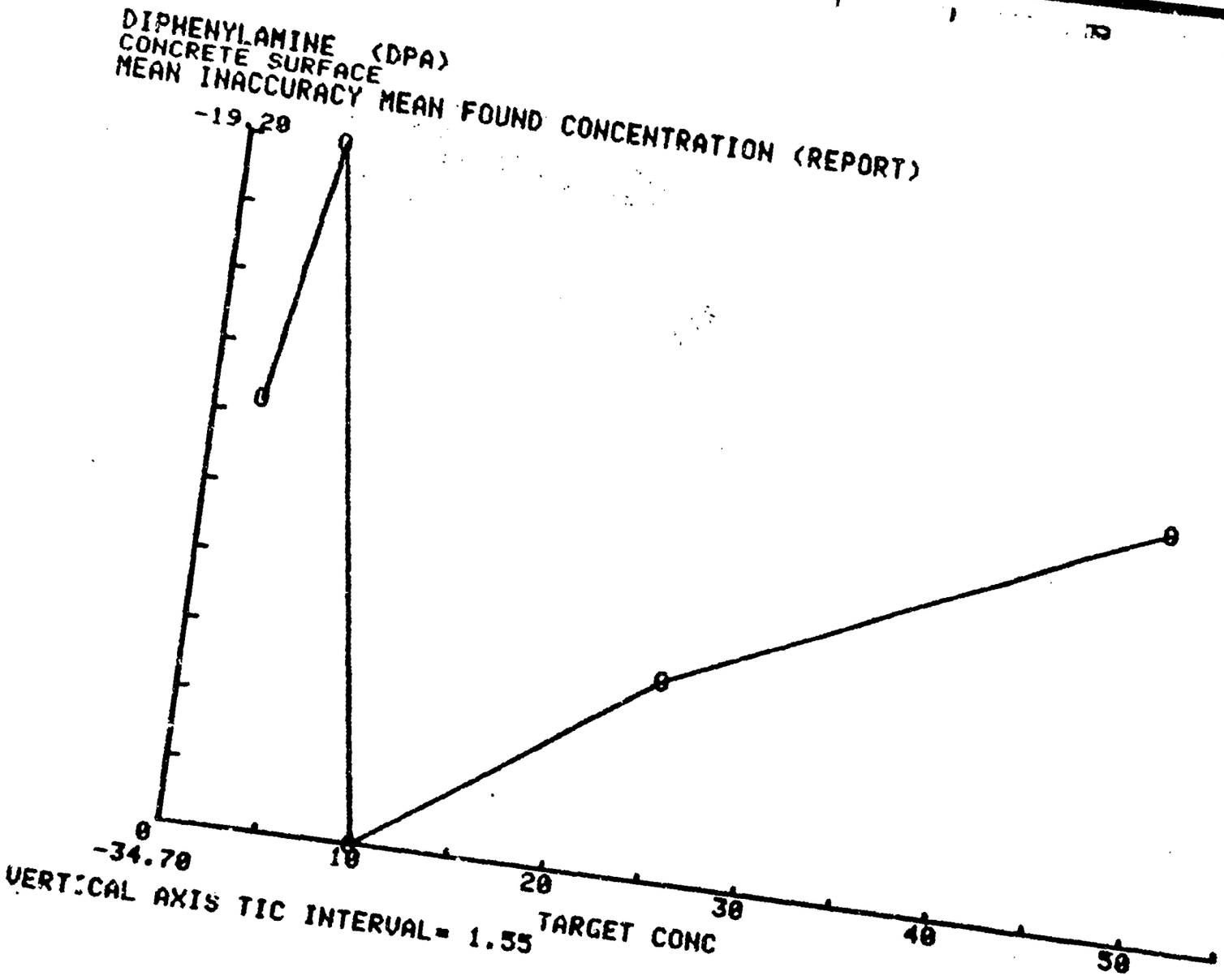

Figure II-95. DPA on Concrete - Graph of Inaccuracy

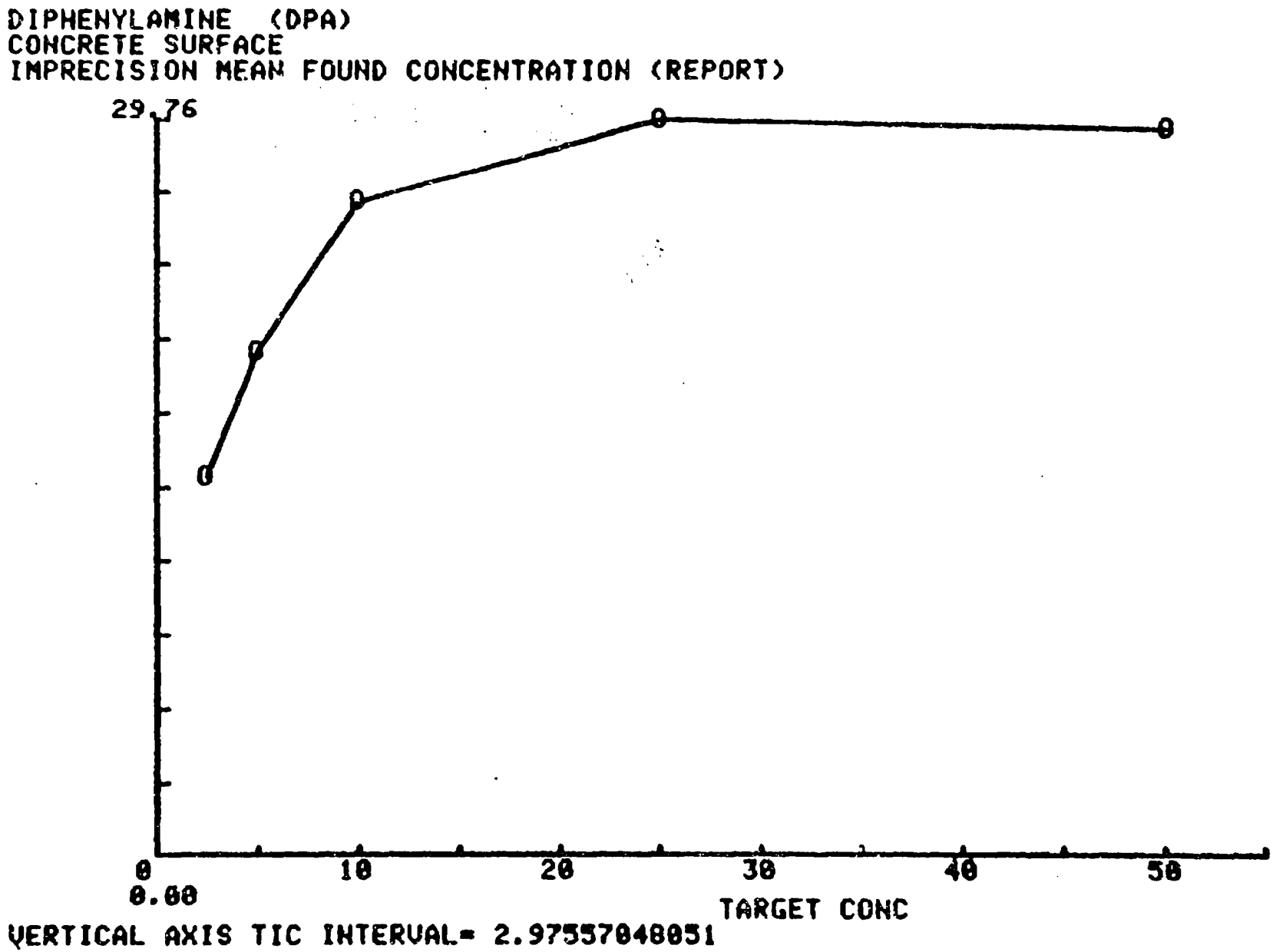

Figure II-96. DPA on Concrete - Graph of Imprecision

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Table II-98. DPA on Concrete (3 days) - Target vs. Found Concentrations

DIPHENYLAMINE (DPA)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ng/ml	Found Conc ng/ml
2.500	2.010 2.200 1.720
5.000	4.940 4.130 4.140
10.000	5.300 8.470 7.470
25.000	19.400 21.100 19.580
50.000	35.410 43.400 47.480

Table II-99. DPA on Concrete (3 days) - Analysis of Target-Found Concentration Points

```
DIPHENYLAMINE  (DPA)
CONCRETE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 15.1166666667  SD= 15.5726205092

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.509147788565
SLOPE= 0.844638619282
 USE FOR ACCURACY
R= 0.986893039028
MEAN SQR DEV OF POINTS FROM REGRESSION= 6.80118484773
ST ERROR EST= 2.607900 3637
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093170942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 4.42307951945
x(d)= 11.514520374
```

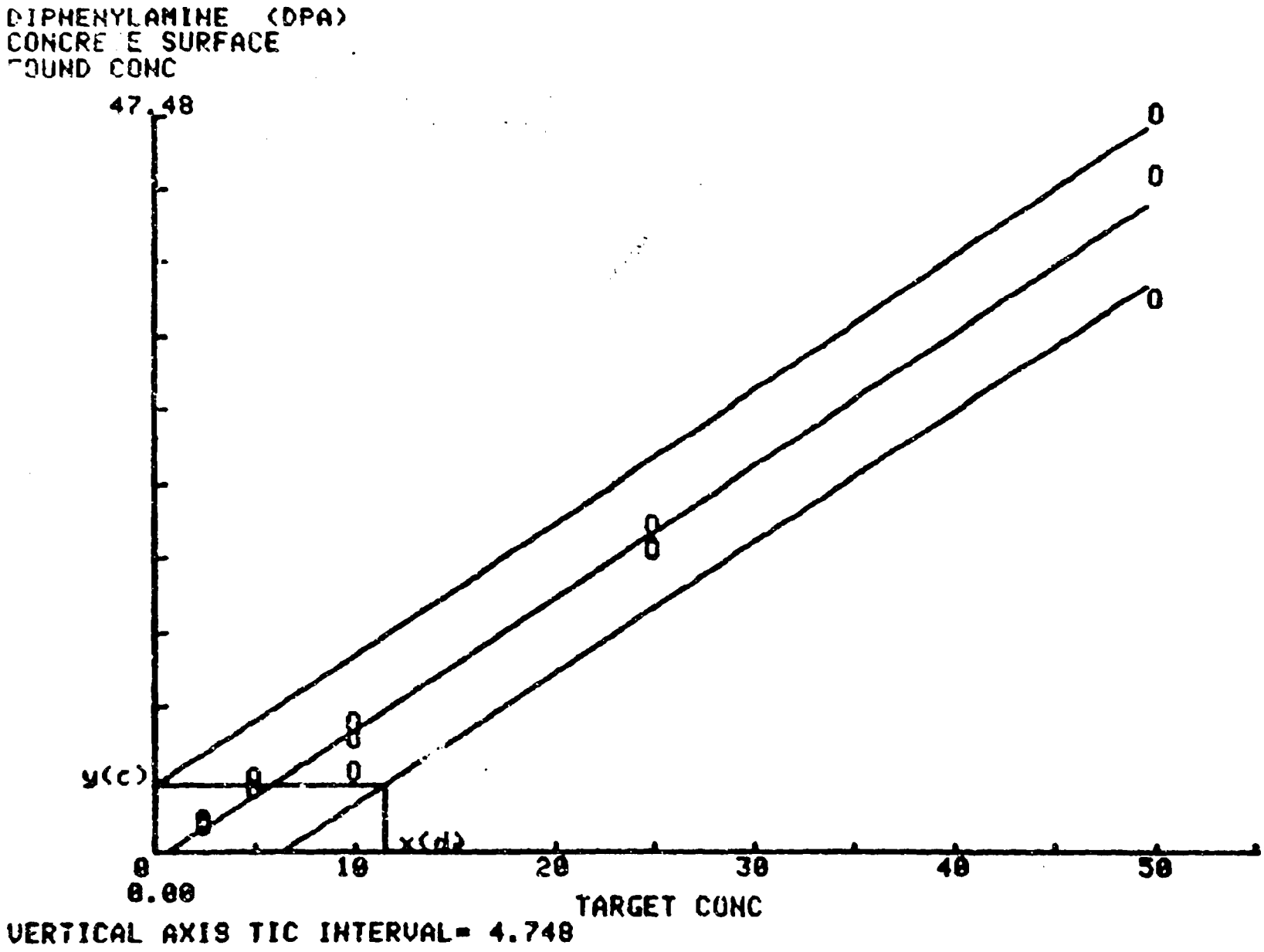

Figure II-97. DPA on Concrete (3 days) - Graph of Target-Found Concentration Points

Table II-100. DPA on Concrete (3 days) - Inaccuracy and Imprecision Data

DIPHENYLAMINE (DPA)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ng/ml	Mn Found Conc ng/ml	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.977	0.242	-20.933	12.229
5.000	4.403	0.465	-11.933	10.556
10.000	7.080	1.621	-29.200	22.890
25.000	20.027	0.934	-19.893	4.663
50.000	42.097	6.140	-15.807	14.585
Means		1.880	-19.553	12.984

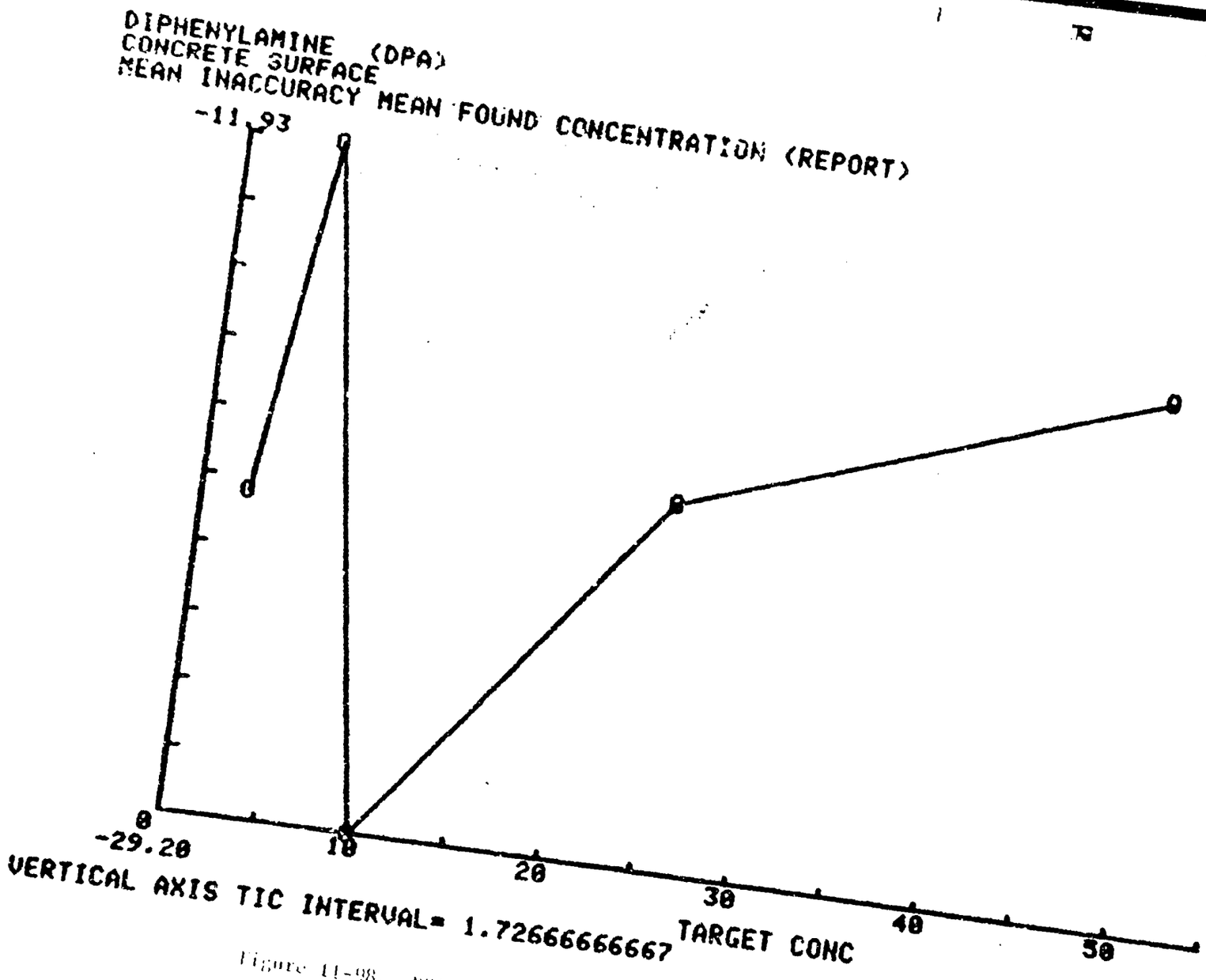

Figure II-98. DPA on Concrete (3 days) - Graph of Inaccuracy

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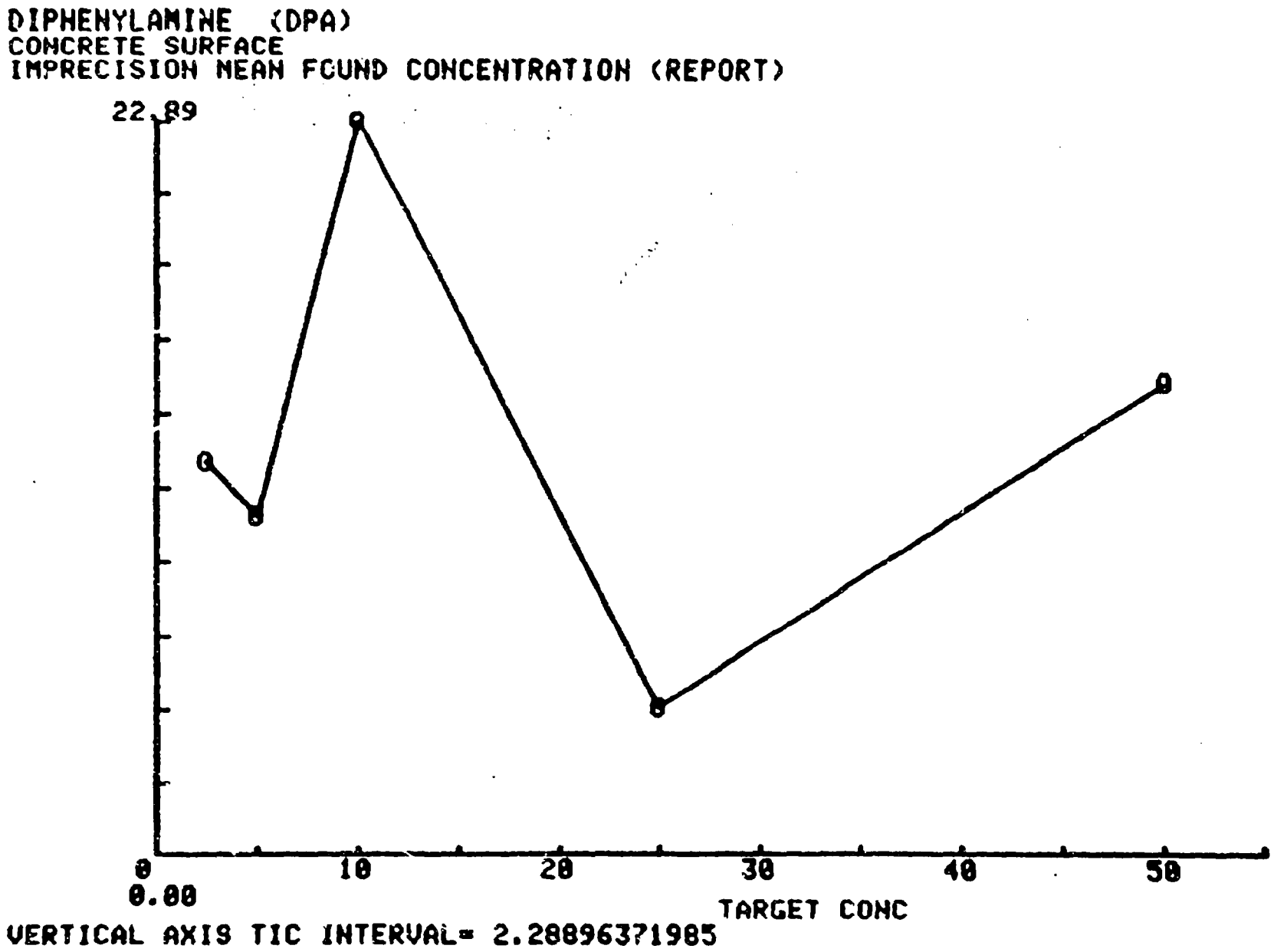

Figure II-99. DPA on Concrete (3 days) - Graph of Imprecision

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Table II-101. DPA on Brick - Target vs. Found Concentrations

DIPHENYLAMINE (DPA)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ng/ml	Found Conc ng/ml
2.500	1.920
	2.180
	1.710
	2.200
5.000	2.260
	4.950
	4.550
	4.750
10.000	7.900
	7.060
	7.890
	8.260
25.000	22.880
	15.150
	13.180
	16.430
50.000	35.990
	44.510
	23.090
	38.060

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Table II-102. DPA on Brick - Analysis of Target-Found Concentration Points

```
DIPHENYLAMINE  (DPA)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 13.246  SD= 13.1338996494

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.41527710356
SLOPE= 0.693552588997
 USE FOR ACCURACY
R= 0.952364373267
MEAN SQR DEV OF POINTS FROM REGRESSION= 16.9340657172
ST ERROR EST= 4.11510215148
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 7.91768779587
x(d)= 21.366954558
```


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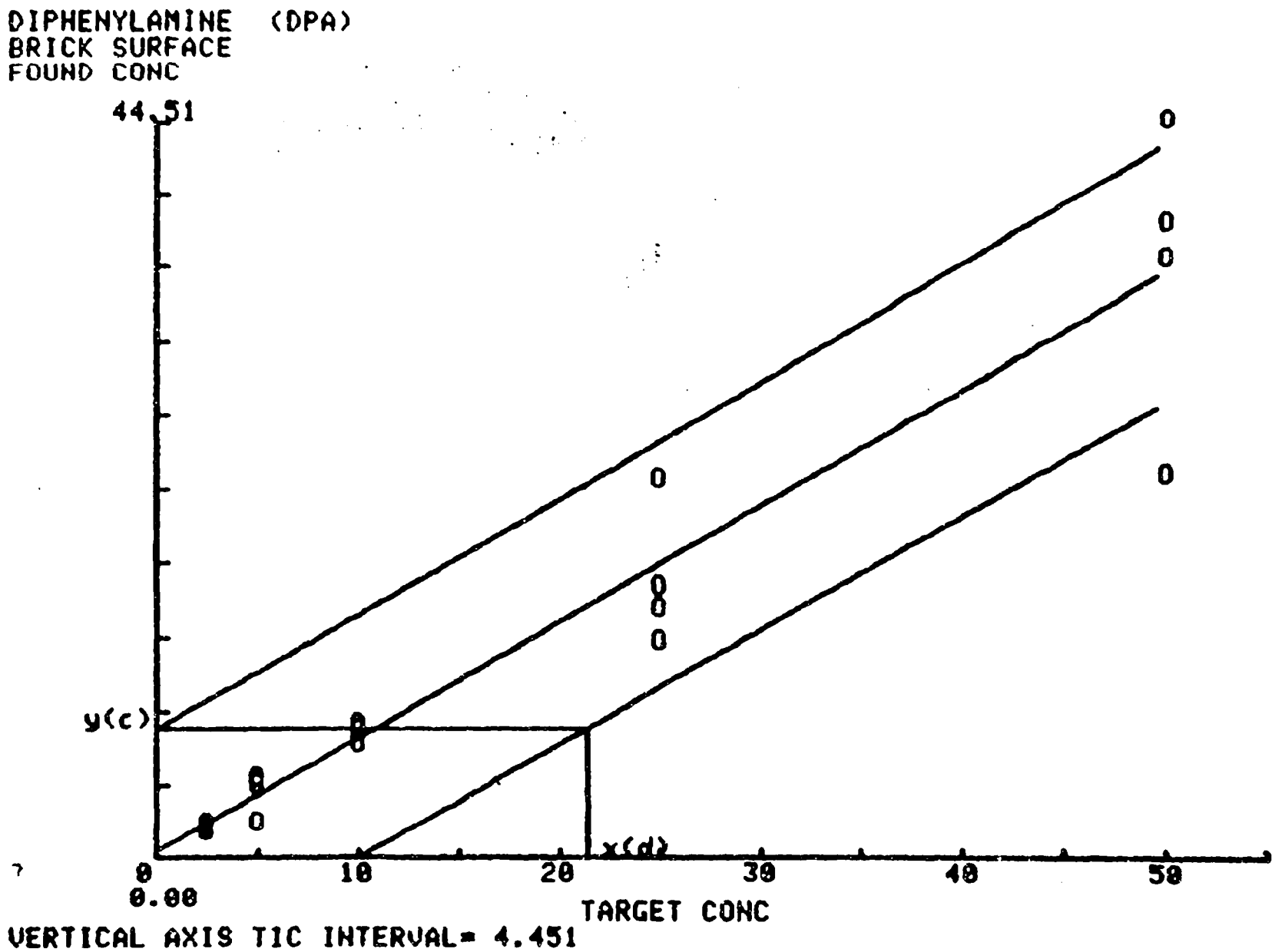

Figure II-10b. DPA on Brick - Graph of Target-Found Concentration Points

Table II-103. DPA on Brick - Inaccuracy and Imprecision Data

DIPHENYLAMINE (DPA)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ng/ml	Mn Found Conc ng/ml	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	2.003	0.233	-19.900	11.636
5.000	4.128	1.256	-17.450	30.422
10.000	7.778	0.500	-22.225	6.536
25.000	16.910	4.198	-32.360	24.828
50.000	35.413	8.981	-29.175	25.360
Means		3.035	-24.222	19.756

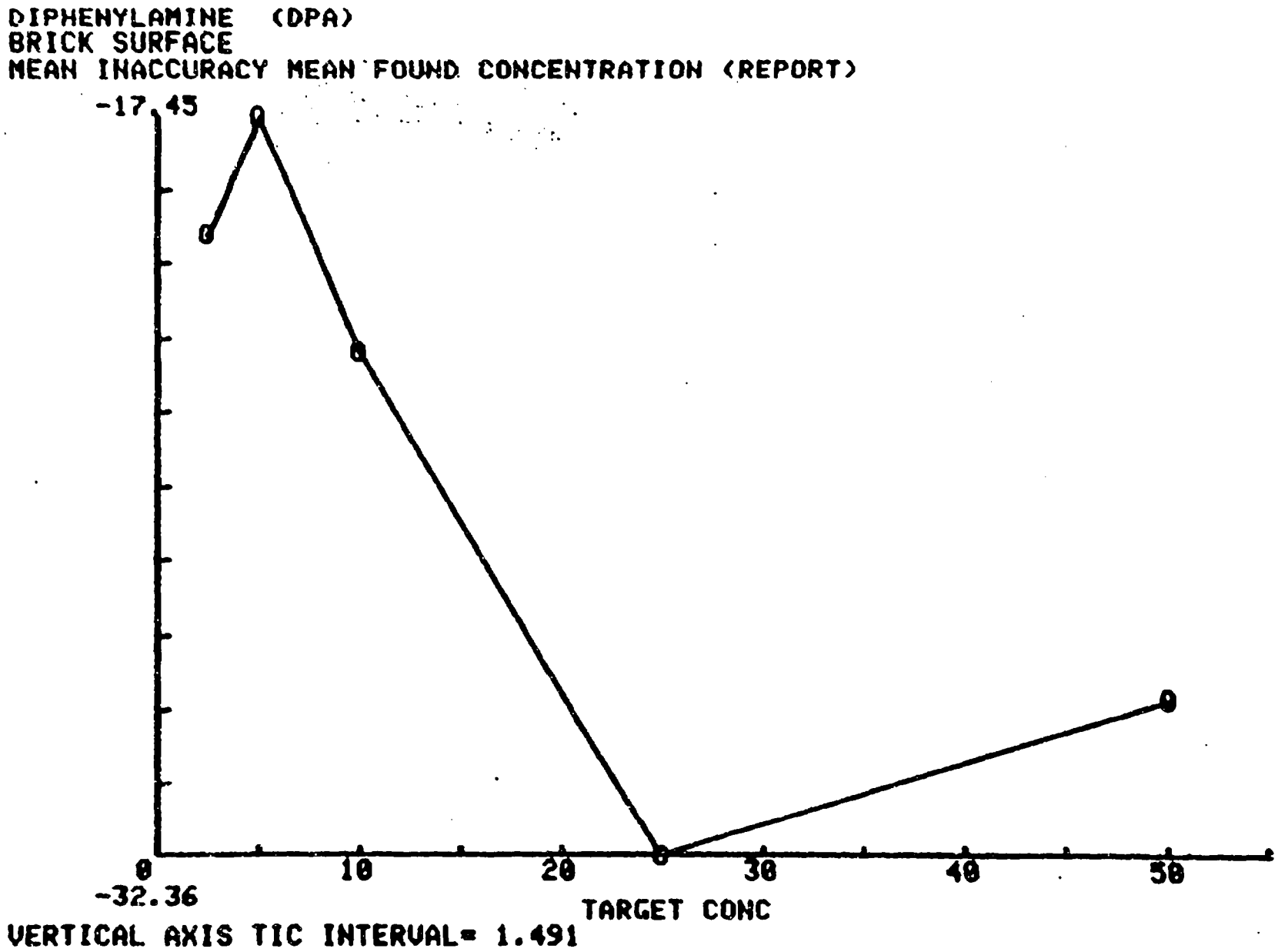

Figure II-101. DPA on Brick - Graph of Inaccuracy

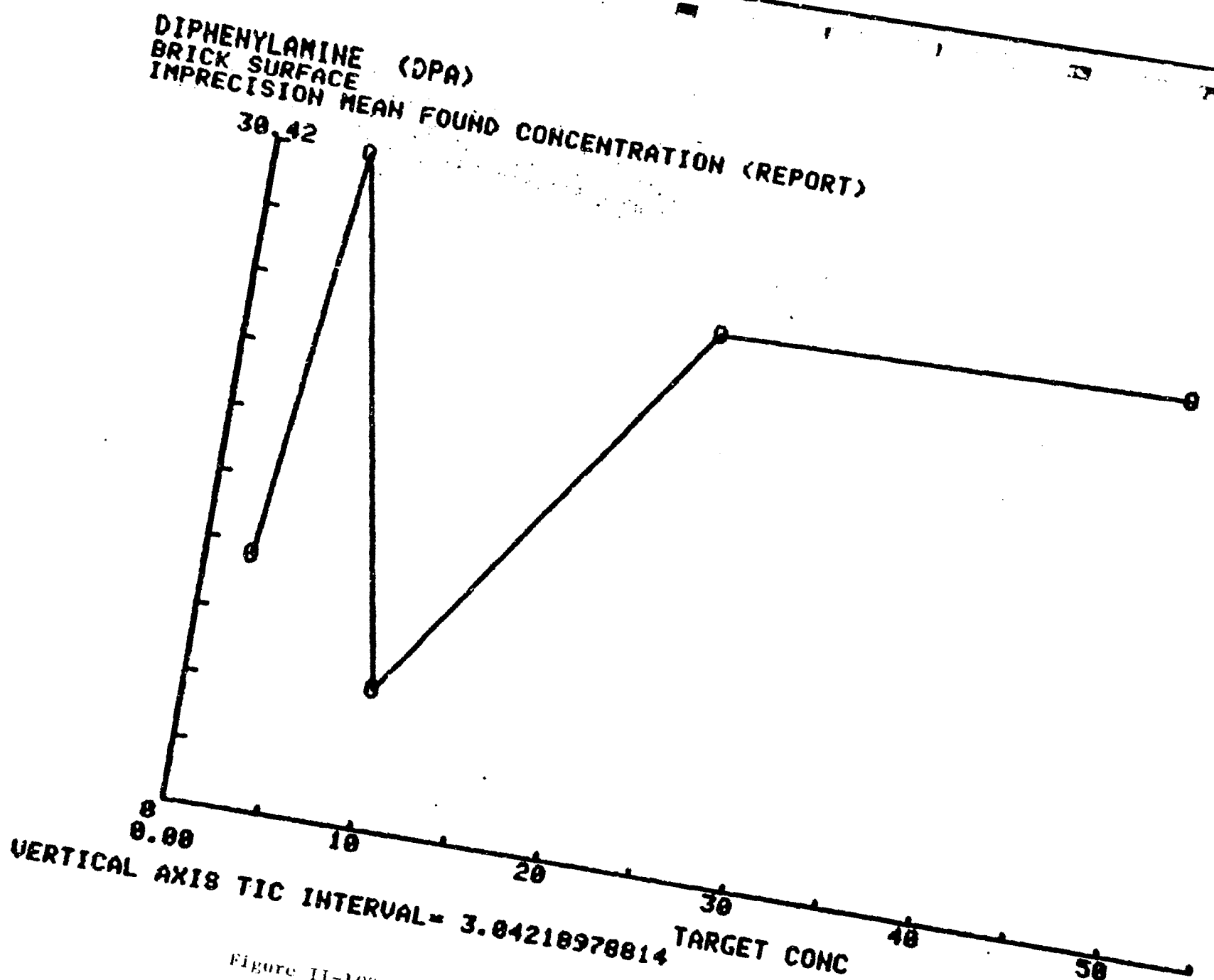

Figure II-102. DPA on Brick - Graph of Imprecision

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Table II-104. DPA on Transite - Target vs. Found Concentrations

DIPHENYLAMINE (DPA)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ng/ml	Found Conc ng/ml
2.500	0.810
	1.490
	1.880
	1.740
5.000	1.320
	4.640
	4.740
	3.910
10.000	2.840
	9.790
	9.030
	7.970
25.000	7.550
	18.970
	21.120
	17.340
50.000	11.650
	45.170
	37.090
	41.580

Table II-105. DPA on Transite - Analysis of Target-Found Concentration Points

```
DIPHENYLAMINE  (DPA)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.0350535872

FOUND CONC
MEAN= 12.5315  SD= 13.8086106908

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.11885315534
SLOPE= 0.670953883495
 USE FOR ACCURACY
R= 0.876314751306
MEAN SQR DEV OF POINTS FROM REGRESSION= 46.7094406587
ST ERROR EST= 6.83443052922
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 12.5789824038
x(d)= 37.1498430551
```

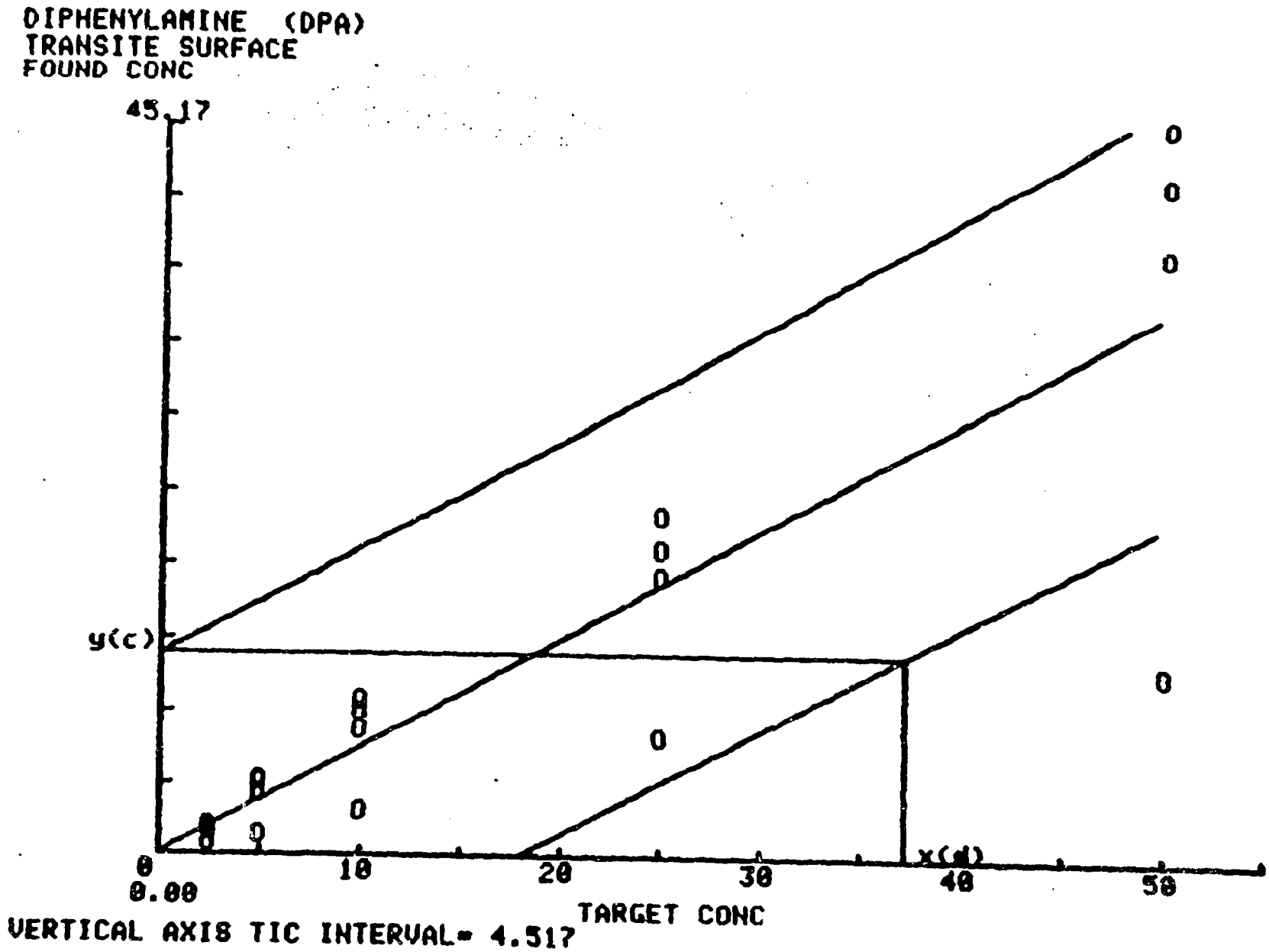

Figure II-103. DPA on Transite - Graph of Target-Found Concentration Points

Table II-106. DPA on Transite - Inaccuracy and Imprecision Data

DIPHENYLAMINE (DPA)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT
INACCURACY AND IMPRECISION

Mn Targt Con ng/ml	Mn Found Conc ng/ml	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.480	0.475	-40.800	32.088
5.000	3.653	1.598	-26.950	43.762
10.000	7.408	3.135	-25.925	42.324
25.000	16.245	6.000	-35.020	36.933
50.000	33.873	15.179	-32.255	44.813
Means		5.278	-32.190	39.984

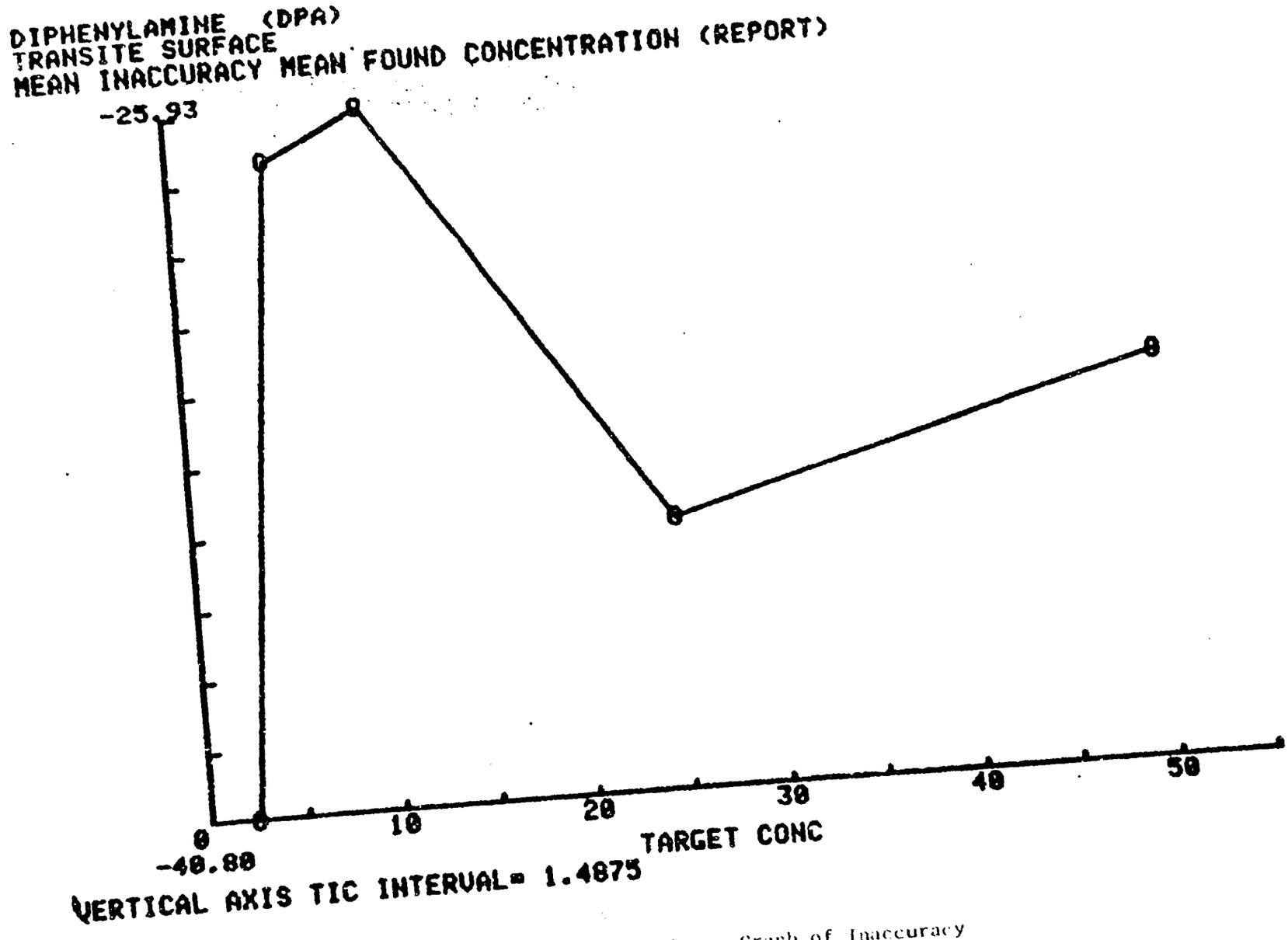

Figure II-104. DPA on Transite - Graph of Inaccuracy

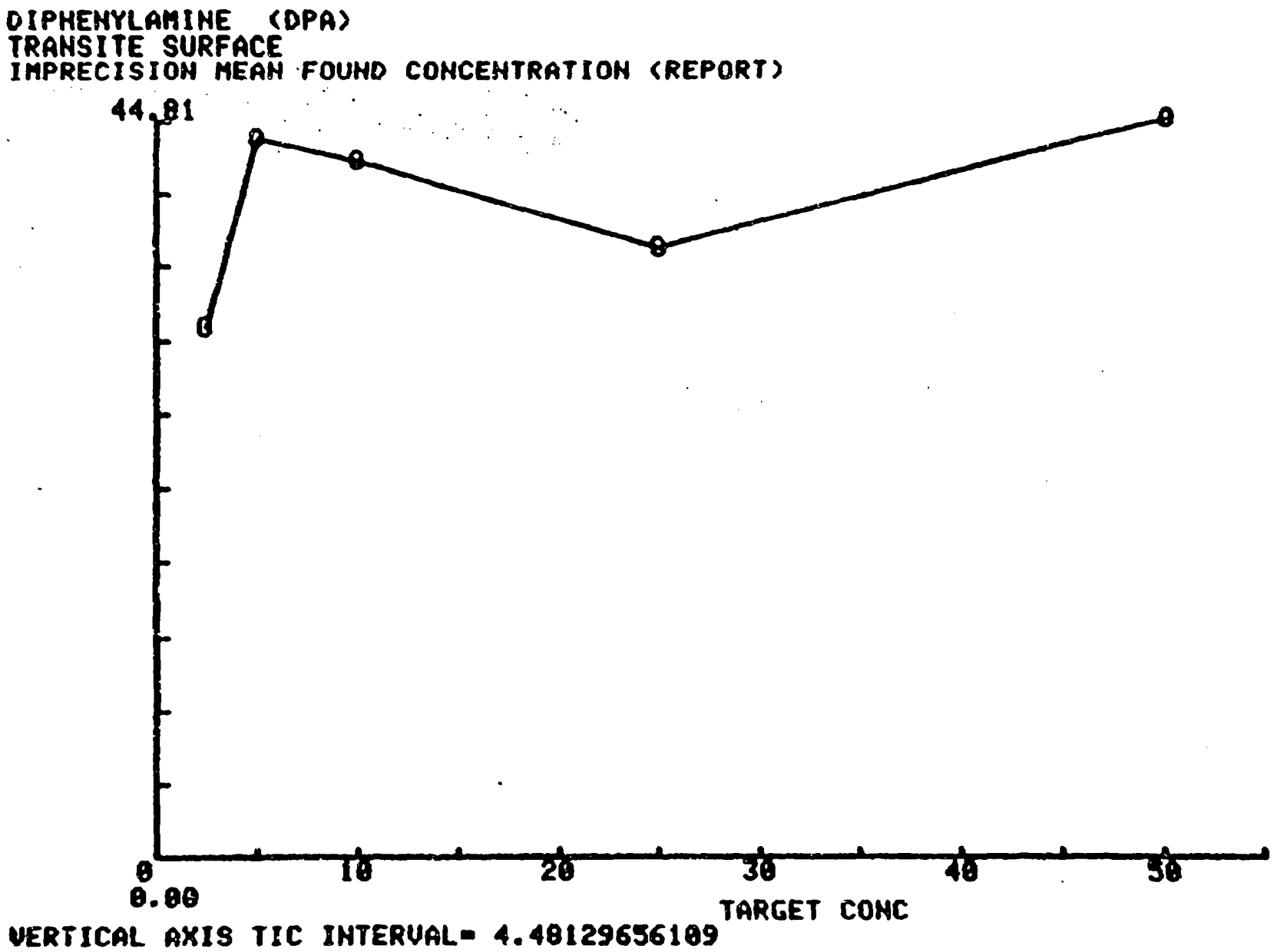

Figure II-105. DPA on Transite - Graph of Imprecision

Table II-107. DPA on Transite (3 days) - Target vs. Found Concentrations

DIPHENYLAMINE (DPA)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ng/ml	Found Conc ng/ml
2.500	1.490 1.880 1.740
5.000	4.640 4.740 3.910
10.000	9.790 9.030 7.970
25.000	18.970 21.120 17.340
50.000	45.170 37.090 41.580

Table II-108. DPA on Transite (3 days) - Target vs. Found Concentrations

```
DIPHENYLAMINE  (DPA)
TRANSITE SURFACE
ANALYSIS OF 15 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 18.5  SD= 18.1953683274

FOUND CONC
MEAN= 15.0973333333  SD= 14.9797851723

NO. RUNS 1 TOTAL X-Y ALL RUNS 15 NO. CONCENTR 15
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -0.011459007551
SLOPE= 0.816691477886
 USE FOR ACCURACY
R= 0.992003695584
MEAN SQR DEV OF POINTS FROM REGRESSION= 3.84924285745
ST ERROR EST= 1.96194873976
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 13
TWO TAIL P LEVEL IS .1
t= 1.77093178942
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
(EACH TARGET CONC CONSIDERED INDEP SAMPLE
MEASURED 1 TIME(S))
y(c)= 3.69909237891
x(d)= 0.97736979202
```

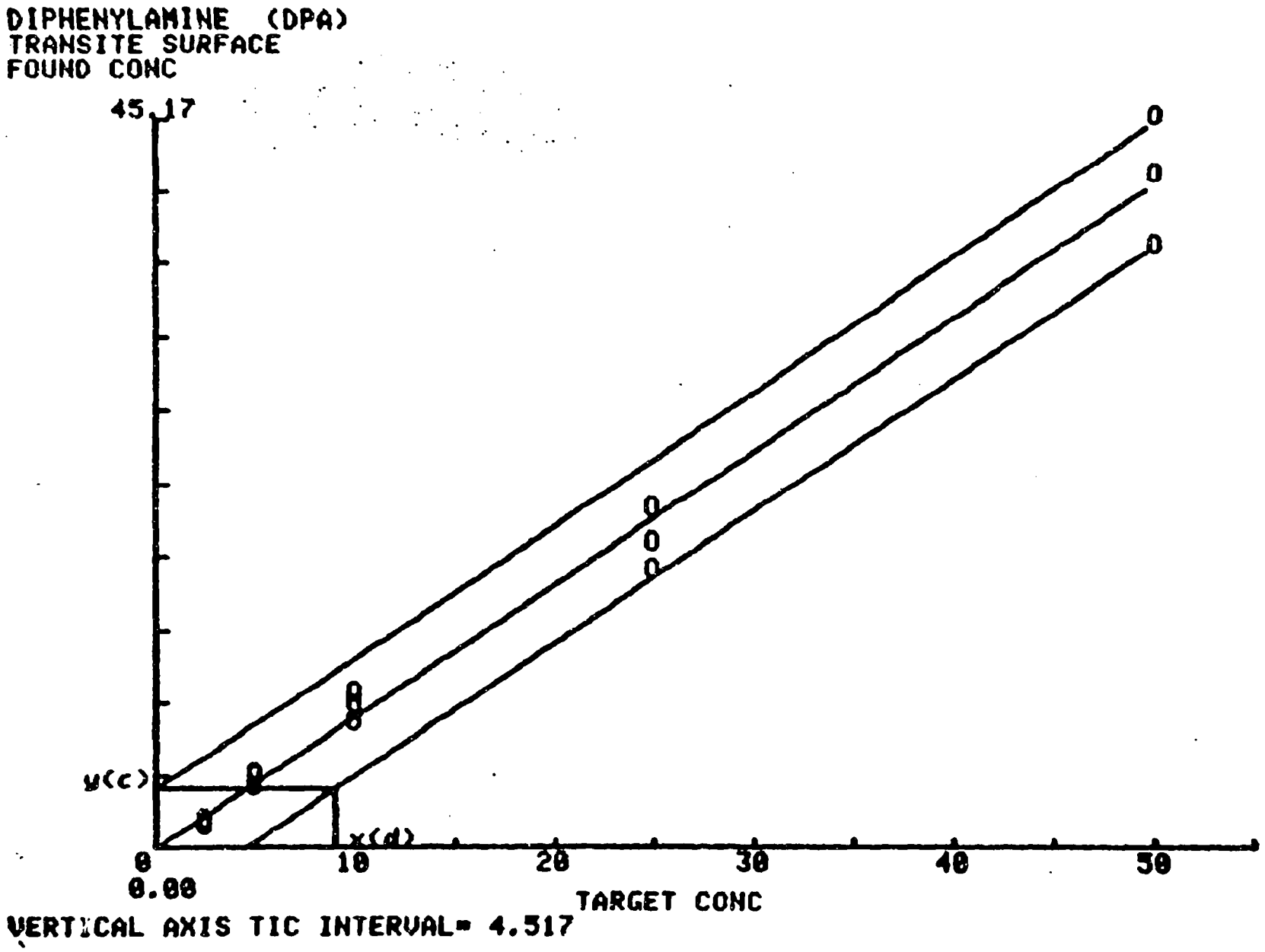

Figure II-106. DPA on Transite (3 days) - Graph of Tartet-Found Concentration Points

Table II-109. DPA on Transite (3 days) - Inaccuracy and Imprecision Data

DIPHENYLAMINE (DPA)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ng/ml	Mn Found Conc ng/ml	Standard Deviation	Mean Pct Inaccuracy	Imprecision
2.500	1.703	0.198	-31.867	11.599
5.000	4.430	0.453	-11.400	10.228
10.000	8.930	0.914	-10.700	10.236
25.000	19.143	1.896	-23.427	9.904
50.000	41.280	4.048	-17.440	9.807
Means		1.502	-18.967	10.355

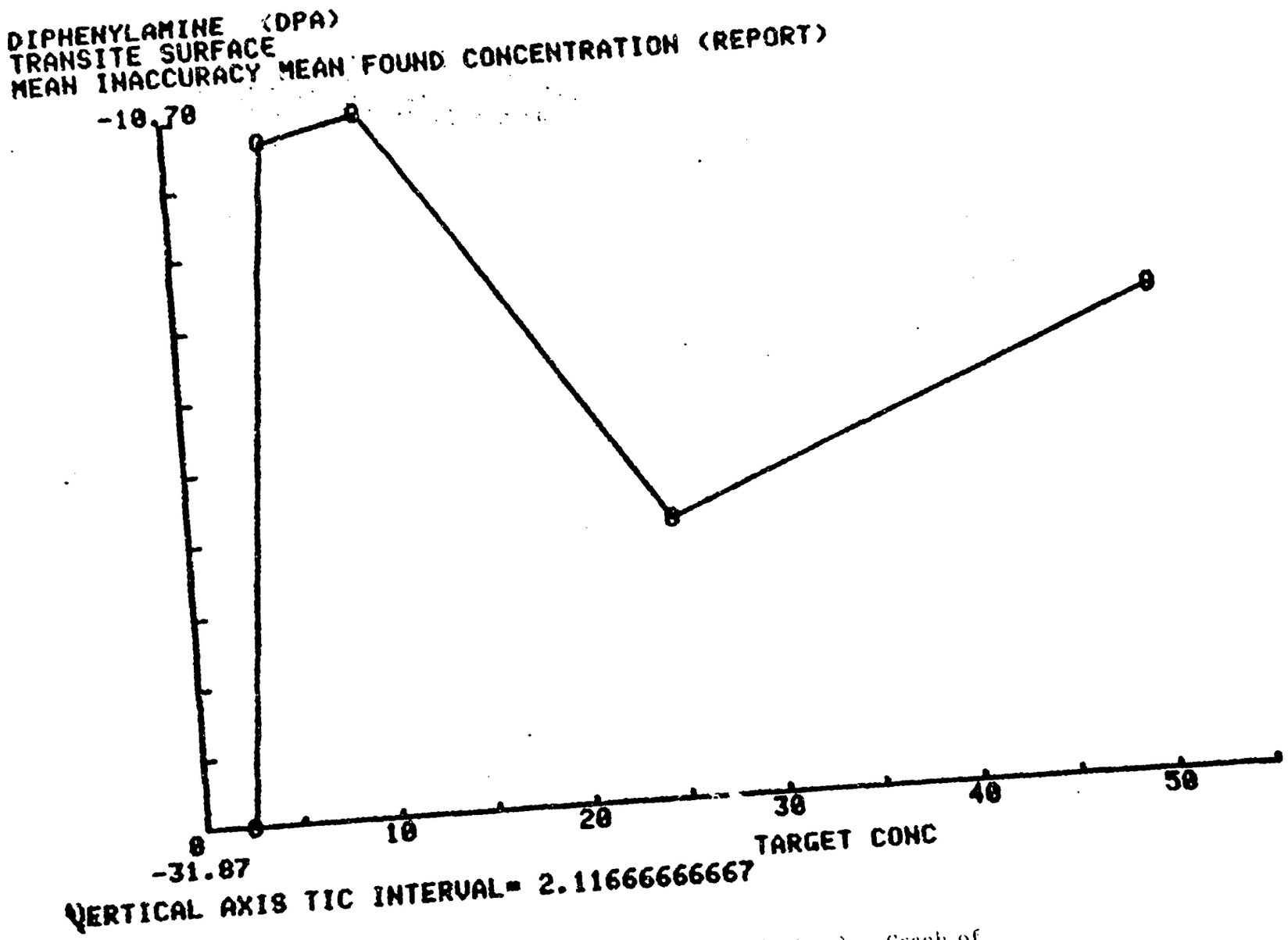

Figure II-107. DPA on Transite (3 days) - Graph of Inaccuracy

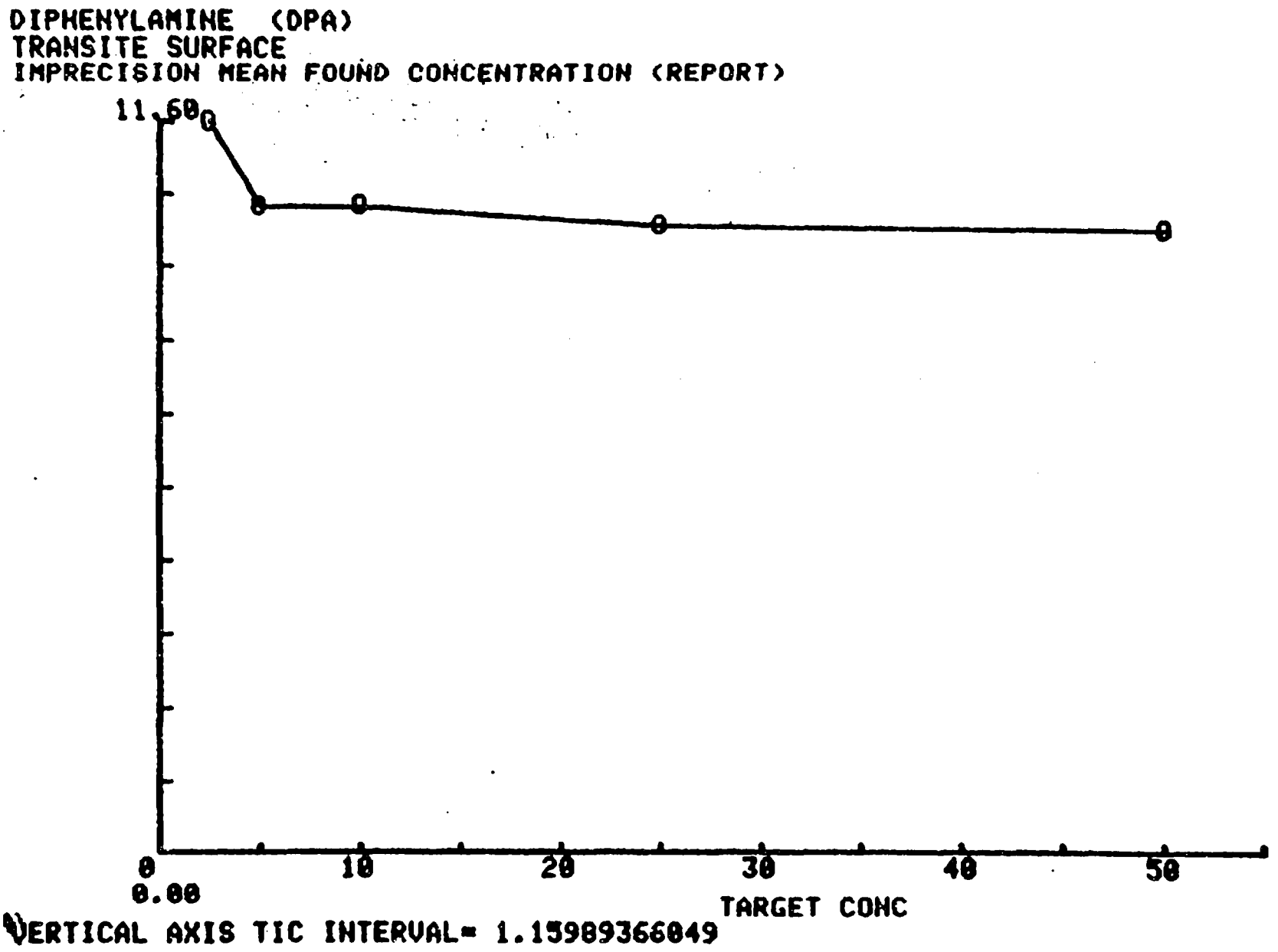

Figure II-108. DPA on Transite (3 days) - Graph of Imprecision

Table II-110. 2,6-DNT on Metal - Target vs. Found Concentrations

2,6-DINITROTOLUENE (26DNT)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
10.000	9.550
	7.500
	11.350
	10.500
20.000	19.000
	21.000
	22.500
	19.300
40.000	29.000
	39.900
	40.000
	37.100
100.000	86.700
	97.000
	95.900
	93.600
200.000	168.000
	208.000
	192.000
	189.000

Table II-III - 2,6-DNT on Metal - Analysis of Target-Found Concentration Points

```
2,6-DINITROTOLUENE  (26DNT)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 74   SD= 72.140214349

FOUND CONC
MEAN= 69.845   SD= 68.3900825759

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.0850323624595
SLOPE= 0.942702265372
 USE FOR ACCURACY
R= 0.994394814712
MEAN SQR DEV OF POINTS FROM REGRESSION= 55.1910252609
ST ERROR EST= 7.42986624421
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 13.6292662533
x(d)= 28.5092514656
```

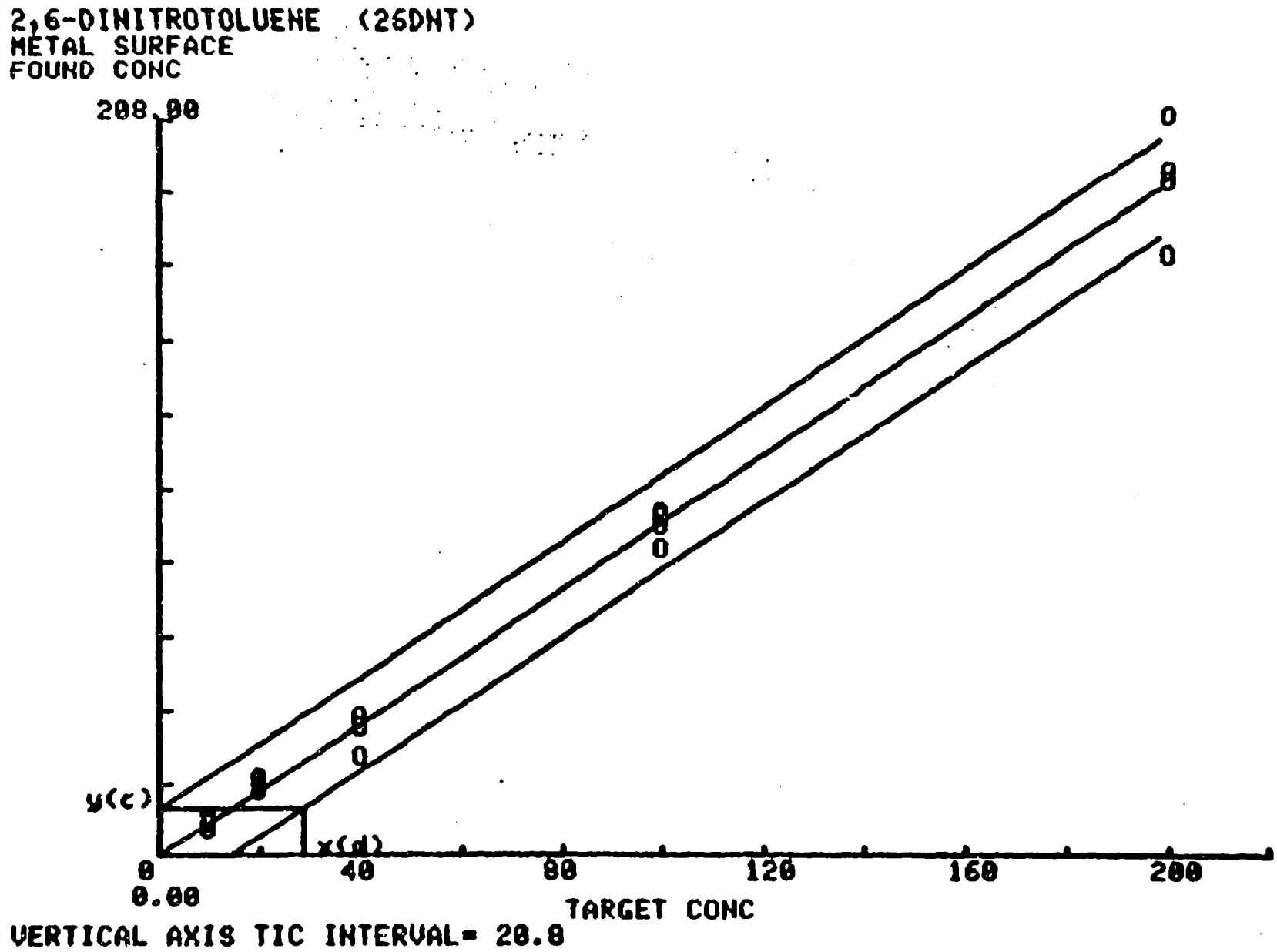

Figure II-109. 2,6-DNT on Metal - Graph of Target-Found Concentration Points

TABLE II-112. 2,6-DNT on Metal - Inaccuracy and Imprecision Data

2,6-DINITROTOLUENE (26DNT)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
10.000	9.725	1.656	-2.750	17.024
20.000	20.450	1.626	2.250	7.950
40.000	36.500	5.178	-8.750	14.185
100.000	93.300	4.622	-6.700	4.954
200.000	189.250	16.439	-5.375	[illegible].687
Means		5.904	-4.265	10.560

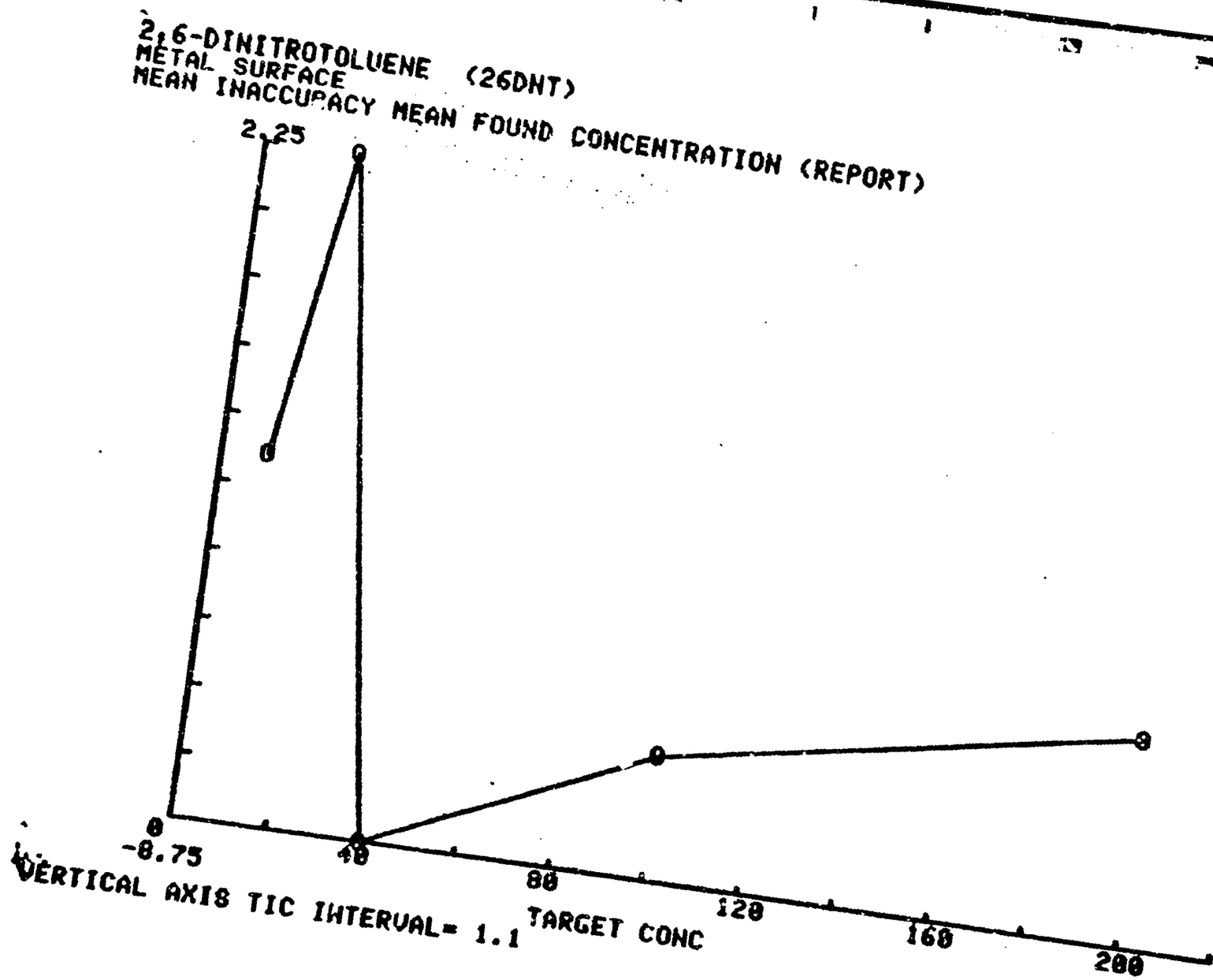

Figure II-110. 2,6-DNT on Metal - Graph of Inaccuracy

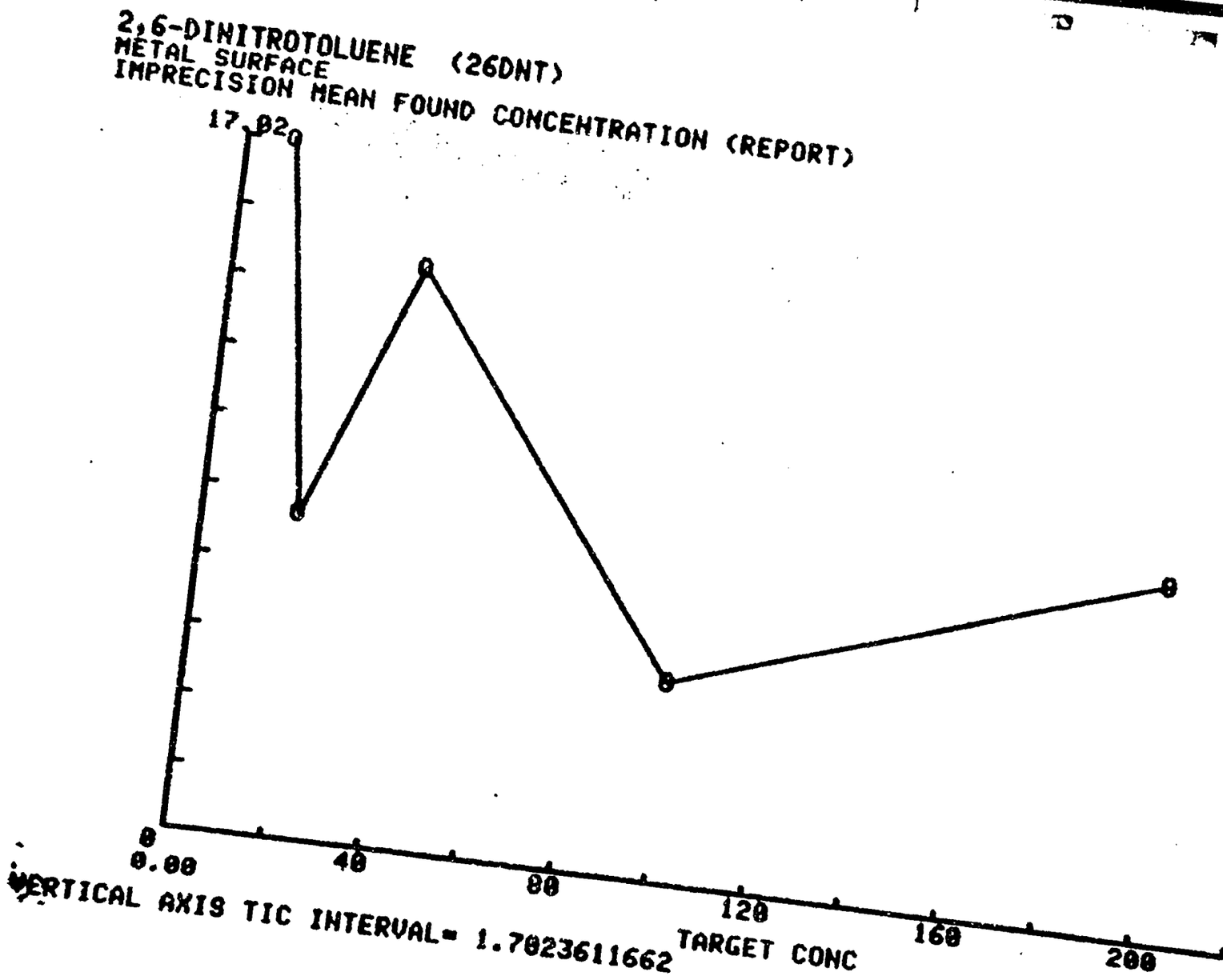

Figure II-111. 2,6-DNT on Metal - Graph of Imprecision

Table II-113. 2,6-DNT on Concrete - Target vs. Found Concentrations

2,6-DINITROTOLUENE (26DNT)
CONCRETE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
10.000	15.000
	10.200
	9.000
	10.200
20.000	10.000
	16.600
	19.000
	20.400
40.000	37.600
	35.800
	37.400
	35.700
100.000	76.900
	94.600
	97.200
	104.000
200.000	120.000
	189.000
	181.000
	196.000

Table II-114. 2,6-DNT on Concrete - Analysis of Target-Found Concentration Points

```
2,6-DINITROTOLUENE  (26DNT)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 74  SD= 72.148214349

FOUND CONC
MEAN= 65.53  SD= 63.8466262555

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 1.8729368932
SLOPE= 0.860230582524
 USE FOR ACCURACY
R= 0.971973340682
MEAN SQR DEV OF POINTS FROM REGRESSION= 237.809596818
ST ERROR EST= 15.4210763832
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 29.9877306664
x(d)= 64.5501819952
```

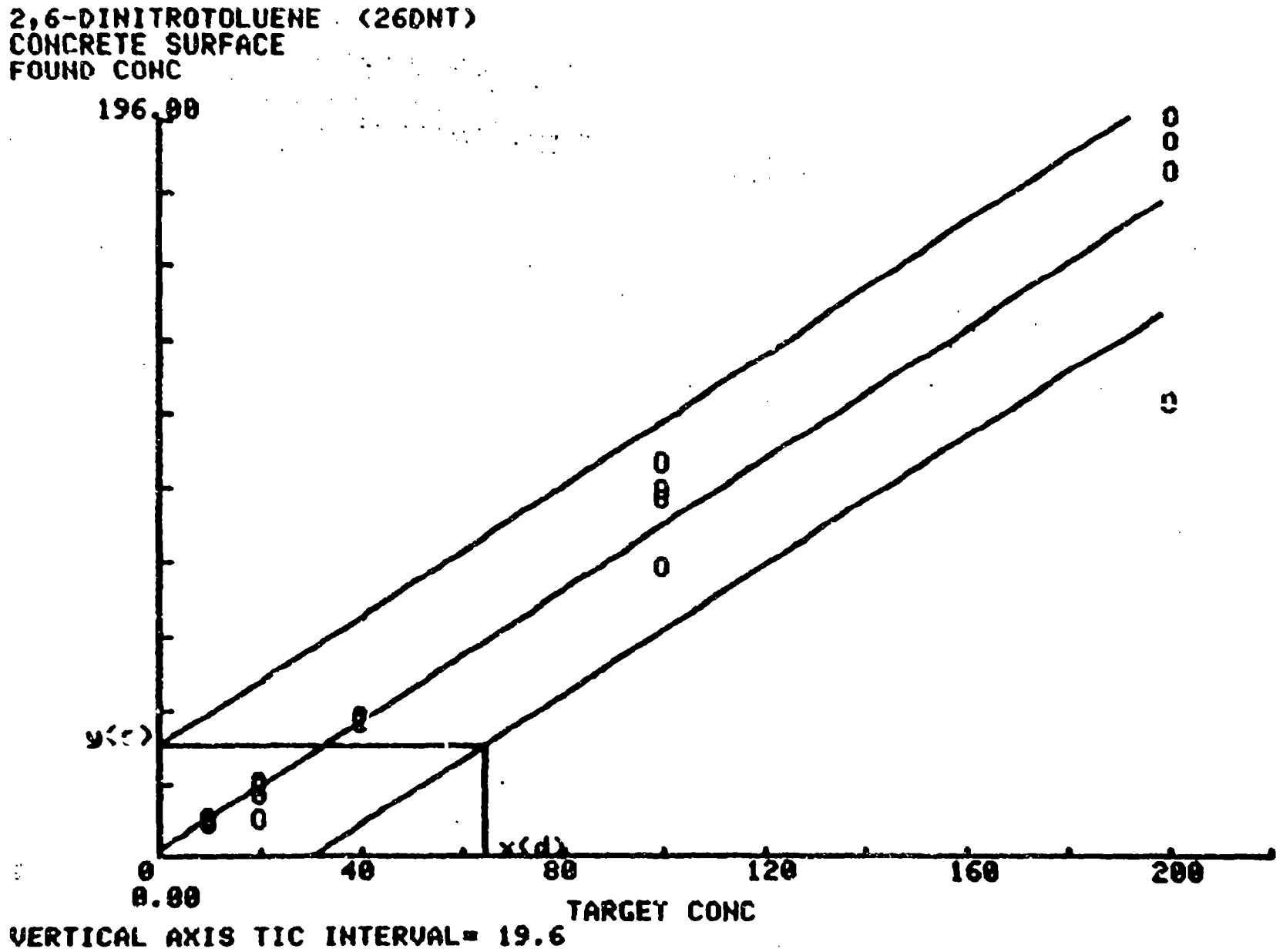

Figure II-112. 2,6-DNT on Concrete - Graph of Target-Found Concentration Points

Table II-115. 2,6-DNT on Concrete - Inaccuracy and Imprecision Data

2,6-DINITROTOLUENE (26DNT)
CONCRETE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
10.000	9.850	0.574	-1.500	5.832
20.000	16.500	4.609	-17.500	27.931
40.000	36.625	1.014	-8.438	2.770
100.000	93.175	11.551	-6.825	12.397
200.000	171.500	34.876	-14.250	20.336
Means		10.525	-9.702	13.853

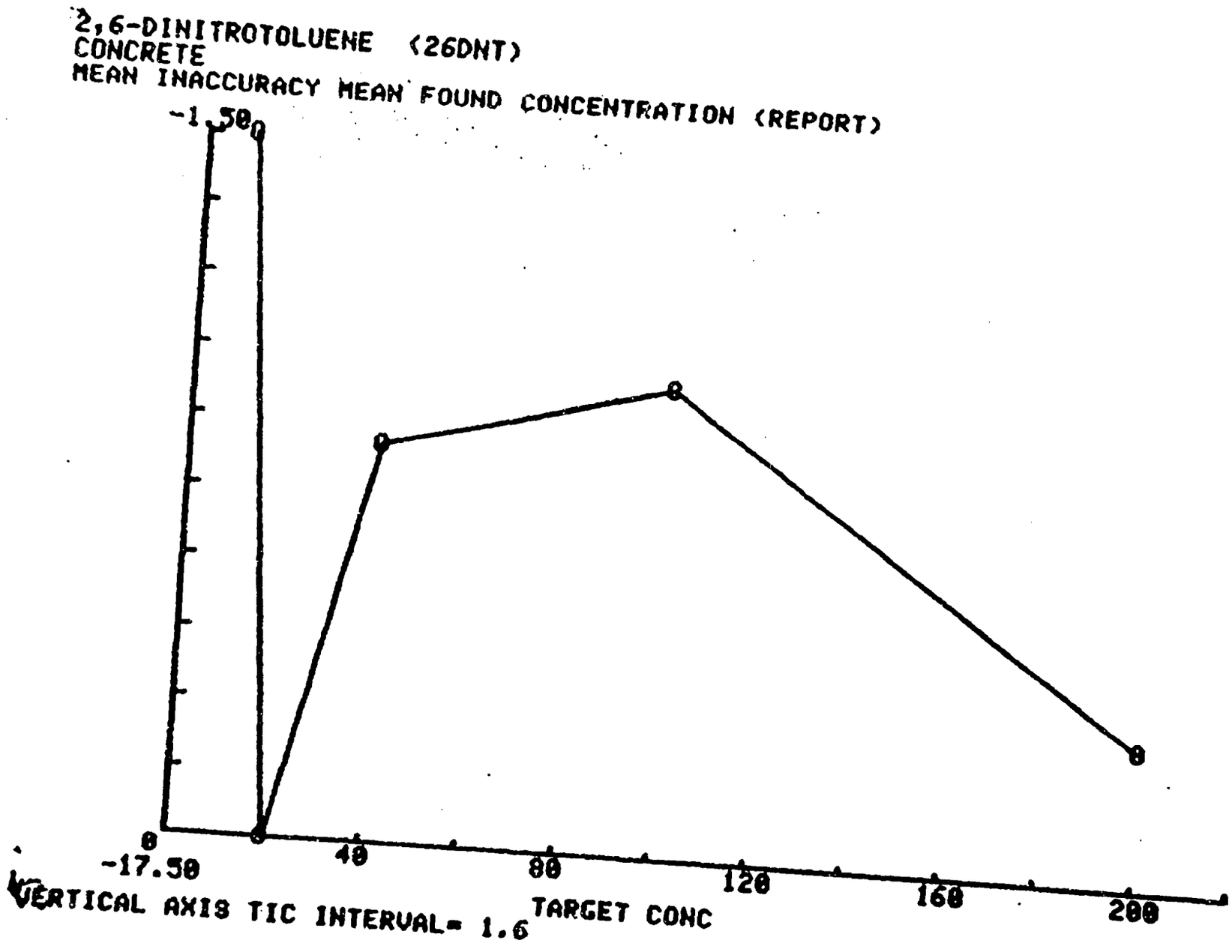

Figure II-113. 2,6-DNT on Concrete - Graph of Inaccuracy

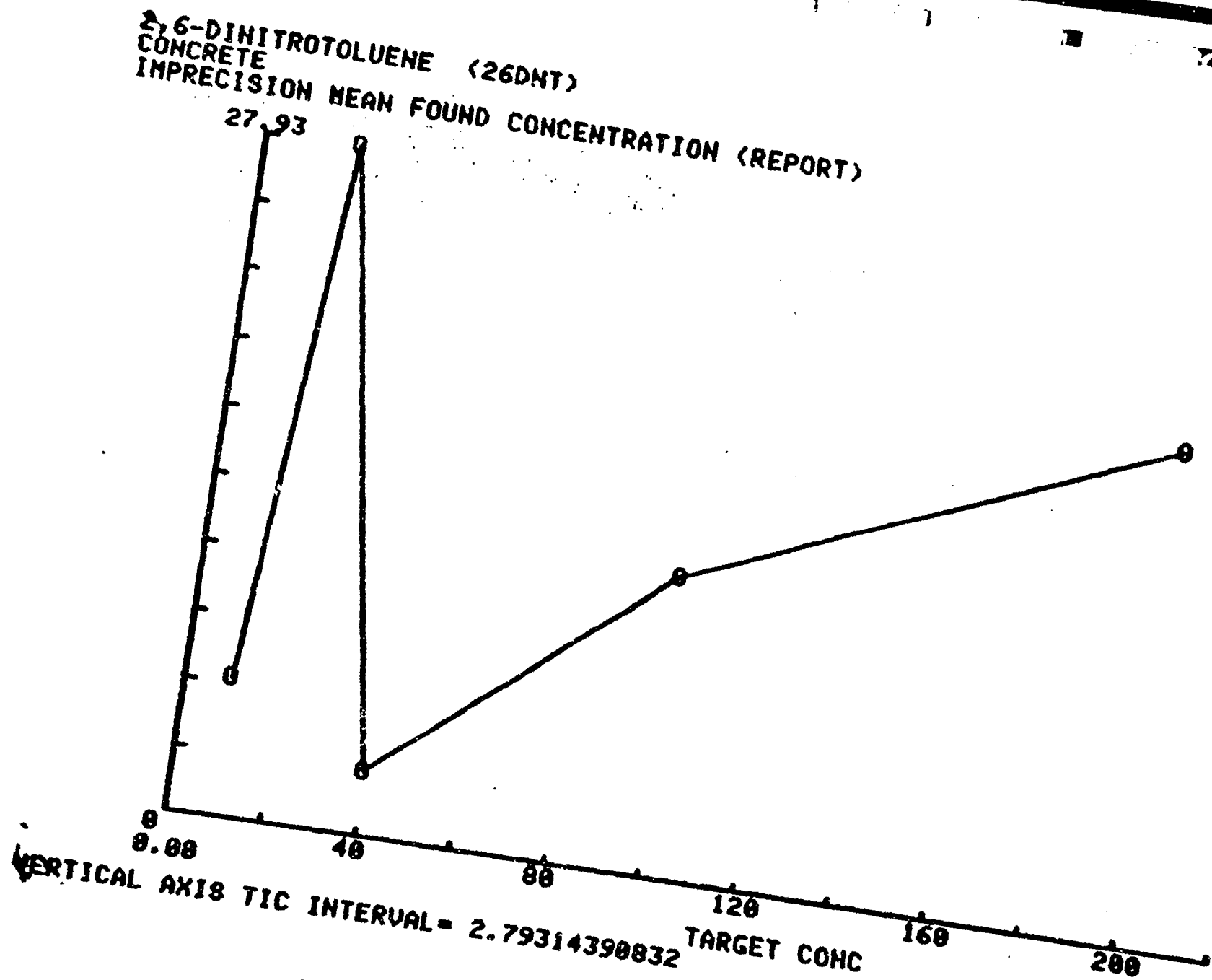

Figure II-114. 2,6-DNT on Concrete - Graph of Imprecision

Table II-11[illegible]. 2,6-DNT on Brick - Target vs. Found Concentrations

2,6-DINITROTOLUENE (26DNT)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
10.000	4.000
	5.300
	5.600
	4.300
20.000	8.000
	9.100
	8.680
	7.100
40.000	17.300
	24.800
	25.200
	16.700
100.000	46.200
	62.400
	57.400
	45.400
200.000	89.800
	94.300
	123.000
	80.820

TABLE II-117. 2,6-DNT on Brick - Analysis of Target-Found Concentration Points

```
2,6-DINITROTOLUENE (26DNT)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 74  SD= 72.140214349

FOUND CONC
MEAN= 36.77  SD= 36.3865408894

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 0.463001618123
SLOPE= 0.490635113269
 USE FOR ACCURACY
R= 0.972736659578
MEAN SQR DEV OF POINTS FROM REGRESSION= 75.1641619382
ST ERROR EST= 8.66972675107
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 16.2691343172
x(d)= 63.6301961361
```

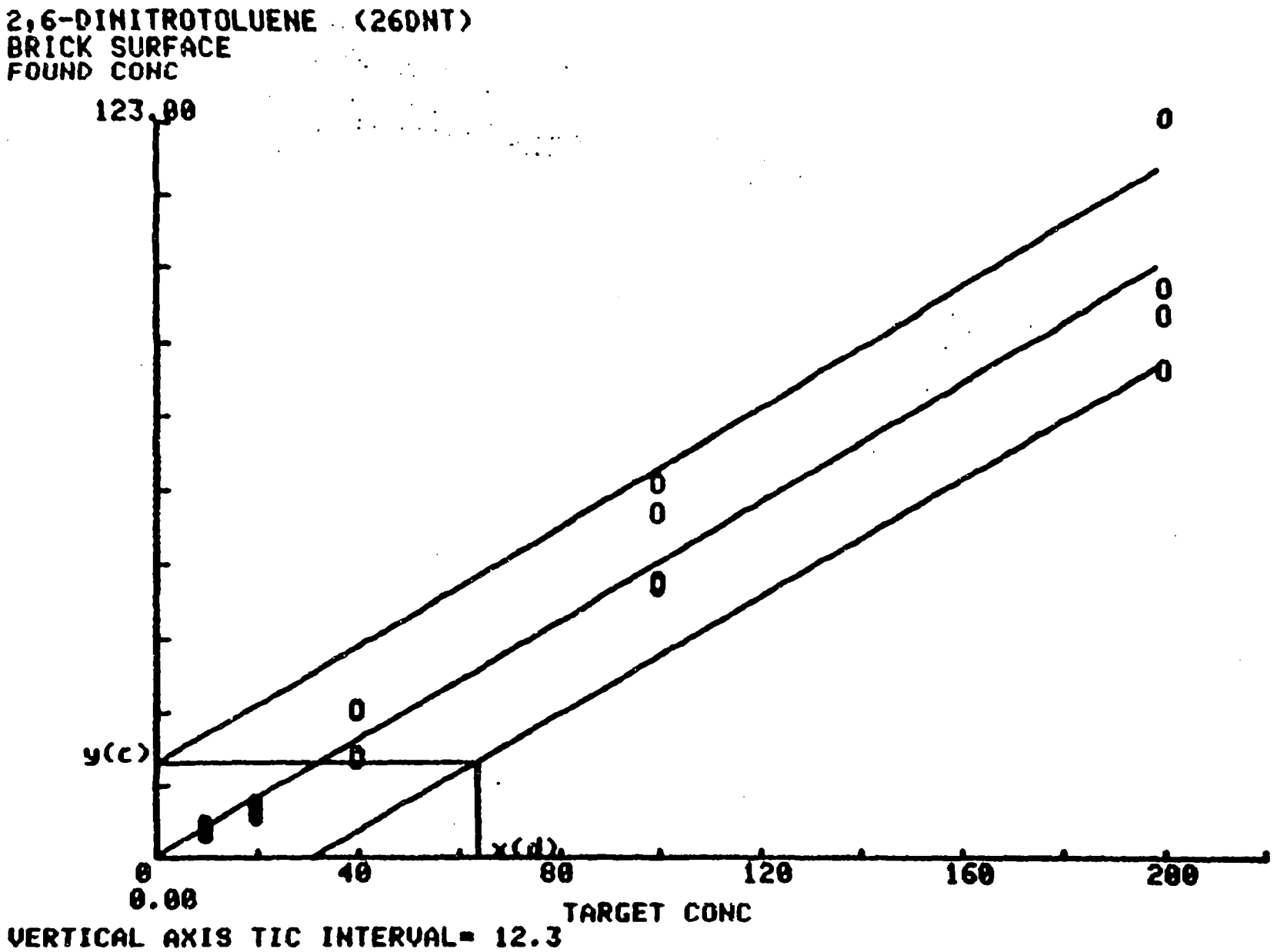

Figure II-115. 2,6-DNT on Brick - Graph of Target-Found Concentration Points

TABLE II-118. 2,6-DNT on Brick - Inaccuracy and Imprecision Data

2,6-DINITROTOLUENE (26DNT)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
10.000	4.800	0.770	-52.000	16.048
20.000	8.220	0.873	-58.900	10.626
40.000	21.000	4.620	-47.500	22.039
100.000	52.850	8.399	-47.150	15.892
200.000	96.980	10.229	-51.510	10.797
Means		6.580	-51.412	16.690

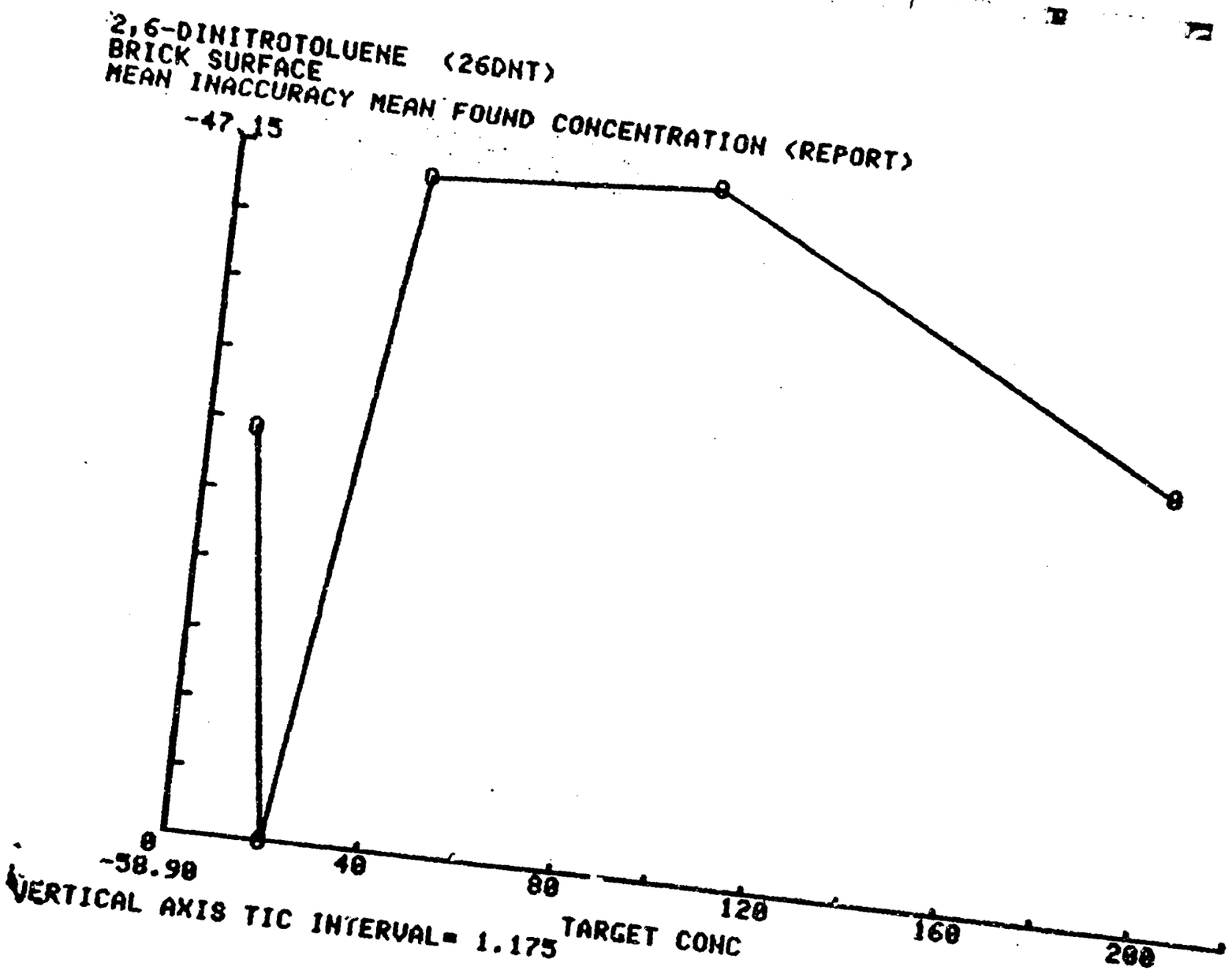

Figure II-116. 2,6-DNT on Brick - Graph of Inaccuracy

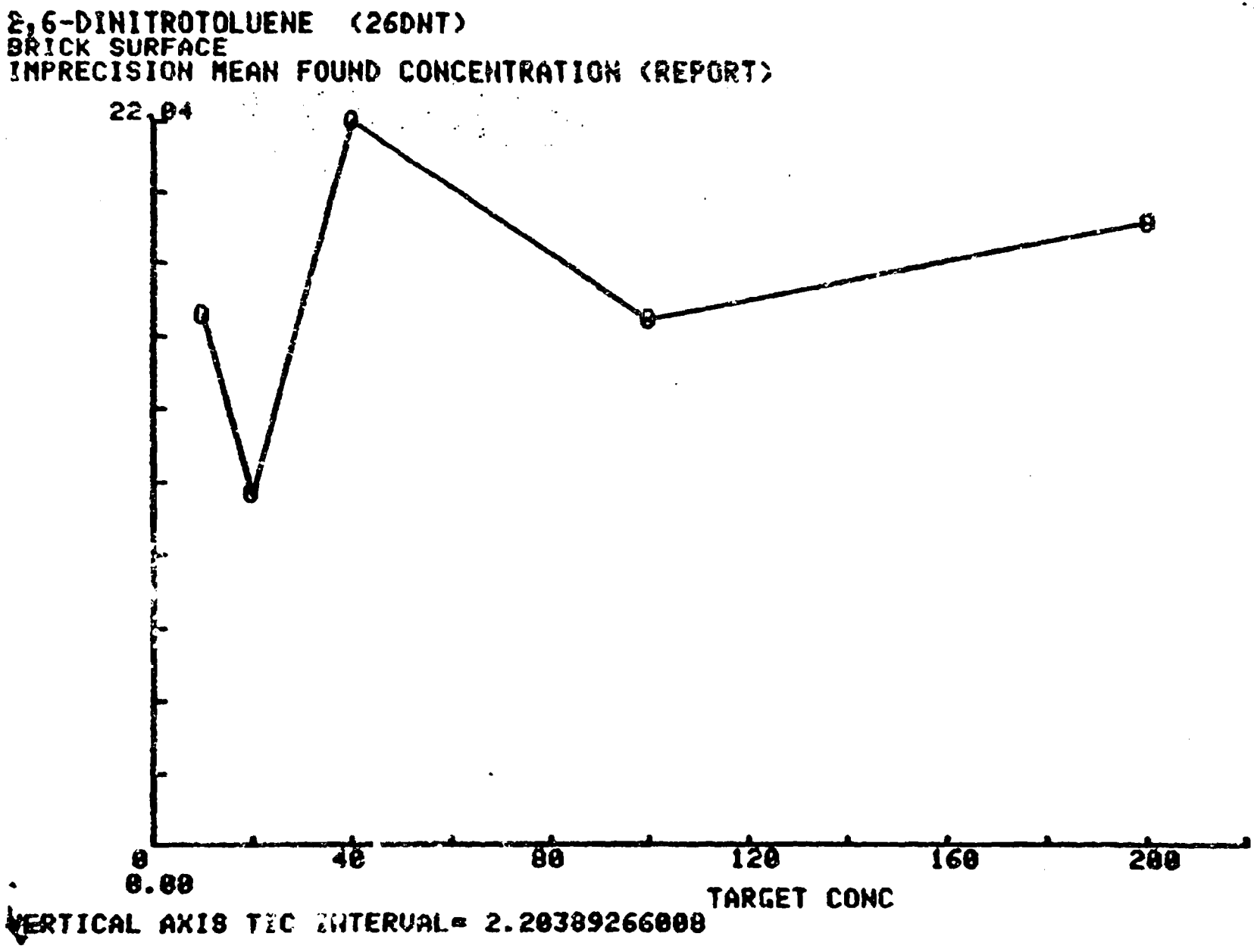

Figure II-117. 2,6-DNT on Brick - Graph of Imprecision

TABLE II-119. 2,6-DNT on Transite - Target vs. Found Concentrations

2,6-DINITROTOLUENE (26DNT)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
10.000	7.500
	8.700
	7.500
	7.800
20.000	14.700
	16.300
	17.800
	19.900
40.000	27.700
	36.000
	36.600
	33.200
100.000	89.000
	87.300
	81.900
	89.700
200.000	152.000
	156.000
	164.000
	160.000

TABLE II-120. 2,6-DNT on Transite - Analysis of Target-Found Concentration Points

```
2,6-DINITROTOLUENE  (26DNT)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 74   SD= 72.140214349

FOUND CONC
MEAN= 60.68   SD= 57.3720507785

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 1.99743122977
SLOPE= 0.793007686084
 USE FOR ACCURACY
R= 0.99713612601
MEAN SQR DEV OF POINTS FROM REGRESSION= 19.8720841201
ST ERROR EST= 4.45781158418
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 10.1246494767
x(d)= 20.3745583959
```

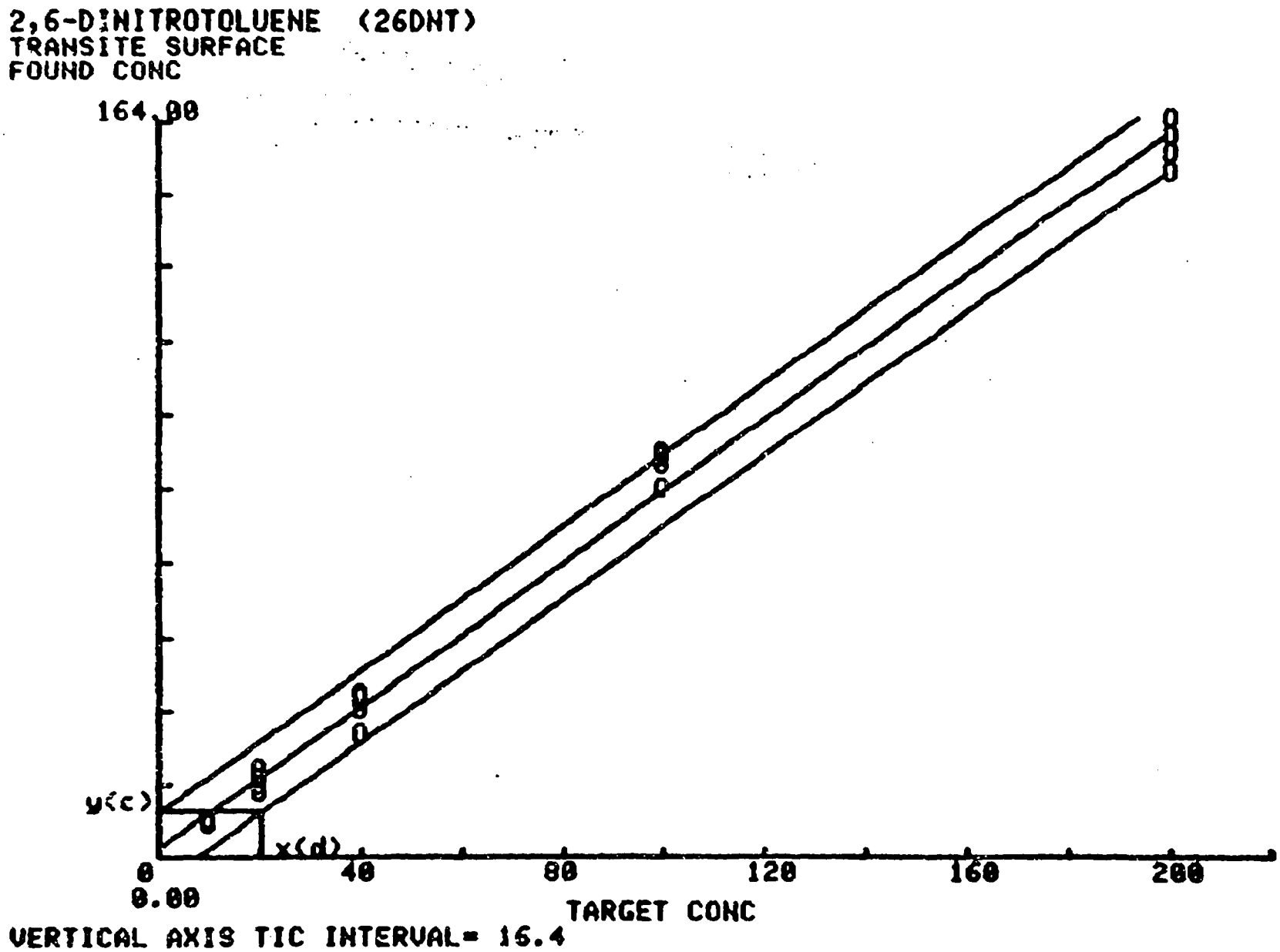

Figure II-118. 2,6-DNT on Transite - Graph of Target-Found Concentration Points

TABLE II-121. 2,6-DNT on Transite - Inaccuracy and Imprecision Data

2,6-DINITROTOLUENE (26DNT)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
10.000	7.875	0.568	-21.250	7.211
20.000	17.175	2.214	-14.125	12.892
40.000	33.375	4.063	-16.563	12.174
100.000	86.975	3.530	-13.025	4.059
200.000	158.000	5.164	-21.000	3.268
Means		3.108	-17.193	7.921

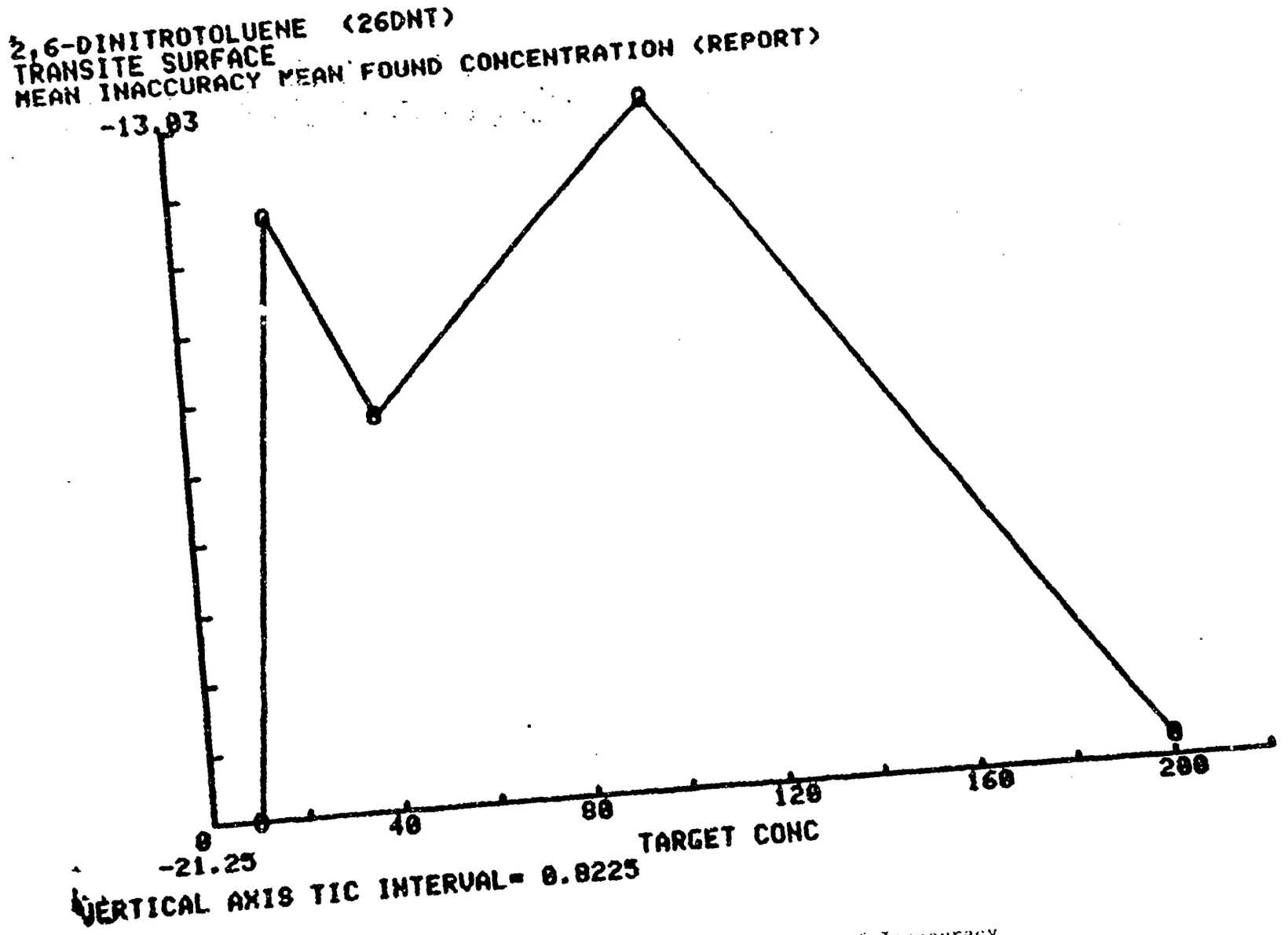

Figure II-119. 2,6-DNT on Transite - Graph of Inaccuracy

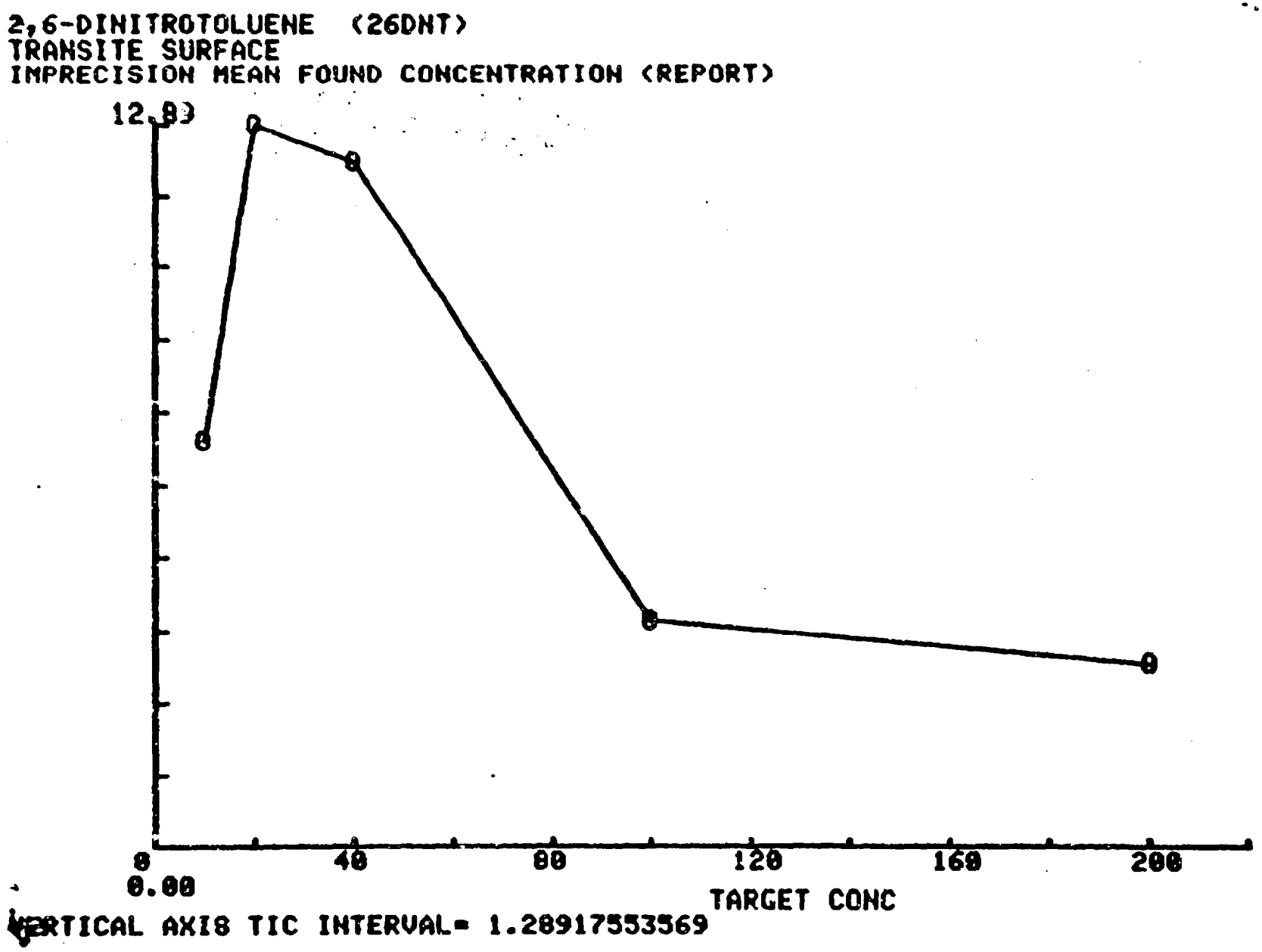

Figure II-120. 2,6-DNT on Transite - Graph of Imprecision

TABLE II-122. NG on Metal - Target vs. Found Concentrations

NITROGLYCERIN (NG)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
125.000	122.000
	99.500
	102.000
	119.000
250.000	205.000
	210.000
	206.000
	220.000
500.000	415.000
	423.000
	402.000
	443.000
1250.000	1150.000
	1200.000
	1150.000
	1140.000

TABLE II-123. NG on Metal - Analysis of Target-Found Concentration Points

```
NITROGLYCERINE  (NG)
METAL SURFACE
ANALYSIS OF 16 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 531.25  SD= 450.693909433

FOUND CONC
MEAN= 475.40625  SD= 424.557778508

NO. RUNS 1 TOTAL X-Y ALL RUNS 16 NO. CONCENTR 16
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -24.3256410256
SLOPE= 0.940671794872
 USE FOR ACCURACY
R= 0.998580335082
MEAN SQR DEV OF POINTS FROM REGRESSION= 547.954235351
ST ERROR EST= 23.4084223166
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 14
TWO TAIL P LEVEL IS .1
t= 1.7613101065
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 19.9865337733
x(d)= 93.6030226134
```

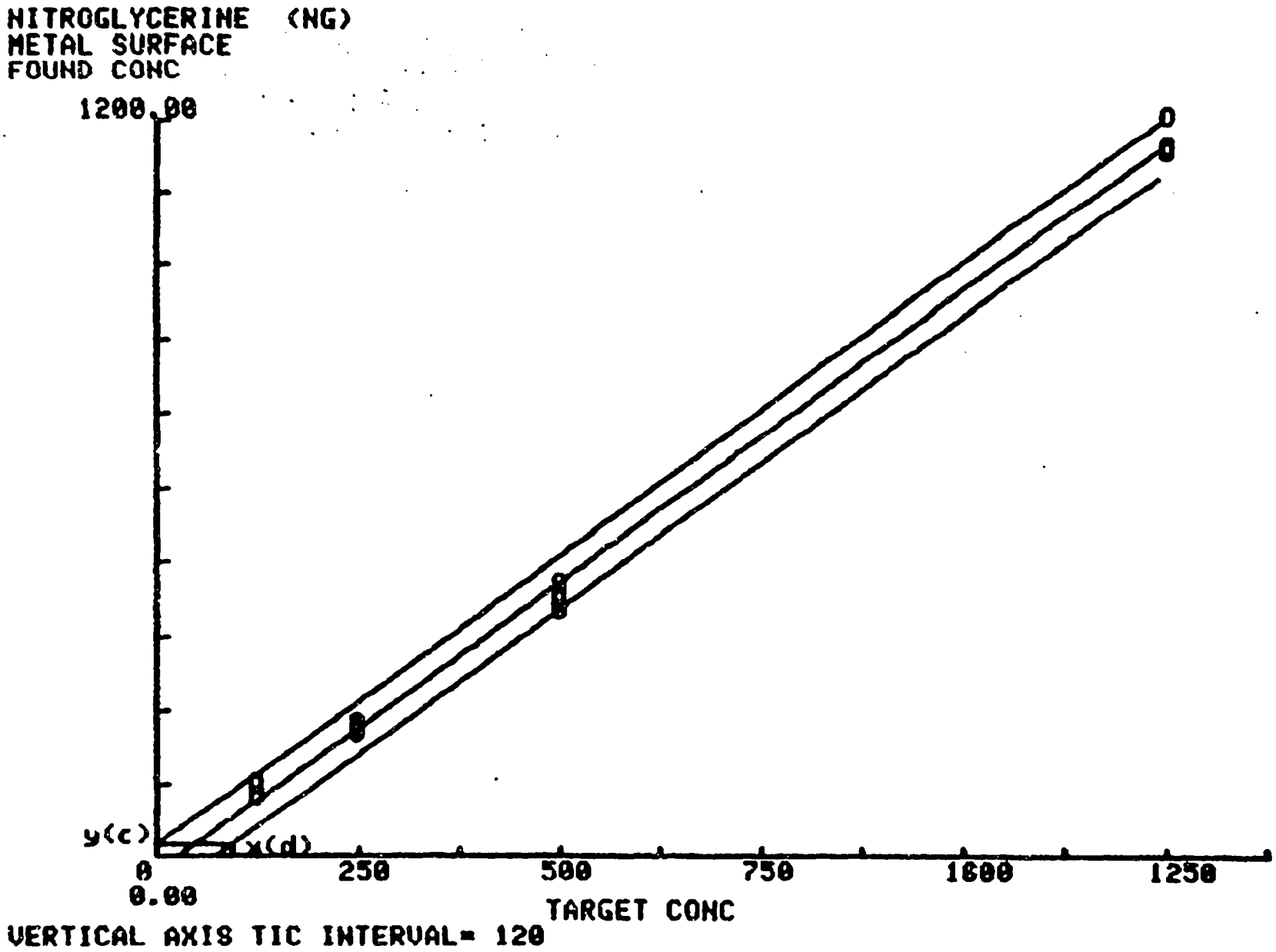

Figure II-121. NG on Metal - Graph of Target-Found Concentration Points

TABLE II-124. NG on Metal - Inaccuracy and Imprecision Data

NITROGLYCERIN (NG)
METAL SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
125.000	110.625	11.514	-11.500	10.408
250.000	210.250	6.850	-15.900	3.258
500.000	420.750	17.173	-15.850	4.082
1250.000	1160.000	27.000	-7.200	2.334
Means		15.654	-12.613	5.020

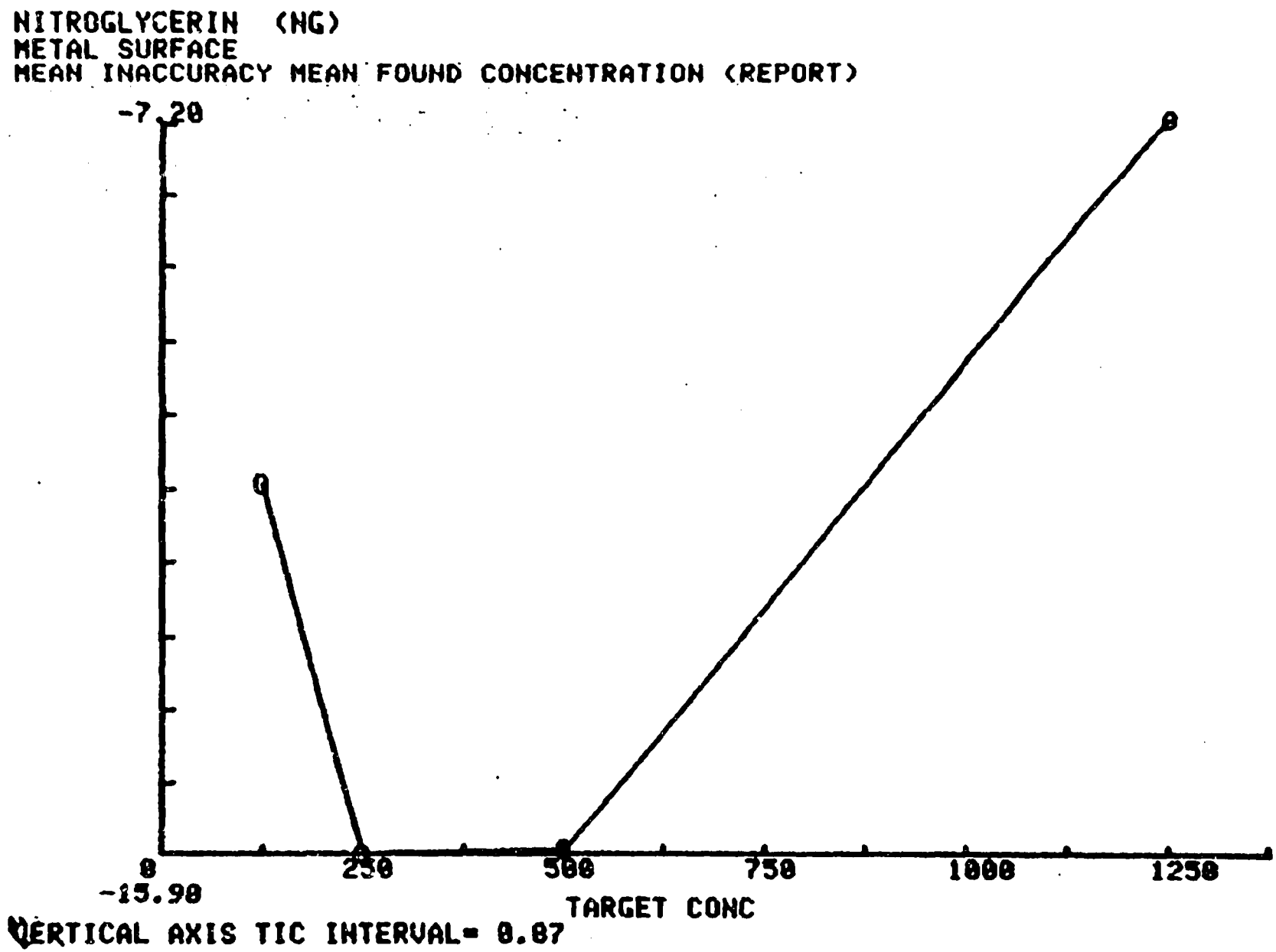

Figure II-122. NG on Metal - Graph of Inaccuracy

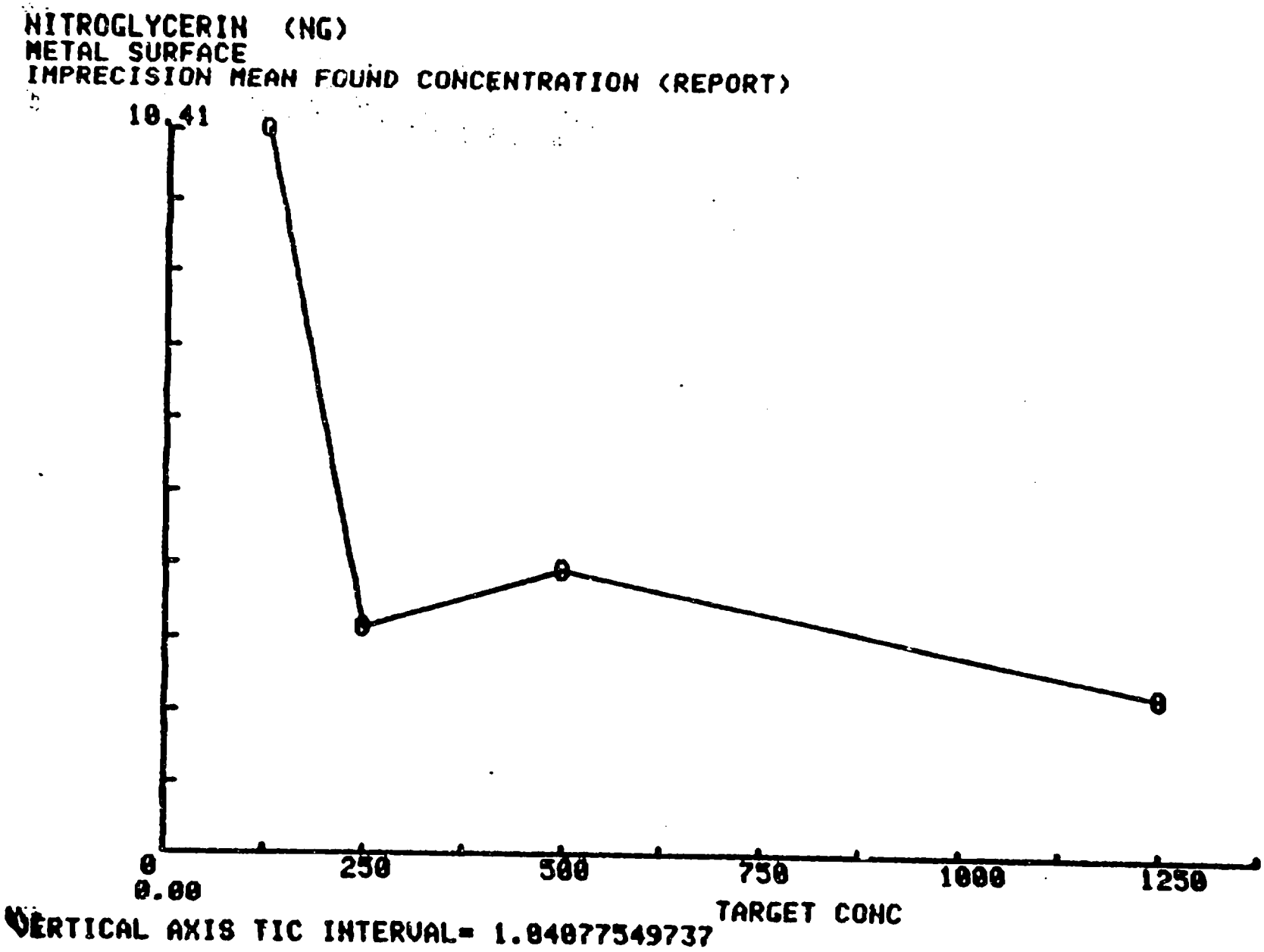

Figure II-123. NG on Metal - Graph of Imprecision

TABLE II-125. NG on Concrete Target vs. Found Concentrations

NITROGLYCERIN (NG)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
125.000	93.300
	86.600
	95.900
	99.500
250.000	181.000
	142.000
	193.000
	196.000
500.000	396.000
	392.000
	436.000
	429.000
1250.000	866.000
	883.000
	1007.000
	1014.000

TABLE II-126. NG on Concrete - Analysis of Target-Found Concentration Points

```
NITROGLYCERINE  (NG)
CONCRETE SURFACE
ANALYSIS OF 16 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 531.25  SD= 450.693909433

FOUND CONC
MEAN= 486.89375  SD= 343.646924364

NO. RUNS 1 TOTAL X-Y ALL RUNS 16 NO. CONCENTR 16
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 4.94128205129
SLOPE= 0.756616410256
 USE FOR ACCURACY
R= 0.992304553687
MEAN SQR DEV OF POINTS FROM REGRESSION= 1939.89261997
ST ERROR EST= 44.0442121052
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 14
TWO TAIL P LEVEL IS .1
t= 1.7613101065
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 88.3170343[illegible]91
x(d)= 217.475873[illegible]
```

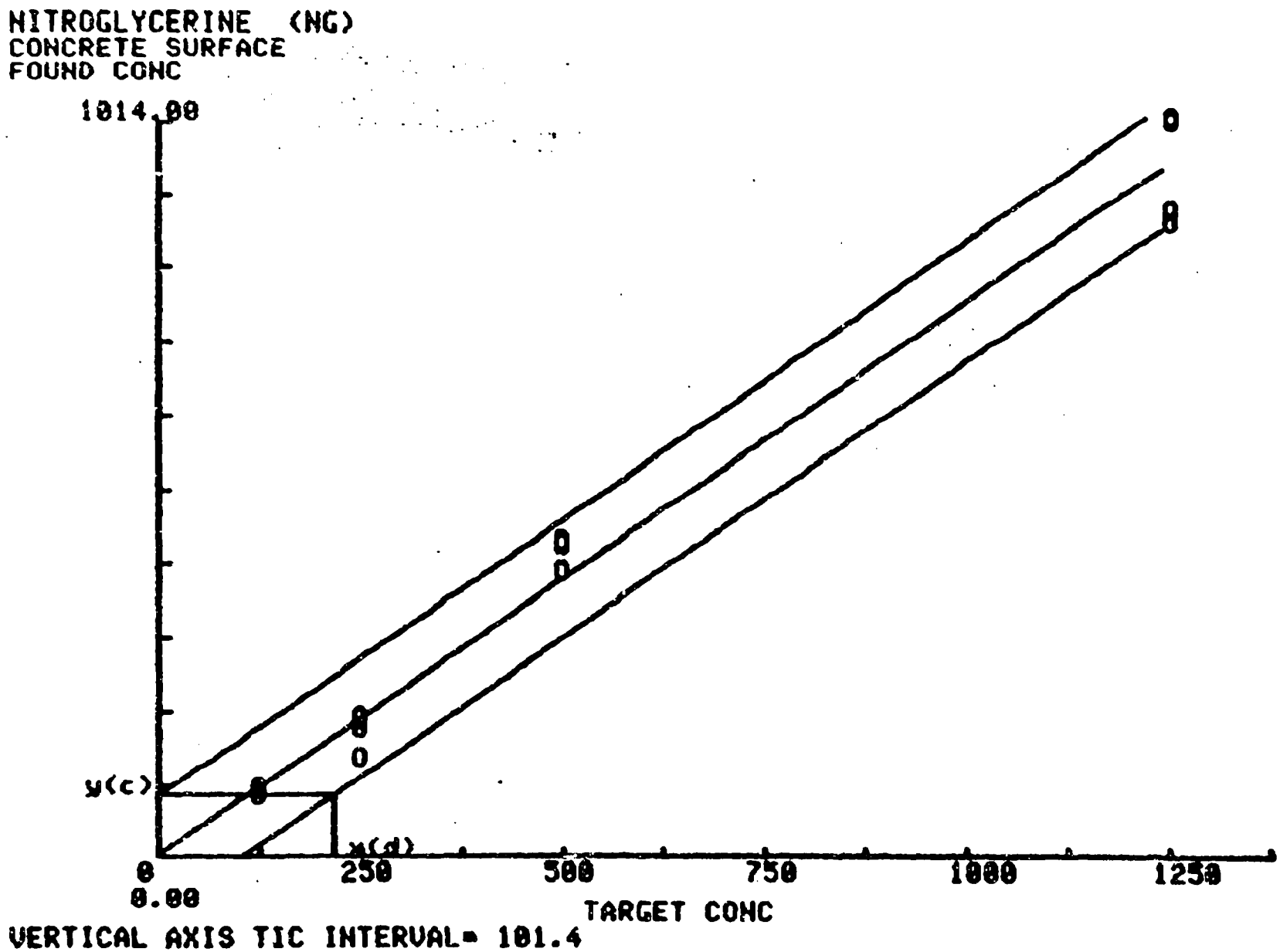

Figure II-124. NG on Concrete - Graph of Target-Found Concentration Points

TABLE II-127. NG on Concrete - Inaccuracy and Imprecision Data

NITROGLYCERIN (NG)
CONCRETE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
125.000	93.825	5.446	-24.940	5.805
250.000	178.000	24.860	-28.800	13.966
500.000	413.250	22.470	-17.350	5.437
1250.000	942.500	78.878	-24.600	8.369
Means		32.913	-23.923	8.394

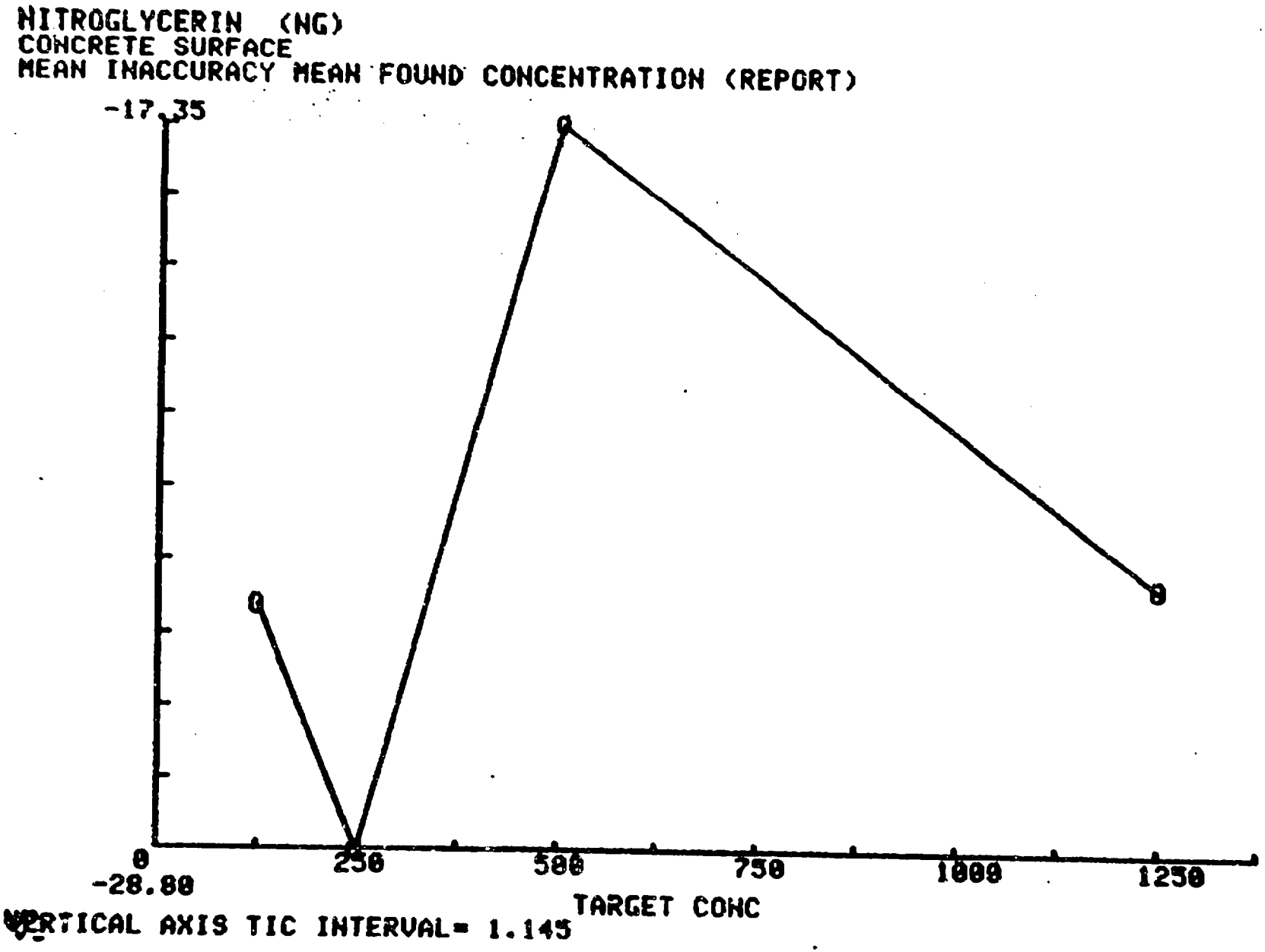

Figure II-125. NG on Concrete - Graph of Inaccuracy

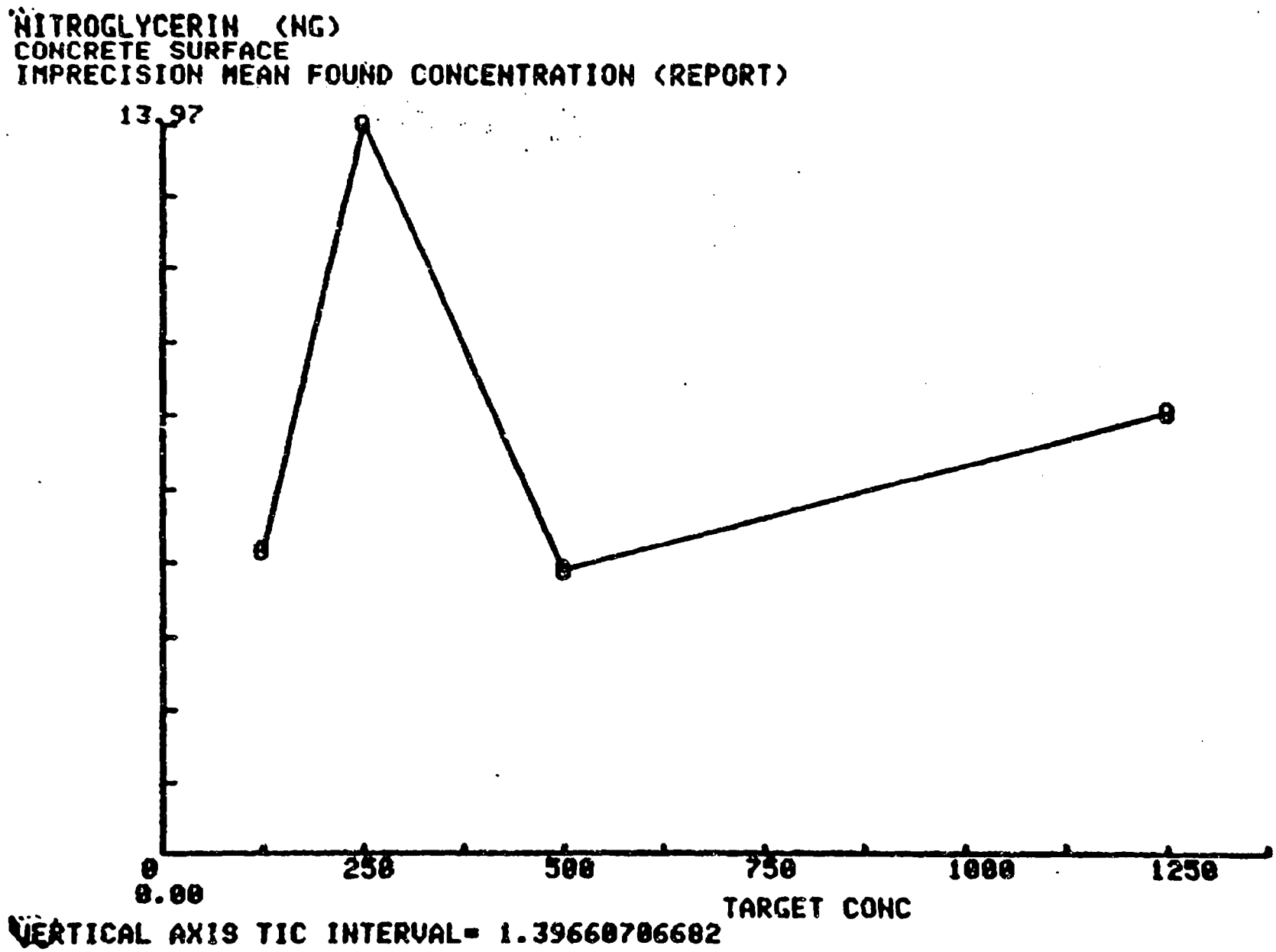

Figure II-126. NG on Concrete - Graph of Imprecision

TABLE II-128. NG on Brick - Target vs. Found Concentrations

NITROGLYCERIN (NG)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
125.000	33.800
	56.600
	58.800
	42.800
250.000	85.900
	87.500
	88.800
	77.400
500.000	222.000
	282.000
	242.000
	202.000
1250.000	537.000
	614.000
	560.000
	453.000

TABLE II-129. NG on Brick - Analysis of Target-Found Concentration Points

```
NITROGLYCERINE  (NG)
BRICK SURFACE
ANALYSIS OF 16 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 531.25  SD= 450.693989433

FOUND CONC
MEAN= 227.725  SD= 283.495737875

NO. RUNS 1 TOTAL X-Y ALL RUNS 16 NO. CONCENTR 16
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -8.04974358974
SLOPE= 0.443811282051
 USE FOR ACCURACY
R= 0.982934796801
MEAN SQR DEV OF POINTS FROM REGRESSION= 1501.39082051
ST ERROR EST= 38.7477847175
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 14
TWO TAIL P LEVEL IS .1
t= 1.7613101065
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 65.29986478
x(d)= 324.819610735
```

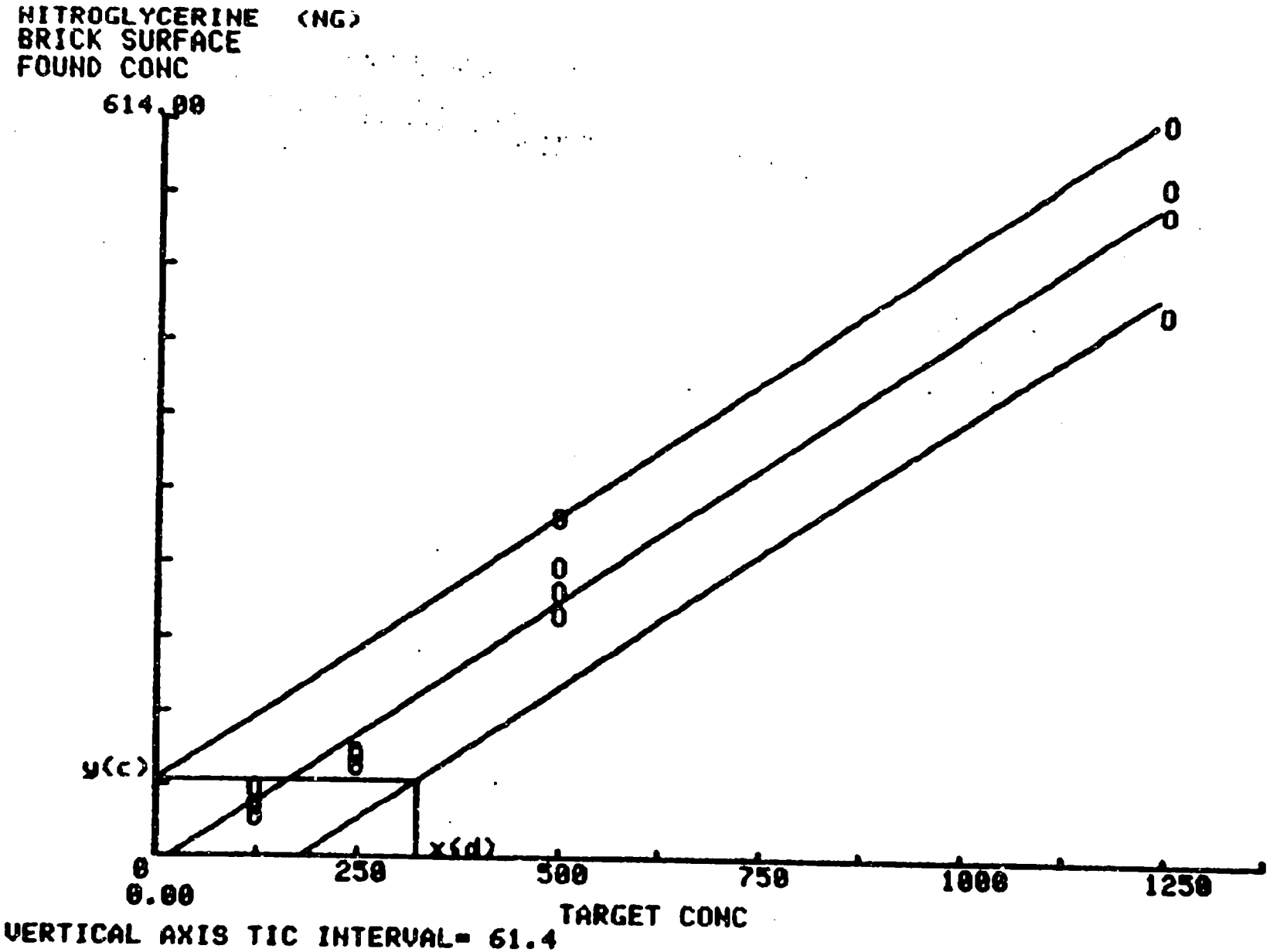

Figure II-127. NG on Brick - Graph of Target-Found Concentration Points

TABLE II-130. NG on Brick - Inaccuracy and Imprecision Data

NITROGLYCERIN (NG)
BRICK SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
125.000	48.000	11.822	-61.600	24.629
250.000	84.900	5.139	-66.040	6.053
500.000	237.000	34.157	-52.600	14.412
1250.000	541.000	66.958	-56.720	12.377
Means		29.519	-59.240	14.368

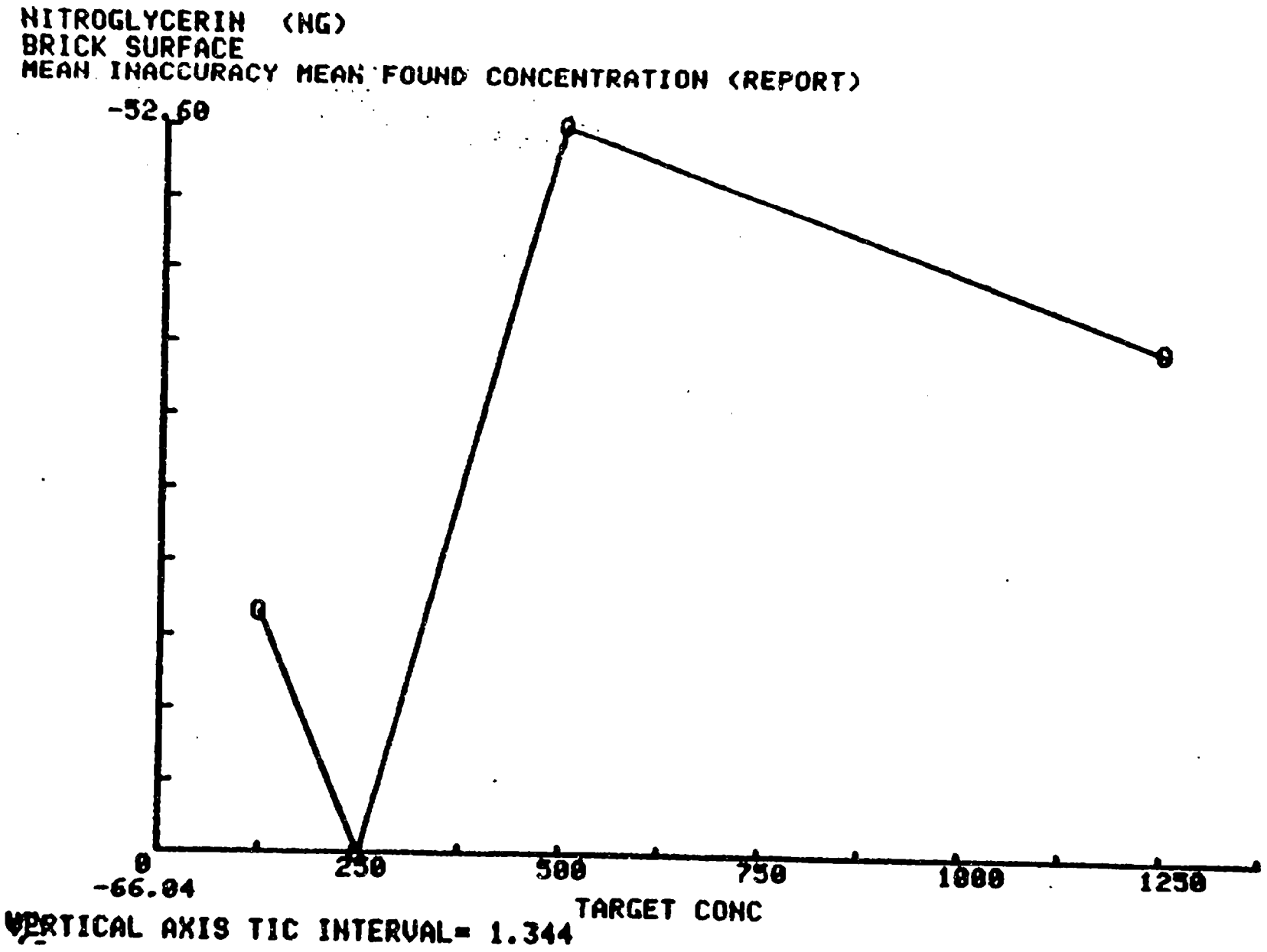

Figure II-128. NG on Brick - Graph of Inaccuracy

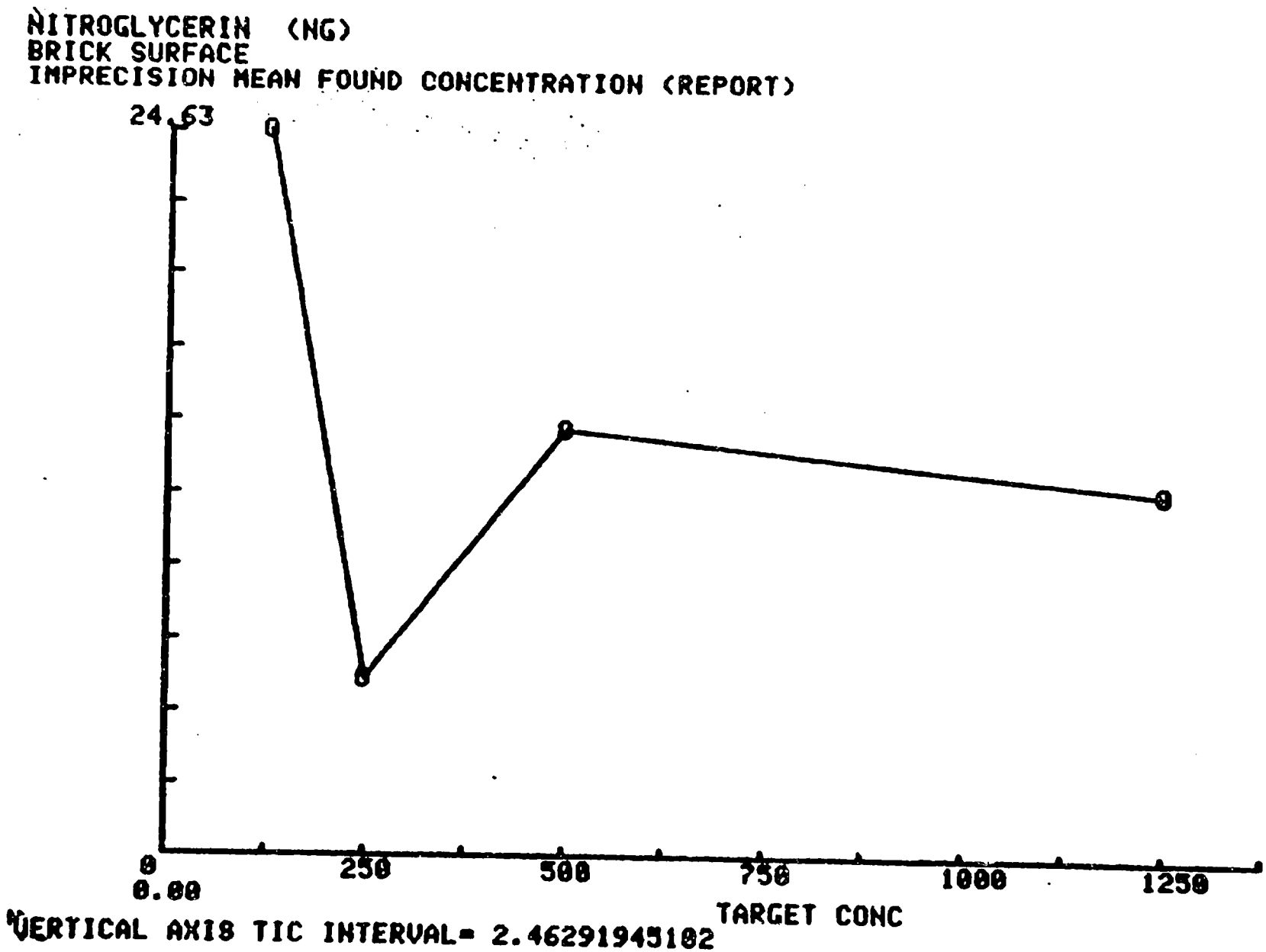

Figure II-129. NG on Brick - Graph of Imprecision

TABLE II-131. NG on Transite - Target vs. Found Concentrations

NITROGLYCERIN (NG)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc ug/10 sq cm	Found Conc ug/10 sq cm
125.000	83.600
	76.000
	91.650
	85.500
250.000	164.000
	138.000
	174.000
	138.000
500.000	325.000
	442.000
	396.000
	369.000
1250.000	938.000
	952.000
	764.000
	902.000

TABLE II-132. NG on Transite - Analysis of Target-Found Concentration Points

```
NITROGLYCERINE  (NG)
TRANSITE SURFACE
ANALYSIS OF 16 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 531.25  SD= 450.693909433

FOUND CONC
MEAN= 377.421875  SD= 328.83558048

NO. RUNS 1 TOTAL X-Y ALL RUNS 16 NO. CONCENTR 16
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -5.90769230769
SLOPE= 0.721561538462
 USE FOR ACCURACY
R= 0.988954389276
MEAN SQR DEV OF POINTS FROM REGRESSION= 2545.27895262
ST ERROR EST= 50.4507577011
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 14
TWO TAIL P LEVEL IS .1
t= 1.7613101065
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 89.5956595952
x(d)= 260.722616729
```

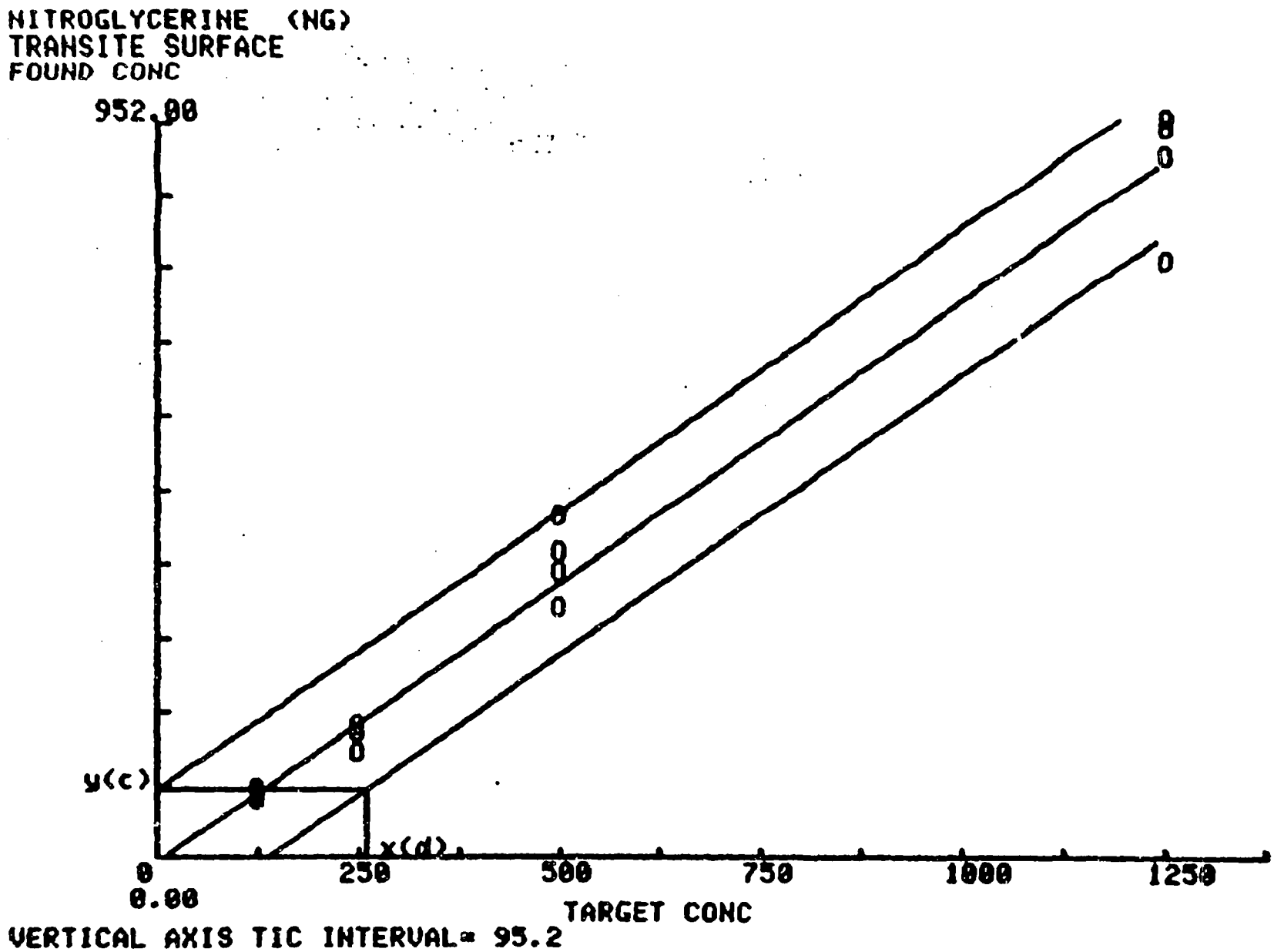

Figure II-130. NG on Transite - Graph of Target-Found Concentration Points

TABLE II-133. NG on Transite - Inaccuracy and Imprecision Data

NITROGLYCERIN (NG)
TRANSITE SURFACE
STATISTICAL DATA USED TO DETERMINE PERCENT INACCURACY AND IMPRECISION

Mn Targt Con ug/10 sq cm	Mn Found Conc ug/10 sq cm	Standard Deviation	Mean Pct Inaccuracy	Imprecision
125.000	84.188	6.450	-32.650	7.661
250.000	153.500	18.358	-38.600	11.959
500.000	383.000	49.024	-23.400	12.800
1250.000	889.000	85.953	-28.880	9.669
Means		39.946	-30.883	10.522

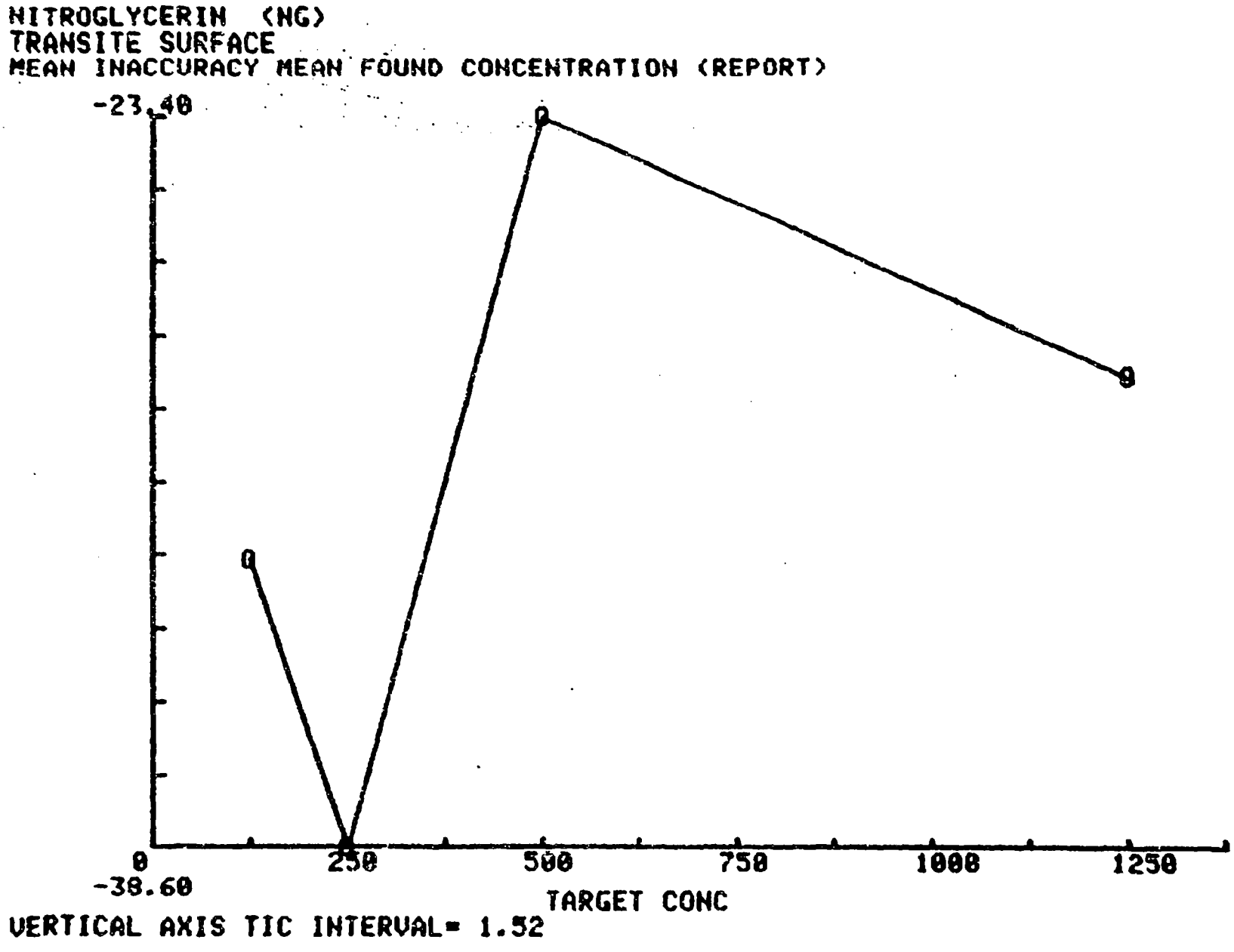

Figure II-131. NG on Transite Graph of Inaccuracy

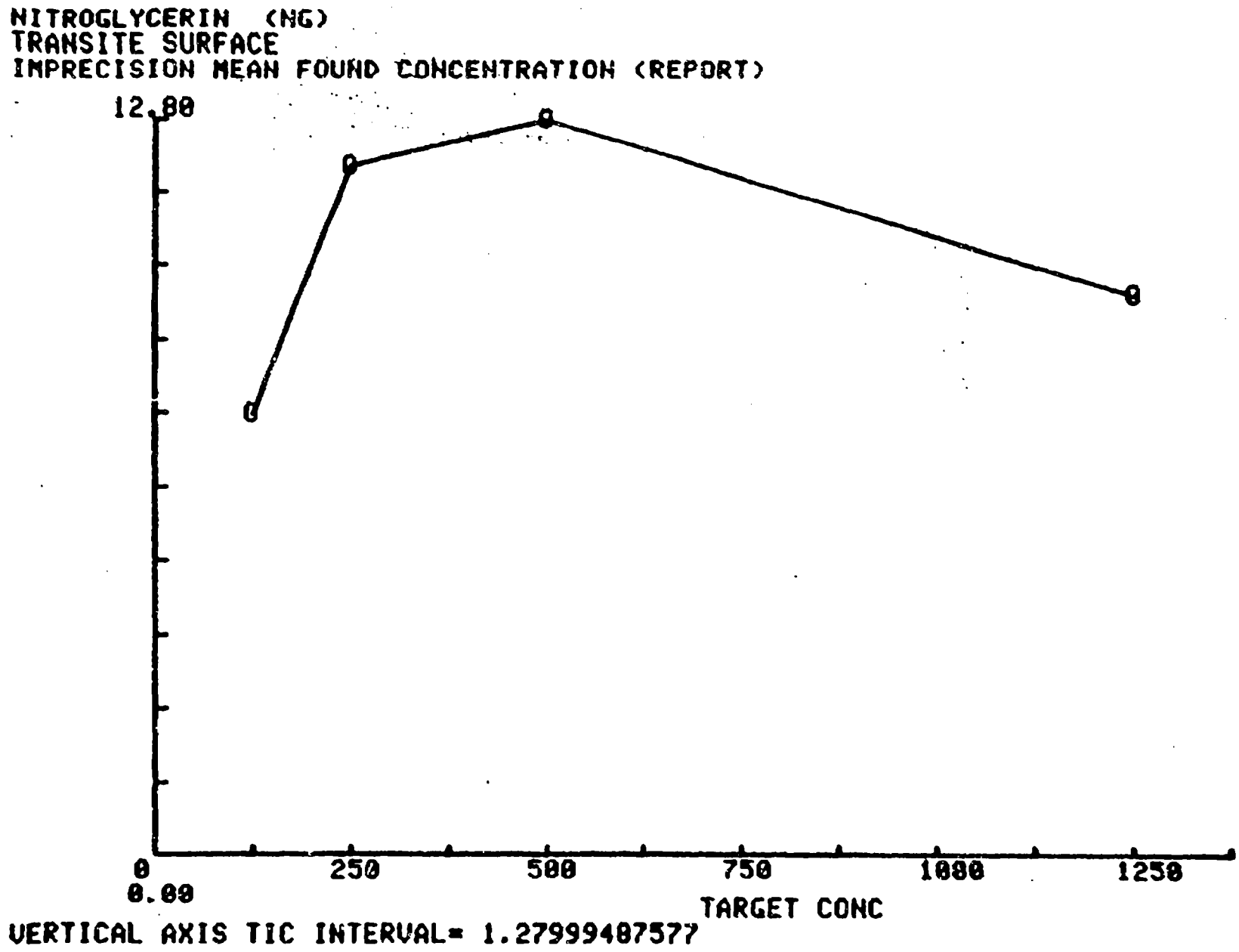

Figure II-132. NG on Transite - Graph of Imprecision

TABLE II-134. PETN on Metal - Target vs. Found Concentrations

PENTAERYTHRITE TETRANITRATE (PETN)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
50.000	30.200
50.000	32.400
50.000	47.400
50.000	47.800
100.000	78.000
100.000	73.500
100.000	90.800
100.000	79.600
200.000	199.000
200.000	159.000
200.000	187.000
200.000	189.000
500.000	450.000
500.000	406.000

Table II-134. PETN on Metal - Target vs. Found Concentrations (Continued)

PENTAERYTHRITE TETRANITRATE (PETN)
METAL SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
349.000	308.000
349.000	363.000
1000.000	902.000
1000.000	859.000
697.000	612.000
1388.000	1150.000

TABLE II-135. PETN on Metal - Analysis of Target-Found Concentration Points

```
PENTAERYTHRITE TETRANITRATE  (PETN)
METAL SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 359.15  SD= 382.937438205

FOUND CONC
MEAN= 313.185  SD= 328.387893672

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 5.97887894415
SLOPE= 0.855369959782
 USE FOR ACCURACY
R= 0.997458150645
MEAN SQR DEV OF POINTS FROM REGRESSION= 577.940153813
ST ERROR EST= 24.0403858915
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 49.6274158122
x(d)= 101.531895278
```

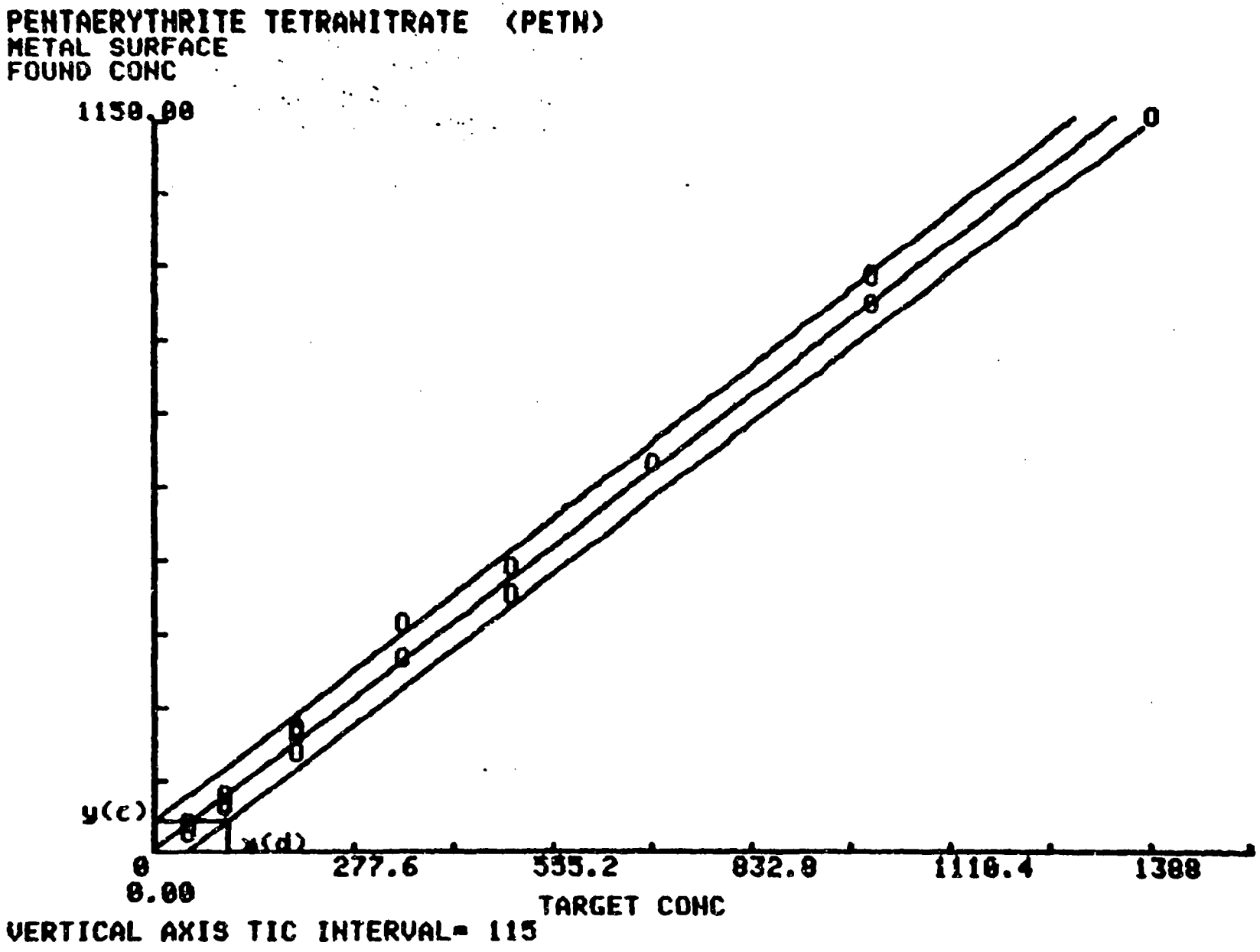

Figure II-133. PETN on Metal - Graph of Target-Found Concentration Points

TABLE II-136 PETN on Concrete - Target vs. Found Concentrations

PENTAERYTHRITE TETRANITRATE (PETN)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/10 SQ CM	Found Conc UG/10 SQ CM
50.000	38.600
50.000	44.400
50.000	45.800
50.000	44.200
100.000	97.000
100.000	86.100
100.000	84.700
100.000	86.900
200.000	167.000
200.000	194.000
200.000	181.000
200.000	182.000
349.000	323.000
349.000	292.000

Table II-136. PETN on Concrete - Target vs. Found Concentrations (Continued)

PENTAERYTHRITE TETRANITRATE (PETN)
CONCRETE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
349.000	300.000
349.000	304.000
697.000	583.000
697.000	610.000
697.000	603.000
1388.000	1140.000

TABLE II-137 PETN on Concrete - Analysis of Target-Found Concentration Points

```
PENTAERYTHRITE TETRANITRATE  (PETN)
CONCRETE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 313.75  SD= 333.434578922

FOUND CONC
MEAN= 270.335  SD= 276.82953766

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= 10.0941892935
SLOPE= 0.829452783128
 USE FOR ACCURACY
R= 0.999056104403
MEAN SQR DEV OF POINTS FROM REGRESSION= 152.635268141
ST ERROR EST= 12.3545646682
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 32.5286725913
x(d)= 53.9135179075
```

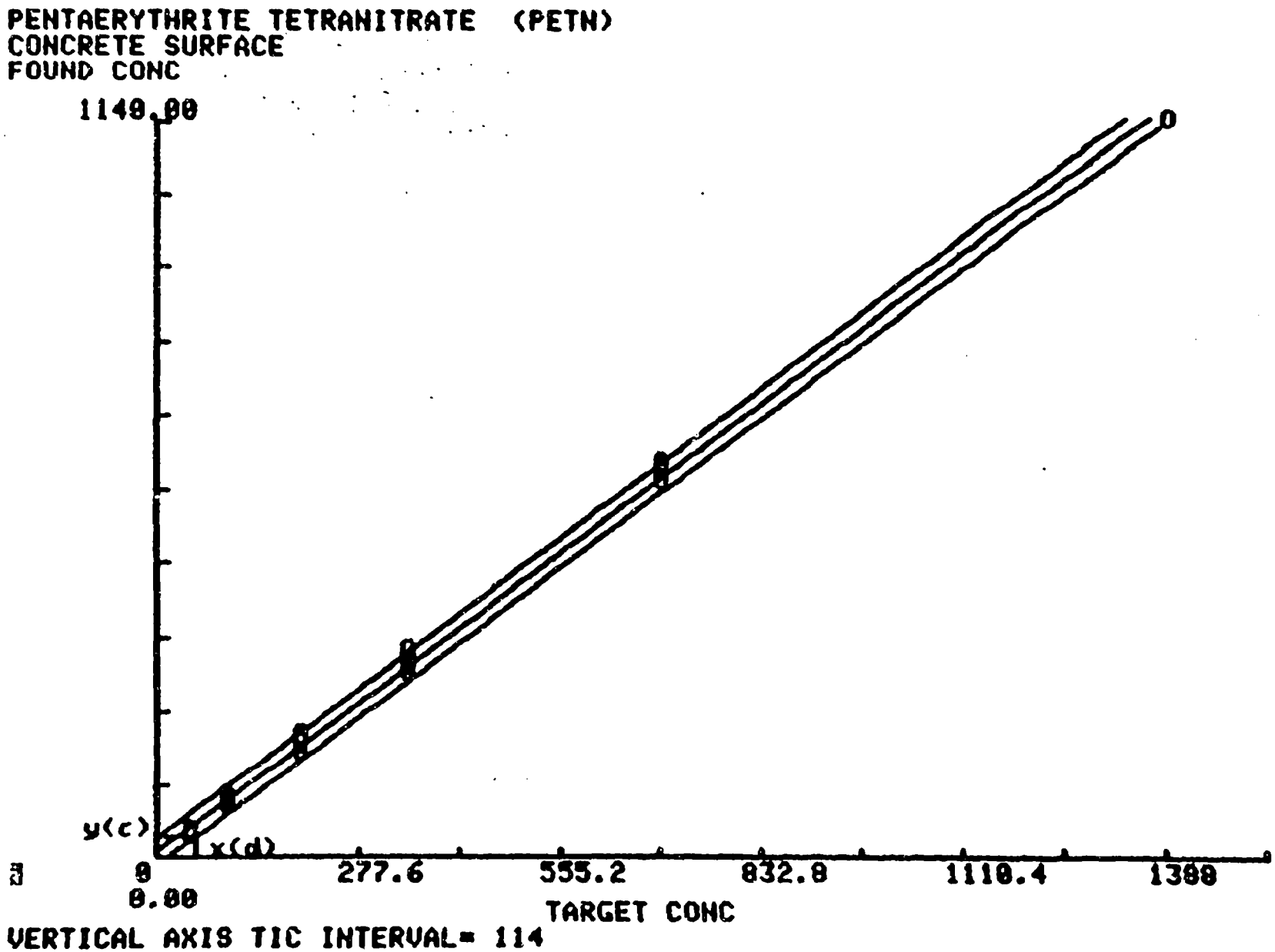

Figure II-134. PETN on Concrete - Graph of Target-Found Concentration Points

TABLE II-138 PETN on Brick - Target vs. Found Concentrations

PENTAERYTHRITE TETRANITRATE (PETN)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
50.000	39.700
50.000	25.000
50.000	26.400
50.000	22.200
100.000	70.400
100.000	47.200
100.000	52.800
100.000	47.200
200.000	112.000
200.000	100.000
200.000	97.100
200.000	101.000
500.000	364.000
349.000	184.000

Table II-138. PETN on Brick - Target vs. Found Concentrations (Continued)

PENTAERYTHRITE TETRANITRATE (PETN)
BRICK SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
349.000	168.000
349.000	180.000
1000.000	677.000
697.000	425.000
697.000	357.000
697.000	345.000

TABLE II- 139 PETN on Brick - Analysis of Target-Found Concentration Point

```
PENTAERYTHRITE TETRANITRATE  (PETN)
BRICK SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 301.9  SD= 277.200079745

FOUND CONC
MEAN= 172.05  SD= 174.438034542

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -14.2223284125
SLOPE= 0.617000094112
 USE FOR ACCURACY
R= 0.980476968454
MEAN SQR DEV OF POINTS FROM REGRESSION= 1241.00252912
ST ERROR EST= 35.2403537031
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 50.2303186945
x(d)= 206.251664127
```

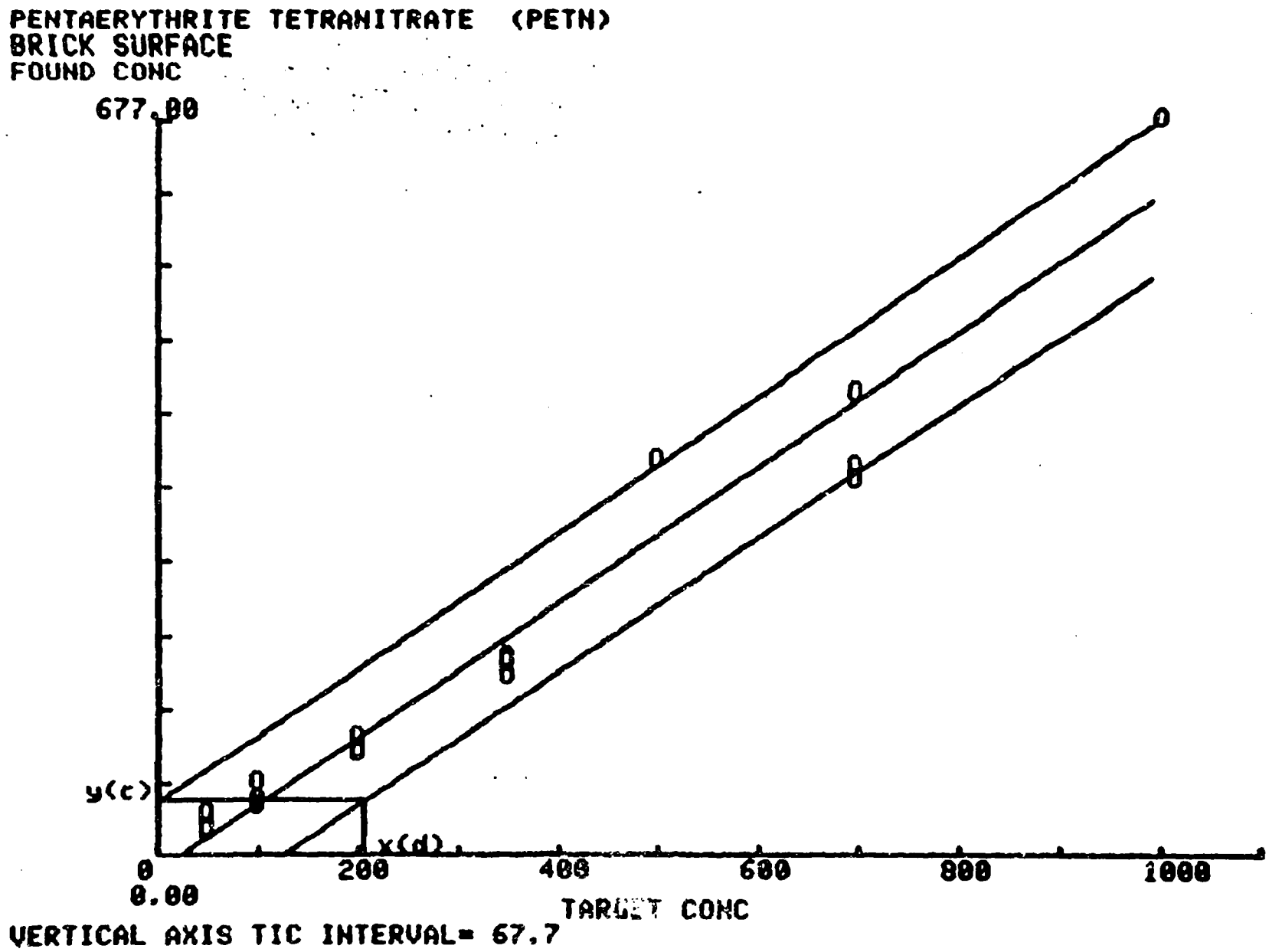

Figure II-135. PETN on Brick - Graph of Target-Found Concentration Points

TABLE II-140 PETN on Transite - Target vs. Found Concentrations

PENTAERYTHRITE TETRANITRATE (PETN)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
50.000	30.400
50.000	38.600
50.000	38.100
50.000	48.800
100.000	61.300
100.000	88.900
100.000	77.200
100.000	88.900
200.000	110.000
200.000	167.000
200.000	152.000
200.000	164.000
500.000	360.000
349.000	239.000

Table II-140. PETN on Transite - Target vs. Found Concentrations (Continued)

PENTAERYTHRITE TETRANITRATE (PETN)
TRANSITE SURFACE
TARGET CONC. VS FOUND CONC.

Target Conc UG/ 10 SQ CM	Found Conc UG/ 10 SQ CM
349.000	288.000
349.000	299.000
1000.000	801.000
697.000	525.000
1000.000	804.000
1388.000	1158.000

TABLE II-141 PETN on Transite - Analysis of Target-Found Concentration Points

```
PENTAERYTHRITE TETRANITRATE  (PETN)
TRANSITE SURFACE
ANALYSIS OF 20 TARGET CONC-FOUND CONC POINTS

TARGET CONC
MEAN= 351.6  SD= 381.500141409

FOUND CONC
MEAN= 276.96  SD= 312.148352719

NO. RUNS 1 TOTAL X-Y ALL RUNS 20 NO. CONCENTR 20
MEASURES (Y'S) EACH TARGET CONC 1

INTERCEPT= -10.0036506066
SLOPE= 0.816165104114
 USE FOR ACCURACY
R= 0.997497183375
MEAN SQR DEV OF POINTS FROM REGRESSION= 514.183809356
ST ERROR EST= 22.6756214767
 USE FOR PRECISION
T FOR CONFIDENCE BAND
D.F.= 18
TWO TAIL P LEVEL IS .1
t= 1.73406096408
X(D) FOR CALIBRATION CURVE OR UNKNOWN SAMPLE? C/U C
y(c)= 31.1370879006
x(d)= 100.308711628
```

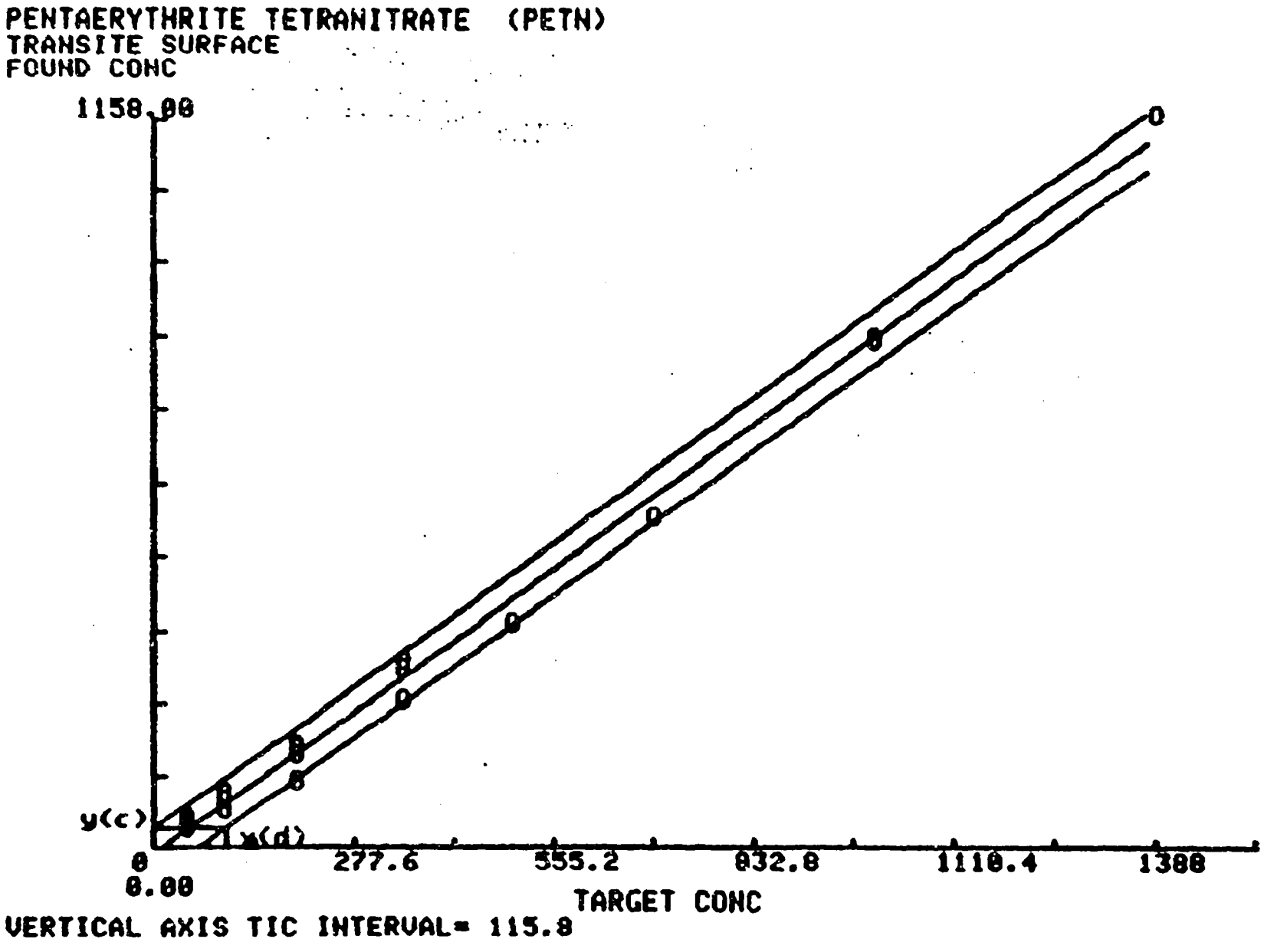

Figure II-136. PETN on Transite - Graph of Target-Found Concentration Points