Aug 72566

GPU Nuclear **Calculation Sheet**

Subject	Calc No.	Rev. No.	Sheet No.
CDW PROJECTED THICKNESS USING DATA THRU 3/3/91	C-1302-187 -5300-016	0	1 of 66
Originator: J P Moore, Date: 4-11-91	Reviewed by: Mark A. Stokes		Date: 4/12/91

VERIFICATION: V-1302-187-005, REV 4
Fred P Barbieri 4/12/91

1. PROBLEM STATEMENT

The statistical analyses of drywell thickness data through March 1991 are documented in Reference 3.1.

The analyses show that there was statistically significant on-going corrosion in Bays 9D, 11A, 11C, 13A, 17A, 17D, 19A, 19B and 19C in the sand bed region, and in Bay 5 Area D-12 at elevation 50'-2".

The regression analyses in Reference 3.1 provide the best estimates of the linear regression line which defines the drywell thickness in these bays as a function of time.

The purpose of this Calculation is to use these linear regression equations to predict the following:

(1) The best estimate of the date on which the mean thickness at a monitored location will equal the minimum allowable.

(2) The latest date for which we have 95% confidence that the mean thickness will not be less than the minimum allowable.

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(3) Using the earliest date from (2), compute the lower 95%/95% Tolerance Limit for the local minimum thickness on that date.

These analyses are performed at all locations which have been determined to have a statistically significant corrosion rate.

For the sand bed region, the analyses are performed for the minimum allowable thickness with sand (700 mils) and without sand (736 mils).

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2 RESULTS

2.1 Sand Bed Region With Sand

(1) The earliest best estimate date to reach 700 mils is February 1996 for Bay 17D.

(2) The earliest 95% Confidence level date to reach 700 mils is June 1994 for Bay 13A.

(3) It is predicted at the 95%/95% Tolerance Level that the minimum local thickness in Bay 19C will not be less than 554 mils in June 1994. This is the most limiting monitored location in the Sand bed region.

2.2 Sand Bed Region Without Sand

(1) The earliest best estimate date to reach 736 mils is July 1994 for Bay 17D.

(2) The earliest 95% Confidence level date to reach 736 mils is July 1993 for Bay 13A.

(3) It is predicted at the 95%/95% Tolerance Level that the minimum local thickness in Bay 19C will not be less than 577 mils in July 1993. This is the most limiting monitored location in the Sand bed region.

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2.3 Middle Sphere

The only location with a statistically significant corrosion rate is Bay 5, Area D-12

(1) The best estimate date to reach 670 mils is March 2005.

(2) The 95% Confidence level date to reach 670 mils is February 2000.

(3) It is predicted at the 95%/95% Tolerance Level that the pit at point 9 in Bay 5 Area D-12 will have a thickness of not less than 593 mils in February 2000.

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3. REFERENCES

3.1 GPUN Calculation C-1302-187-5300-015, Rev. 0, "Statistical Analysis of Drywell Thickness Data Thru 3/3/91.

3.2 "Applied Regression Analysis", 2nd Edition, N.R. Draper & H. Smith, John Wiley & Sons, 1981

3.3 "Experimental Statistics", (NBS Handbook 91), Mary Gibbons Natrella, John Wiley & Sons, October 1966

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4. ASSUMPTIONS & BASIC DATA

4.1 Mean Thickness vs Time

The mean thickness for each set of measurements at each location is documented in Ref. 3.1. These values are used as input to this Calculation.

4.2. Earliest Time To Reach Minimum Allowable Thickness

We need to determine the Best Estimate Date and the date at which we have 95% Confidence that the mean thickness at a monitored location will not be less than the minimum allowable thickness.

To accomplish this, we must do the following:

(1) Perform linear regression analysis for each monitored location with statistically Significant Corrosion, using the data described in 4.1 as input.

(2) Project the Regression Line and the two-sided 90% Confidence interval about the mean forward in time to locate the intersections with the minimum allowable thickness.

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4.2 (Cont'd)

This is depicted in the figure below.

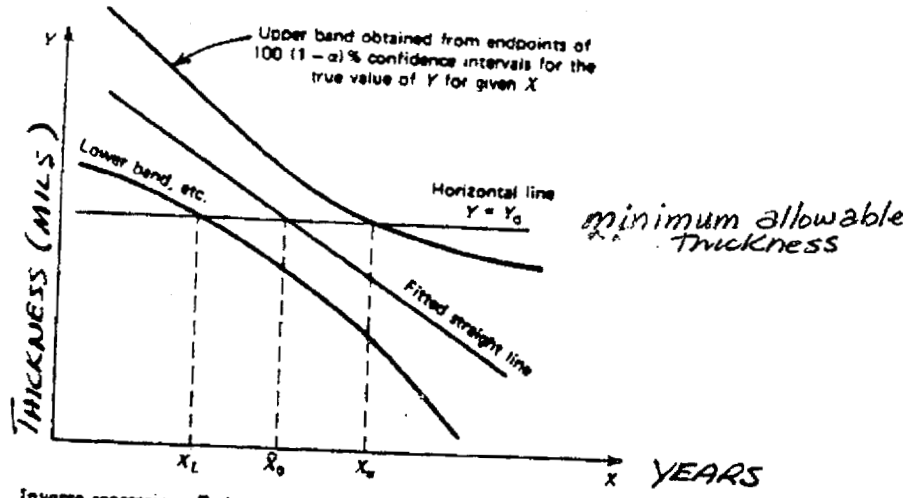

Figure 1.11 Inverse regression: Estimating X by $\hat{X}_0$ from a given Y_0 value, and obtaining a $100(1-\alpha)\%$ "fiducial interval" for X.

In this problem, Y is the mean thickness in mils and X is time in years.

The two-sided confidence interval is calculated at a confidence level of 90%. This means that we have 90% confidence that the true mean lies within this interval. Since the confidence interval is centered about the regression line, it also means that we have 95% confidence that the true mean lies above the lower band (90% within the interval between bands plus 5% above the upper band = 95%).

4.2 (Contd)

$\hat{X}_0$ represents our best estimate of the time when the true mean thickness will equal 700 mils.

X_L represents the time at which we have 95% Confidence that the true mean is not less than y_0.

y_0 = 700 mils.

The equations for the regression line and confidence interval are generally expressed explicitly in terms of y and implicitly in terms of x. If used in this form, the Calculation of X_L and X_U would be a trial and error process.

Paragraph 1.7 in Ref. 3.2 rearranges the equations to perform inverse regression and thus solve directly for X_L and X_U. These are:

$$\hat{X}_0 = (y_0 - b_0)/b_1$$

b_0 = y Intercept

b_1 = Slope

y_0 = 700 mils

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4.2 (Cont'd)

$$\left.\begin{matrix} X_U \\ X_L \end{matrix}\right\} = \hat{X}_0 + \frac{(\hat{X}_0 - \bar{X})g \pm (tS/b_1)\{[(\hat{X}_0 - \bar{X})^2/S_{xx}] + (1-g)/n\}^{1/2}}{(1-g)}$$

$$g = t^2 / \{b_1 / (S^2/S_{xx})^{1/2}\}^2$$

$t = t(\nu, 1-\alpha/2)$
= one-sided t distribution value for ν degrees of freedom at a confidence level of $(1-\alpha/2)$.

ν = degrees of freedom of S^2
$= n-2$

$(1-\alpha/2) = (1-0.10/2) = 0.95$

S = Root Mean Square Error (RSME)

$S_{xx} = \Sigma(x_i - \bar{x})^2$

n = number of observations (y_i, x_i)

$\bar{x} = \Sigma x_i / n$

A SPEAKEZ program ("LINPREDX") was written to solve the equations for X_L, $\hat{X}_0$ and X_U. This program calls another SPEAKEZ program ("LINREGNI") which performs a linear regression analysis to calculate the values to input to these equations. Listings of these programs are included in Appendix 6.1.

4.3 MEAN THICKNESS IN ALL BAYS AT MINIMUM TIME X_L

Having calculated the minimum time X_L to reach $t_{minimum}$, the next step is to predict the true mean thickness in all bays on this date.

A SPEAKEZ program ("LINPREDY") was written to use the input from 4.1 and 4.2 to predict the true mean thickness on the above date and the 96% Confidence Interval about this value. A listing of this program is included in Appendix 6.1.

4.4. LOCAL MINIMUM THICKNESS

The local minimum thickness at a 95%/95% Tolerance Level is estimated as follows:

(1) The predicted mean thickness and 90% Confidence Interval at minimum time X_L is calculated for each monitored location in 4.3. This represents the mean thickness within the 6"x6" Grid.

(2) The thickness at individual points within the Grid was determined to be normally distributed in Ref 3.1. The standard deviation of the

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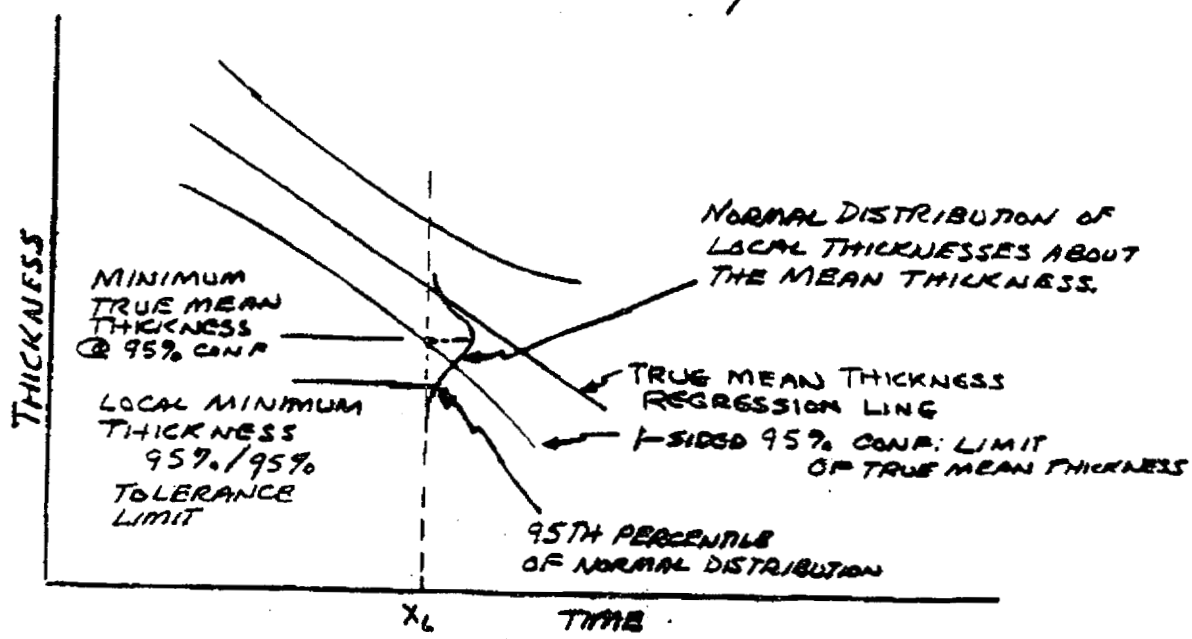
4.4 (Cont'd)

individual point thicknesses was also calculated in Ref. 3.1. If the standard deviation at a given location does not vary with time, its mean value can be used as the best estimate of the standard deviation at a future date. However, if it varies with time, regression analysis may be used to predict the standard deviation at a future date.

(3) The one-sided 95%/95% lower tolerance limit for local minimum thickness is equal to the one-sided 95% lower confidence limit for mean thickness (from 4.3) minus 2.092 times the standard deviation (from 4.4(2)), where 2.092 is the factor for the 95%/95% one-sided tolerance limit for a sample size of 45 (Ref. 3.6, Table A-7). Most of the grids have about 45 valid data points.



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5. CALCULATIONS

5.1 Mean Thickness vs Time

The mean thickness for each set of measurements at each location from Ref. 3.1 are tabulated as the variable y on the computer output sheets in Appendix 6.2.

5.2 Sand Bed. With Sand

Minimum allowable thickness = 700 mils.

Bay & Area	Best Estimate Date	95% Confidence Date
9D	8-23-2006	10-21-2000
11A	1-07-2000	9-23-1997
11C Top 3	9-28-1999	11-29-1996
11C Bot 4	5-24-1998	4-01-1996
13A	8-24-1996	6-29-1994
17A Bot 4	11-25-2007	8-01-2000
17D	2-20-1996	3-06-1995
19A	8-27-1996	4-24-1995
19B	3-28-2000	6-06-1997
19C	6-02-1997	7-24-1995

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5.2 Sand Bed With Sand (Cont'd)

MINIMUM TRUE MEAN THICKNESS AT 95% CONFIDENCE LEVEL ON 6-29-94

BAY & AREA	
9D	884.1
11A	795.1
11C Top 3	799.3
11C Bottom 4	747.3
13A	700.0
17A Bottom 4	841.8
17D	718.0
19A	717.8
19B	757.1
19C	726.0

Local Minimum Thickness in June 1994

The variation of the standard deviation of individual point measurements about the mean thickness as a function of time was analyzed by performing regression analysis using the SAS Procedure "PROC REG".

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5.2 Sand Bed With Sand (Contd)

The results of the regressions are tabulated below, where:

N = Number of data Sets

Mean STD = Mean Standard Deviation for the N Data Sets

STD LAST = Standard Deviation on Date of Last Reading per Regression.

B1 = Slope of Regression Line

Prob > F = Probability that B1 = 0.

BAY	N	MEAN STD	STD LAST	B1	PROB > F
9D	4	68.5	74.6	+7.35	.17
11A	11	45.1	47.9	+1.24	.43
11C Top3	10	107.6	103.0	−2.18	.31
11C Bot 4	10	26.5	22.3	−1.99	.32
13A	7	57.2	55.9	−1.12	.83
17A Bot 4	6	53.6	61.1	+6.29	.003
17D	11	59.7	64.0	+1.91	.065
19A	11	59.3	65.4	+2.68	.006
19B	10	58.7	61.1	+1.19	.14
19C	10	75.8	78.4	+1.21	.59

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Calculation Sheet

Subject		Calc No. C-1302-187 -5300-016	Rev. No. Ø	Sheet No. 15 of
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5.2 Sand Bed With Sand (Contd)

For those bays where B1 is negative, the Standard deviation is assumed to be constant and equal to Mean STD.

For those bays where B1 is positive, the Standard deviation on 6/29/94 is computed from the regression.

STD 6/29/94 = STD LAST + B1 * ΔYRS

Where YRS is the number of years from the last measurement to 6/29/94. = 3.35

BAY	STD	K* STD	95% Lower Conf. Limit For Prop. Mean Thk.	95%/95% Lower Tol. Limit For Local Min Thickness
9D	99.2	207.6	884.1	676.5
11A	52.1	108.9	795.1	686.2
11C Top3	103.0	215.5	799.3	583.8
11C Bot4	29.9	62.6	747.3	684.7
13A	55.9	116.9	700.0	583.1
17A Bot4	82.2	171.9	841.8	669.9
17D	70.4	147.3	718.0	570.7
19A	74.4	155.6	717.8	562.2
19B	65.1	136.2	757.1	620.9
19C	82.5	172.5	726.0	553.5

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5.3 Sand Bed Without Sand

Minimum allowable thickness = 736 mils.

Bay & Area	Best Estimate Date	95% Confidence Date
9D	9-21-2004	7-29-1999
11A	12-3-1997	1-22-1996
11C Top 3	7-22-1998	1-13-1996
11C Bot 4	9-1-1996	11-21-1994
13A	3-30-1995	7-15-1993
17A Bot 4	4-18-2005	1-15-1999
17D	7-28-1994	10-22-1993
19A	8-31-1994	8-26-1993
19B	10-13-1997	7-31-1995
19C	7-13-1995	1-29-1994

Bay & Area	Minimum True Mean Thickness @ 95% Conf. on 7-15-93
9D	911.9
11A	790.3
11C Top 3	838.4
11C Bot 4	773.0
13A	736.0
17A Bot 4	863.9
17D	743.2
19A	738.5
19B	775.7
19C	749.2

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Calculation Sheet

Subject		Calc No. C-1302-187 -5300-016	Rev. No. Ø	Sheet No. 17 of
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5.3 Sand Bed Without Sand (Cont'd)

Local Minimum Thickness in July 1993

This analysis is the same as that in para. 5.2 except for the date 7-15-93 & YRS = 2.39.

Bay	K*STD	95% Lower Conf. Limit For Pop. Mean Thu.	95%/95% Lower Tol. Limit For Local Min Thu
9D	207.6	911.1	703.5
11A	108.9	790.3	681.4
11C Top 3	215.5	838.4	622.9
11C Bot 4	62.6	773.0	710.4
13A	116.9	736.0	619.1
17A Bot 4	171.9	863.9	692.0
17D	147.3	743.2	595.9
19A	155.6	738.5	582.9
19B	136.2	775.7	639.5
19C	172.5	749.2	576.7

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5.4 Bay 5 Area D-12 At Elevation 50'-2"

It is predicted at the 95% Confidence Level that the true mean thickness at this location will not decrease below 670 mils prior to February 2000. Thus, Bay 13A is more limiting.

Local Minimum Thickness in February 2000

The standard deviation of individual point measurements about the mean thickness has a mean value of ± 11.2 mils. Regression analysis yielded the following:

STD @ Last Measurement	11.42
Slope	+ 0.11
Prob > F	0.79

years from 2/23/91 To 2/2/2000 = 8.95

STD @ 2/2/2000 = 11.42 + 8.95(0.11) = 12.40

T_{95L} = 95% Lower Confidence Limit For Projected Mean Thickness in Feb. 2000

T_{95L} = 670 mils

$T_{min95} = T_{95L} - K(STD)$

$K_{95/95} = 2.126$ @ $n=40$ (Ref. 3.3, Table A-7)

$T_{min95} = 670 - 2.126(12.4)$
$= 643.6$ mils.

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5.4 Bay 5 Area D-12 (Cont'd)

Based on the regression, the best estimate of the current mean thickness of the grid is 741.7 ± 2.4 mils. (Ref. 3.1)

Based on the regression, the best estimate of the current thickness of the pit at point 9 in the grid is 690.8 ± 3.2 mils.

Thus, the depth of the pit is

$$[741.7 \pm 2.4] - [690.8 \pm 3.2] = 50.9 \pm 4.0 \text{ mils}$$

Where the two uncertainties are propagated using the square root of the sum of the squares.

Based on the conclusion that the pit is corroding at approximately the same rate as the grid (Ref. 3.1, para. 5.2.1), the thickness at the pit in February 2000 at the 95% Confidence Level will be

$$643.6 - 50.9 = 592.7 \text{ mils}$$

This is based on the conclusion that the pit is corroding at the same rate as the grid, and this will continue to be about 50.9 mils deep.

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Calculation Sheet

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6. APPENDICES

6.1 Listings of SPEAKEZ Computer Programs.

6.2 Computer Output From Calculation of Earliest Time To Reach Minimum Allowable Thickness in Each Bay

6.3 Computer Output From Calculation of Predicted Mean Thickness in Each Bay

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Calculation Sheet

Subject	Calc No. C-1302-187-S300-616	Rev. No. 0	Sheet No. 21 of
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APPENDIX 6.1

```
LISTING OF PROGRAM LINPREDX
 100.00 PROGRAM
 200.02 $ PROGRAM: LINPREDX
 300.00 $ PROGRAMMED BY J.P. MOORE     1/25/89
 400.02 $     REVISED BY J.P. MOORE     2/27/91
 500.02 $     REVISED BY J.P. MOORE     3/19/91
 600.00 $ REFERENCE: "APPLIED REGRESSION ANALYSIS", 2ND EDITION
 700.00 $            N.R. DRAPER & H. SMITH
 800.00 $            JOHN WILEY & SONS, 1981, PP 47-51
 900.00   JOURNAL ON
1000.00   NEWPAGE
1100.00   TYPE "PROGRAM: LINPREDX"
1200.00   ASKNAME("BAY NUMBER?","BAY= ")
1300.00   ASK("ENTER NAME OF DATE LIST","HENCEFORTH DATELIST IS ")
1400.02   ASK("NAME OF MEAN THICKNESS DATASET?","HENCEFORTH DATASET IS ")
1500.02 $ GET DATASET ON OCDAT
1600.02   N = INTS(1,NOELS(DATASET))
1700.02   TABULATE N,DATELIST,DATASET
1800.02   ASK ("ENTER NO. OF DESIRED DATA", "SELECT = ")
1900.02   DATES = DATELIST(SELECT)
2000.02   Y = DATASET(SELECT)
2100.00   ASK("ENTER VALUE OF MINIMUM THICKNESS (Y0)","Y0= ")
2200.00   DAYNO = DAYNUMBER(DATES)
2300.00   X = (DAYNO-DAYNO(1))/365
2400.00   NDF = NOELS(Y) - 2
2500.00   EXECUTE LINREGN1
2600.00 $  T95 = ONE-SIDED T TABLE VALUE AT .95 WITH NDF DEG OF FREEDOM
2700.00    T95 = ABS(TPROBINVERSE(.95,NDF))
2800.00 $  EQUATION 1.7.7, PAGE 49
2900.00    G = T95**2/(B1/SQRT(SSQ/SXX))**2
3000.00    X0HATYR = (Y0-B0)/B1
3100.00    X1 = (X0HATYR-XBAR)*G/(1-G)
3200.00    X2 = (T95*S/B1)*SQRT(((X0HATYR-XBAR)**2/SXX)+(1-G)/N)/(1-G)
3300.00 $  EQUATION 1.7.6, PAGE 49
3400.00    X90YR = X0HATYR+X1+X2, X0HATYR+X1-X2
3500.00 $  XU90YR = UPPER BOUND OF 90% CONFIDENCE INTERVAL ABOUT X0
3600.00    XU90YR = MAX(X90YR)
3700.00 $  XL90YR = LOWER BOUND OF 90% CONFIDENCE INTERVAL ABOUT X0
3800.00    XL90YR = MIN(X90YR)
3900.00    X0HATNO = DAYNO(1) + INTPART(X0HATYR*365)
4000.00    X0HAT = MAKEDATE(X0HATNO:DATEIN=DAYNUMBER,ABBRAMER)
4100.00    XU90NO = DAYNO(1) + INTPART(XU90YR*365)
4200.00    XU90 = MAKEDATE(XU90NO:DATEIN=DAYNUMBER,ABBRAMER)
4300.00    XL90NO = DAYNO(1) + INTPART(XL90YR*365)
4400.00    XL90 = MAKEDATE(XL90NO:DATEIN=DAYNUMBER,ABBRAMER)
4500.00 TABULATE BAY,DATES,X,Y
4600.00 TYPE "Y0     ="Y0
4700.00 TYPE "XU90   ="XU90
4800.00 TYPE "X0HAT  ="X0HAT
4900.00 TYPE "XL90   ="XL90
5000.00 TYPE "T95    ="T95
5100.02 TYPE "G      ="G
5200.02 SPACE(2)
5300.02 TYPE "INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE"
5400.02 TYPE "UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,"
5500.02 TYPE "THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT"
5600.03 TYPE "G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH"
5700.03 TYPE "LARGER THAN THIS, THE RESULTS ARE MEANINGLESS."
5800.00 $TABULATE B0,B1,SSQ,SXX,S,XBAR
5900.00 $TABULATE G,X1,X2
6000.00 SPACE(2)
6100.00 DATE;TIME
6200.00 JOURNAL OFF
6201.00 END
```

LISTING OF PROGRAM LINPREDY

```
 100 PROGRAM
 200 $ PROGRAM: LINPREDY
 300 $ PROGRAMMED BY J.P. MOORE     1/27/89
 400 $    REVISED BY J.P. MOORE     4/09/91
 500 $ REFERENCE: "APPLIED REGRESSION ANALYSIS", 2ND EDITION
 600 $            N.R. DRAPER & H. SMITH
 700 $            JOHN WILEY & SONS, 1981, PP 28-31, 129-133
 800   JOURNAL ON
 900   NEWPAGE
1000   TYPE "PROGRAM: LINPREDY"
1100   ASKNAME("BAY NUMBER?","BAY= ")
1200   ASK("ENTER NAME OF DATE LIST","HENCEFORTH DATELIST IS ")
1300   ASK("NAME OF MEAN THICKNESS DATASET?","HENCEFORTH DATASET IS ")
1400 $ GET DATASET ON OCDAT
1500   N = INTS(1,NOELS(DATASET))
1600   TABULATE N,DATELIST,DATASET
1700   ASK ("ENTER NO. OF DESIRED DATA", "SELECT = ")
1800   DATES = DATELIST(SELECT)
1900   Y = DATASET(SELECT)
2000   ASKNAME("ENTER DATE OF MINIMUM THICKNESS (X0)","X0= ")
2100   DAYNO = DAYNUMBER(DATES)
2200   X = (DAYNO-DAYNO(1))/365
2300   X0NO = DAYNUMBER(X0)
2400   X0YR = (X0NO - DAYNO(1))/365
2500   NDF = NOELS(Y) - 2
2600   EXECUTE LINREGN1
2700 $ T95 = ONE-SIDED T TABLE VALUE AT .95 WITH NDF DEG OF FREEDOM
2800   T95 = ABS(TPROBINVERSE(.95,NDF))
2900 $ EQUATION 1.7.7, PAGE 49
3000   G = T95**2/(B1/SQRT(SSQ/SXX))**2
3100   Y0HAT = B0 + B1*X0YR
3200   VARY0HAT = SSQ*((1/N) + (X0YR-XBAR)**2/SUM((X-XBAR)**2))
3300 $ SDY0HAT = STD ERROR OF ESTIMATE (SEE) OF MEAN THICKNESS
3400   SDY0HAT = ABS(SQRT(VARY0HAT))
3500 $ YU90 = UPPER BOUND OF 90% CONFIDENCE INTERVAL ABOUT Y0
3600   YU90 = Y0HAT + T95*SDY0HAT
3700 $ YL90 = LOWER BOUND OF 90% CONFIDENCE INTERVAL ABOUT Y0
3800   YL90 = Y0HAT - T95*SDY0HAT
3900   TABULATE BAY,DATES,X,Y
4000   TYPE "X0 ="X0
4100   TABULATE YL90,Y0HAT,YU90,T95
4200 $ TABULATE B0,B1,SSQ,S,XBAR
4300 $ TABULATE VARY0HAT,SDY0HAT
4400   TYPE "F-RATIO =" 1/G
4500   SPACE(2)
4600   TYPE "WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE"
4700   TYPE "IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE"
4800   TYPE "F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO"
4900   TYPE "BE USED TO PREDICT FUTURE VALUES.  TO HAVE A HIGH DEGREE OF"
5000   TYPE "CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT"
5100   TYPE "LEAST 8 OR 9."
5200   SPACE(2)
5300   DATE;TIME
5400   JOURNAL OFF
5401 END
```

LISTING OF PROGRAM LINREGN1

```
 1.0 PROGRAM
 1.1 $ PROGRAM: LINREGN1
 2.0 $ THIS PROGRAM PERFORMS LINEAR REGRESSION
 3.0 $ REFERENCE: "APPLIED LINEAR REGRESSION", 2ND EDITION
 4.0 $              BY N.R. DRAPER & H. SMITH
 5.0 $              JOHN WILEY & SONS, 1981
 6.0 $ PROGRAMMED BY J.P.MOORE  1/26/89
 7.0 $ INPUTS:
 8.0 $     X = INDEPENDENT VARIABLE ARRAY
 9.0 $     Y = DEPENDENT VARIABLE ARRAY
10.0 $     NDF = NUMBER OF DEGREES OF FREEDOM
11.0 $
12.0 $ OUTPUTS:
13.0 $     B0 = Y INTERCEPT OF FITTED STRAIGHT LINE
14.0 $     B1 = SLOPE OF FITTED LINE
15.0 $     YHAT = PREDICTED VALUES OF Y
16.0 $     SDB0 = STD ERROR OF ESTIMATE OF THE INTERCEPT B0
17.0 $     SDB1 = STD ERROR OF ESTIMATE OF THE SLOPE B1
18.0
19.0 $ CALCULATIONS
20.0    N = NOELS(X)
21.0    SUMY = SUM(Y)
22.0    YBAR = SUMY/N
23.0    SUMX = SUM(X)
24.0    XBAR = SUMX/(N)
25.0    SUMXY = SUM(X*Y)
26.0    SUMXSQ = SUM(X**2)
27.0    SXY = SUMXY - SUMX*SUMY/N
28.0    SXX = SUM(X**2) - (SUM(X))**2/N
29.0    SYY = SUM(Y**2) - (SUM(Y))**2/N
30.0    B1 = SXY/SXX
31.0    B0 = YBAR-B1*XBAR
32.0    SSB1B0 = (SXY**2)/SXX
32.5 $  SSQ = MEAN SQUARED ERROR (MSE)
33.0    SSQ = ABS(SYY - SSB1B0)/(N-2)
33.2 $  S = ROOT MEAN SQUARE ERROR (RMSE)
33.5    S = SQRT(SSQ)
33.7 $  SDB1 = STD ERROR OF ESTIMATE (SEE) OF SLOPE B1
34.0    SDB1 = SQRT(SSQ/SXX)
34.5 $  SDB0 = STD ERROR OF ESTIMATE (SEE) OF INTERCEPT B0
35.0    SDB0 = SQRT((SSQ*SUMXSQ)/(N*SXX))
36.0    YHAT = B0 + B1*X
37.0    RES = YHAT-Y
38.0    RSQ = SUM((YHAT - YBAR)**2)/SUM((Y - YBAR)**2)
39.0 END
```

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 23 of
Originator: [signature]	Date 4-11-91	Reviewed by	Date

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 24 of
Originator	Date 4-11-91	Reviewed by	Date

APPENDIX 6.2

```
PROGRAM: LINPREDX
BAY NUMBER? 9d
ENTER NAME OF DATE LIST date9d
NAME OF MEAN THICKNESS DATASET? md9d

 N   DATE9D     MD9D
 *   ********   *******
 1   12/4/86    1071.51
 2   12/19/88   1021.39
 3   6/26/89    1054.42
 4   9/13/89    1020.43
 5   2/8/90     1009.96
 6   4/24/90    1002.12
 7   2/23/91     992.55

ENTER NO. OF DESIRED DATA 4,5,6,7
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

 BAY   DATES       X         Y
 ***   *******   ********  *******
 9D    9/13/89   0         1020.43
       2/8/90     .405479  1009.96
       4/24/90    .610959  1002.12
       2/23/91   1.44658    992.55

Y0     = 700
XU90   = Jan 23, 2027
X0HAT  = Aug 23, 2006
XL90   = Oct 21, 2000
T95    = 2.91999
G      = .308671

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
 3:36 PM
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```
PROGRAM: LINPREDX
BAY NUMBER? 9d
ENTER NAME OF DATE LIST date9d
NAME OF MEAN THICKNESS DATASET? md9d

 N   DATE9D     MD9D
 *   ********   *******
 1   12/4/86    1071.51
 2   12/19/88   1021.39
 3   6/26/89    1054.42
 4   9/13/89    1020.43
 5   2/8/90     1009.96
 6   4/24/90    1002.12
 7   2/23/91     992.55

ENTER NO. OF DESIRED DATA 4,5,6,7
ENTER VALUE OF MINIMUM THICKNESS (YO) 736

 BAY   DATES       X         Y
 ***   *******   ********  *******
 9D    9/13/89   0         1020.43
       2/8/90     .405479  1009.96
       4/24/90    .610959  1002.12
       2/23/91   1.44658    992.55

YO    = 736
XU90  = Sep 29, 2022
XOHAT = Sep 21, 2004
XL90  = Jul 29, 1999
T95   = 2.91999
G     = .308671

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. Ø
		Reviewed by	Date

Sheet No. 25 of

PROGRAM: LINPREDX
BAY NUMBER? 11a
ENTER NAME OF DATE LIST datella
NAME OF MEAN THICKNESS DATASET? mella

N	DATE11A	ME11A
**	********	******
1	12/2/86	891.47
2	4/29/87	918.66
3	5/1/87	904.64
4	8/1/87	922.09
5	9/10/87	905.2
6	7/12/88	912.97
7	10/08/88	888.22
8	6/26/89	881.34
9	9/13/89	891.56
10	2/8/90	875.34
11	4/24/90	858.04
12	2/23/91	844.58

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

BAY	DATES	X	Y
***	********	**********	******
11A	4/29/87	0	918.66
	5/1/87	.00547945	904.64
	8/1/87	.257534	922.09
	9/10/87	.367123	905.2
	7/12/88	1.20548	912.97
	10/08/88	1.44658	888.22
	6/26/89	2.16164	881.34
	9/13/89	2.37808	891.56
	2/8/90	2.78356	875.34
	4/24/90	2.98904	858.04
	2/23/91	3.82466	844.58

Y0 = 700
XU90 = Nov 15, 2003
X0HAT = Jan 7, 2000
XL90 = Sep 23, 1997
T95 = 1.83311
G = .0658598

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 26 of
Originator	Date 4-11-91	Reviewed by	Date

PROGRAM: LINPREDX
BAY NUMBER? 11a
ENTER NAME OF DATE LIST datella
NAME OF MEAN THICKNESS DATASET? mella

N	DATE11A	ME11A
**	********	******
1	12/2/86	891.47
2	4/29/87	918.66
3	5/1/87	904.64
4	8/1/87	922.09
5	9/10/87	905.2
6	7/12/88	912.97
7	10/08/88	888.22
8	6/26/89	881.34
9	9/13/89	891.56
10	2/8/90	875.34
11	4/24/90	858.04
12	2/23/91	844.58

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER VALUE OF MINIMUM THICKNESS (YO) 736

BAY	DATES	X	Y
***	********	**********	******
11A	4/29/87	0	918.66
	5/1/87	.00547945	904.64
	8/1/87	.257534	922.09
	9/10/87	.367123	905.2
	7/12/88	1.20548	912.97
	10/08/88	1.44658	888.22
	6/26/89	2.16164	881.34
	9/13/89	2.37808	891.56
	2/8/90	2.78356	875.34
	4/24/90	2.98904	858.04
	2/23/91	3.82466	844.58

YO = 736
XU90 = Jan 22, 2001
XOHAT = Dec 3, 1997
XL90 = Jan 22, 1996
T95 = 1.83311
G = .0658598

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. Ø
		Reviewed by	Date

PROGRAM: LINPREDX
BAY NUMBER? 11c top 3
ENTER NAME OF DATE LIST date11c
NAME OF MEAN THICKNESS DATASET? md11ct

N	DATE11C	MD11CT
**	********	*******
1	5/1/87	1046
2	8/1/87	1108.6
3	9/10/87	1079.12
4	7/12/88	1045.38
5	10/08/88	1008.86
6	6/26/89	1015.78
7	9/13/89	1005
8	2/8/90	978.45
9	4/24/90	974.9
10	3/4/91	981.68

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

BAY	DATES	X	Y
*******	********	********	*******
11C TOP	5/1/87	0	1046
	8/1/87	.252055	1108.6
	9/10/87	.361644	1079.12
	7/12/88	1.2	1045.38
	10/08/88	1.4411	1008.86
	6/26/89	2.15616	1015.78
	9/13/89	2.3726	1005
	2/8/90	2.77808	978.45
	4/24/90	2.98356	974.9
	3/4/91	3.84384	981.68

Y0 = 700
XU90 = Sep 2, 2005
XOHAT = Sep 28, 1999
XL90 = Nov 29, 1996
T95 = 1.85955
G = .126885

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 28 of
Originator	Date 4-11-91	Reviewed by	Date

PROGRAM: LINPREDX
BAY NUMBER? 11c top 3
ENTER NAME OF DATE LIST datellc
NAME OF MEAN THICKNESS DATASET? mdllct

N	DATE11C	MD11CT
**	********	*******
1	5/1/87	1046
2	8/1/87	1108.6
3	9/10/87	1079.12
4	7/12/88	1045.38
5	10/08/88	1008.86
6	6/26/89	1015.78
7	9/13/89	1005
8	2/8/90	978.45
9	4/24/90	974.9
10	3/4/91	981.68

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER VALUE OF MINIMUM THICKNESS (YO) 736

BAY	DATES	X	Y
*******	********	********	*******
11C TOP	5/1/87	0	1046
	8/1/87	.252055	1108.6
	9/10/87	.361644	1079.12
	7/12/88	1.2	1045.38
	10/08/88	1.4411	1008.86
	6/26/89	2.15616	1015.78
	9/13/89	2.3726	1005
	2/8/90	2.77808	978.45
	4/24/90	2.98356	974.9
	3/4/91	3.84384	981.68

YO = 736
XU90 = Nov 1, 2003
XOHAT = Jul 22, 1998
XL90 = Jan 13, 1996
T95 = 1.85955
G = .126885

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 29 of
Originator	Date 4-11-91	Reviewed by	Date

PROGRAM: LINPREDX
BAY NUMBER? 11c bot 4
ENTER NAME OF DATE LIST date11c
NAME OF MEAN THICKNESS DATASET? md11cb

N	DATE11C	MD11CB
**	********	******
1	5/1/87	916.79
2	8/1/87	953.64
3	9/10/87	915.71
4	7/12/88	906.05
5	10/08/88	897
6	6/26/89	876.75
7	9/13/89	890.71
8	2/8/90	869
9	4/24/90	863.29
10	3/4/91	857.54

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

BAY	DATES	X	Y
*******	********	********	******
11C BOT	5/1/87	0	916.79
	8/1/87	.252055	953.64
	9/10/87	.361644	915.71
	7/12/88	1.2	906.05
	10/08/88	1.4411	897
	6/26/89	2.15616	876.75
	9/13/89	2.3726	890.71
	2/8/90	2.77808	869
	4/24/90	2.98356	863.29
	3/4/91	3.84384	857.54

Y0 = 700
XU90 = Apr 22, 2002
XOHAT = May 24, 1998
XL90 = Apr 1, 1996
T95 = 1.85955
G = .0864979

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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Calculation Sheet

Subject		Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 30 of
Originator	Date 4-11-91	Reviewed by		Date

PROGRAM: LINPREDX
BAY NUMBER? 11c bot 4
ENTER NAME OF DATE LIST datellc
NAME OF MEAN THICKNESS DATASET? md11cb

N	DATE11C	MD11CB
**	********	******
1	5/1/87	916.79
2	8/1/87	953.64
3	9/10/87	915.71
4	7/12/88	906.05
5	10/08/88	897
6	6/26/89	876.75
7	9/13/89	890.71
8	2/8/90	869
9	4/24/90	863.29
10	3/4/91	857.54

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER VALUE OF MINIMUM THICKNESS (YO) 736

BAY	DATES	X	Y
*******	********	********	******
11C BOT	5/1/87	0	916.79
	8/1/87	.252055	953.64
	9/10/87	.361644	915.71
	7/12/88	1.2	906.05
	10/08/88	1.4411	897
	6/26/89	2.15616	876.75
	9/13/89	2.3726	890.71
	2/8/90	2.77808	869
	4/24/90	2.98356	863.29
	3/4/91	3.84384	857.54

YO = 736
XU90 = Nov 13, 1999
XOHAT = Sep 1, 1996
XL90 = Nov 29, 1994
T95 = 1.85955
G = .0864979

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 31 of
Originator: [signature]	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDX
BAY NUMBER? 13a
ENTER NAME OF DATE LIST date13a
NAME OF MEAN THICKNESS DATASET? md13a

 N   DATE13A   MD13A
 *   ********  ******
 1   11/15/86  919.08
 2   12/17/88  905.27
 3   6/26/89   882.84
 4   9/13/89   882.98
 5   2/8/90    859.04
 6   3/28/90   852.84
 7   4/24/90   855.63
 8   2/23/91   854.51

ENTER NO. OF DESIRED DATA ints(2,8)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

 BAY    DATES       X         Y
 ***    ********    ********  ******
 13A    12/17/88    0         905.27
        6/26/89      .523288  882.84
        9/13/89      .739726  882.98
        2/8/90      1.14521   859.04
        3/28/90     1.27671   852.84
        4/24/90     1.35068   855.63
        2/23/91     2.1863    854.51

Y0     = 700
XU90   = Aug 25, 2002
X0HAT  = Aug 24, 1996
XL90   = Jun 29, 1994
T95    = 2.01504
G      = .224199

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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Calculation Sheet

Subject	Calc No. C-1362-187-5300-016	Rev. No. Ø	Sheet No. 32 of
Originator	Date 4-11-91	Reviewed by	Date

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 33 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDX
BAY NUMBER? 13a
ENTER NAME OF DATE LIST date13a
NAME OF MEAN THICKNESS DATASET? md13a

 N   DATE13A   MD13A
 *   ********  ******
 1   11/15/86  919.08
 2   12/17/88  905.27
 3   6/26/89   882.84
 4   9/13/89   882.98
 5   2/8/90    859.04
 6   3/28/90   852.84
 7   4/24/90   855.63
 8   2/23/91   854.51

ENTER NO. OF DESIRED DATA ints(2,8)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 736

 BAY    DATES       X         Y
 ***    ********  ********  ******
 13A    12/17/88  0         905.27
        6/26/89    .523288  882.84
        9/13/89    .739726  882.98
        2/8/90    1.14521   859.04
        3/28/90   1.27671   852.84
        4/24/90   1.35068   855.63
        2/23/91   2.1863    854.51

Y0     = 736
XU90   = Dec 25, 1999
XOHAT  = Mar 30, 1995
XL90   = Jul 15, 1993
T95    = 2.01504
G      = .224199

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 34 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDX
BAY NUMBER? 17a bot 4
ENTER NAME OF DATE LIST date17a
NAME OF MEAN THICKNESS DATASET? md17ab

 N   DATE17A   MD17AB
 *   ********  ******
 1   12/17/88  957.36
 2   6/26/89   964.5
 3   9/13/89   955.18
 4   2/8/90    937.5
 5   4/24/90   939.61
 6   2/23/91   934.71

ENTER NO. OF DESIRED DATA ints(1,6)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

   BAY      DATES       X         Y
 *******  ********  ********  ******
 17A BOT  12/17/88  0         957.36
          6/26/89    .523288  964.5
          9/13/89    .739726  955.18
          2/8/90    1.14521   937.5
          4/24/90   1.35068   939.61
          2/23/91   2.1863    934.71

Y0     = 700
XU90   = Mar 14, 2047
X0HAT  = Nov 25, 2007
XL90   = Aug  1, 2000
T95    = 2.13182
G      = .471204

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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```
PROGRAM: LINPREDX
BAY NUMBER? 17a bot 4
ENTER NAME OF DATE LIST date17a
NAME OF MEAN THICKNESS DATASET? md17ab

 N   DATE17A   MD17AB
 *   ********   ******
 1   12/17/88   957.36
 2   6/26/89    964.5
 3   9/13/89    955.18
 4   2/8/90     937.5
 5   4/24/90    939.61
 6   2/23/91    934.71

ENTER NO. OF DESIRED DATA ints(1,6)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 736

   BAY       DATES        X         Y
*******   ********   ********   ******
17A BOT   12/17/88   0          957.36
          6/26/89     .523288   964.5
          9/13/89     .739726   955.18
          2/8/90     1.14521    937.5
          4/24/90    1.35068    939.61
          2/23/91    2.1863     934.71

Y0    = 736
XU90  = Nov 24, 2038
X0HAT = Apr 18, 2005
XL90  = Jan 15, 1999
T95   = 2.13182
G     = .471204


INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.


April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. Ø
		Reviewed by	Date

Sheet No. 35 of

PROGRAM: LINPREDX
BAY NUMBER? 17d
ENTER NAME OF DATE LIST date17d
NAME OF MEAN THICKNESS DATASET? me17d

N	DATE17D	ME17D
**	********	******
1	12/2/86	903.51
2	2/17/87	922.16
3	5/1/87	895.07
4	8/1/87	890.69
5	9/10/87	895.28
6	7/12/88	877.93
7	10/08/88	862.22
8	6/26/89	856.84
9	9/13/89	847.13
10	2/8/90	833.37
11	4/24/90	826.8
12	2/23/91	825.27

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER VALUE OF MINIMUM THICKNESS (YO) 700

BAY	DATES	X	Y
***	********	********	******
17D	2/17/87	0	922.16
	5/1/87	.2	895.07
	8/1/87	.452055	890.69
	9/10/87	.561644	895.28
	7/12/88	1.4	877.93
	10/08/88	1.6411	862.22
	6/26/89	2.35616	856.84
	9/13/89	2.5726	847.13
	2/8/90	2.97808	833.37
	4/24/90	3.18356	826.8
	2/23/91	4.01918	825.27

YO = 700
XU90 = Jun 7, 1997
XDHAT = Feb 20, 1996
XL90 = Mar 6, 1995
T95 = 1.83311
G = .0224649

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. 0
		Reviewed by	Sheet No. 36 of
			Date

PROGRAM: LINPREDX
BAY NUMBER? 17d
ENTER NAME OF DATE LIST date17d
NAME OF MEAN THICKNESS DATASET? me17d

N	DATE17D	ME17D
**	********	******
1	12/2/86	903.51
2	2/17/87	922.16
3	5/1/87	895.07
4	8/1/87	890.69
5	9/10/87	895.28
6	7/12/88	877.93
7	10/08/88	862.22
8	6/26/89	856.84
9	9/13/89	847.13
10	2/8/90	833.37
11	4/24/90	826.8
12	2/23/91	825.27

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 736

BAY	DATES	X	Y
***	********	********	******
17D	2/17/87	0	922.16
	5/1/87	.2	895.07
	8/1/87	.452055	890.69
	9/10/87	.561644	895.28
	7/12/88	1.4	877.93
	10/08/88	1.6411	862.22
	6/26/89	2.35616	856.84
	9/13/89	2.5726	847.13
	2/8/90	2.97808	833.37
	4/24/90	3.18356	826.8
	2/23/91	4.01918	825.27

Y0 = 736
XU90 = Aug 6, 1995
X0HAT = Jul 28, 1994
XL90 = Oct 22, 1993
T95 = 1.83311
G = .0224649

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

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GPU Nuclear

Calculation Sheet

Subject

Originator

Date 4-11-91

Calc No. C-1302-187-5300-016

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Date

GPU Nuclear

Calculation Sheet

Subject		Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 38 of
Originator	Date 4-11-91	Reviewed by		Date

```
PROGRAM: LINPREDX
BAY NUMBER? 19a
ENTER NAME OF DATE LIST date19a
NAME OF MEAN THICKNESS DATASET? me19a

  N   DATE19A   ME19A
 **   ********  ******
  1   12/2/86   870.22
  2   2/17/87   883.64
  3   5/1/87    872.93
  4   8/1/87    858.6
  5   9/10/87   858.29
  6   7/12/88   848.57
  7   10/08/88  836.91
  8   6/26/89   828.82
  9   9/13/89   825.36
 10   2/8/90    807.78
 11   4/24/90   807.8
 12   2/23/91   816.67

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

 BAY    DATES       X         Y
 ***   ********  ********  ******
 19A   2/17/87   0         883.64
       5/1/87     .2       872.93
       8/1/87     .452055  858.6
       9/10/87    .561644  858.29
       7/12/88   1.4       848.57
       10/08/88  1.6411    836.91
       6/26/89   2.35616   828.82
       9/13/89   2.5726    825.36
       2/8/90    2.97808   807.78
       4/24/90   3.18356   807.8
       2/23/91   4.01918   816.67

Y0    = 700
XU90  = Sep  7, 1998
XOHAT = Aug 27, 1996
XL90  = Apr 24, 1995
T95   = 1.83311
G     = .0421587

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 39 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDX
BAY NUMBER? 19a
ENTER NAME OF DATE LIST date19a
NAME OF MEAN THICKNESS DATASET? me19a

  N   DATE19A   ME19A
 **   ********  ******
  1   12/2/86   870.22
  2   2/17/87   883.64
  3   5/1/87    872.93
  4   8/1/87    858.6
  5   9/10/87   858.29
  6   7/12/88   848.57
  7   10/08/88  836.91
  8   6/26/89   828.82
  9   9/13/89   825.36
 10   2/8/90    807.78
 11   4/24/90   807.8
 12   2/23/91   816.67

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 736

 BAY    DATES       X        Y
 ***   ********  ********  ******
 19A   2/17/87   0         883.64
       5/1/87     .2       872.93
       8/1/87     .452055  858.6
       9/10/87    .561644  858.29
       7/12/88   1.4       848.57
       10/08/88  1.6411    836.91
       6/26/89   2.35616   828.82
       9/13/89   2.5726    825.36
       2/8/90    2.97808   807.78
       4/24/90   3.18356   807.8
       2/23/91   4.01918   816.67

Y0     = 736
XU90   = Mar  9, 1996
XOHAT  = Aug 31, 1994
XL90   = Aug 26, 1993
T95    = 1.83311
G      = .0421587


INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.


April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 40 of
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```
PROGRAM: LINPREDX
BAY NUMBER? 19b
ENTER NAME OF DATE LIST date19b
NAME OF MEAN THICKNESS DATASET? md19b

  N   DATE19B   MD19B
 **   ********  ******
  1   12/2/86   880.84
  2   5/1/87    897.63
  3   8/1/87    892.21
  4   9/10/87   887.6
  5   7/12/88   863.98
  6   10/08/88  856.41
  7   6/26/89   852.55
  8   9/13/89   854.94
  9   2/8/90    840.67
 10   4/24/90   839.1
 11   2/23/91   852.53

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

 BAY    DATES       X        Y
 ***   ********  ********  ******
 19B   5/1/87    0         897.63
       8/1/87     .252055  892.21
       9/10/87    .361644  887.6
       7/12/88   1.2       863.98
       10/08/88  1.4411    856.41
       6/26/89   2.15616   852.55
       9/13/89   2.3726    854.94
       2/8/90    2.77808   840.67
       4/24/90   2.98356   839.1
       2/23/91   3.81918   852.53

Y0     = 700
XU90   = Oct 28, 2005
XOHAT  = Mar 28, 2000
XL90   = Jun  6, 1997
T95    = 1.85955
G      = .110445

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject		Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 4 of
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```
PROGRAM: LINPREDX
BAY NUMBER? 19b
ENTER NAME OF DATE LIST date19b
NAME OF MEAN THICKNESS DATASET? md19b

  N   DATE19B   MD19B
 **   ********  ******
  1   12/2/86   880.84
  2   5/1/87    897.63
  3   8/1/87    892.21
  4   9/10/87   887.6
  5   7/12/88   863.98
  6   10/08/88  856.41
  7   6/26/89   852.55
  8   9/13/89   854.94
  9   2/8/90    840.67
 10   4/24/90   839.1
 11   2/23/91   852.53

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 736

 BAY    DATES       X         Y
 ***   ********  ********  ******
 19B   5/1/87    0         897.63
       8/1/87     .252055  892.21
       9/10/87    .361644  887.6
       7/12/88   1.2       863.98
       10/08/88  1.4411    856.41
       6/26/89   2.15616   852.55
       9/13/89   2.3726    854.94
       2/8/90    2.77808   840.67
       4/24/90   2.98356   839.1
       2/23/91   3.81918   852.53

Y0     = 736
XU90   = Feb 24, 2002
XOHAT  = Oct 13, 1997
XL90   = Jul 31, 1995
T95    = 1.85955
G      = .110445

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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GPU Nuclear

Calculation Sheet

Subject	Calc No. C-1362-187-5300-016	Rev. No. Ø	Sheet No. 42 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDX
BAY NUMBER? 19c
ENTER NAME OF DATE LIST date19c
NAME OF MEAN THICKNESS DATASET? me19c

  N   DATE19C   ME19C
 **   ********  ******
  1   12/2/86   866.02
  2   5/1/87    900.51
  3   8/1/87    888.16
  4   9/10/87   888.31
  5   7/12/88   873.46
  6   10/08/88  856.27
  7   6/26/89   845
  8   9/13/89   844.7
  9   2/8/90    830.51
 10   4/24/90   822.52
 11   2/23/91   842.8

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER VALUE OF MINIMUM THICKNESS (Y0) 700

 BAY    DATES       X         Y
 ***   ********  ********  ******
 19C   5/1/87    0         900.51
       8/1/87     .252055  888.16
       9/10/87    .361644  888.31
       7/12/88   1.2       873.46
       10/08/88  1.4411    856.27
       6/26/89   2.15616   845
       9/13/89   2.3726    844.7
       2/8/90    2.77808   830.51
       4/24/90   2.98356   822.52
       2/23/91   3.81918   842.8

Y0    = 700
XU90  = Sep 16, 2000
XOHAT = Jun  2, 1997
XL90  = Jul 24, 1995
T95   = 1.85955
G     = .0790156

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
 3:49 PM
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PROGRAM: LINPREDX
BAY NUMBER? 19c
ENTER NAME OF DATE LIST date19c
NAME OF MEAN THICKNESS DATASET? me19c

N	DATE19C	ME19C
**	********	******
1	12/2/86	866.02
2	5/1/87	900.51
3	8/1/87	888.16
4	9/10/87	888.31
5	7/12/88	873.46
6	10/08/88	856.27
7	6/26/89	845
8	9/13/89	844.7
9	2/8/90	830.51
10	4/24/90	822.52
11	2/23/91	842.8

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER VALUE OF MINIMUM THICKNESS (YO) 736

BAY	DATES	X	Y
***	********	********	******
19C	5/1/87	0	900.51
	8/1/87	.252055	888.16
	9/10/87	.361644	888.31
	7/12/88	1.2	873.46
	10/08/88	1.4411	856.27
	6/26/89	2.15616	845
	9/13/89	2.3726	844.7
	2/8/90	2.77808	830.51
	4/24/90	2.98356	822.52
	2/23/91	3.81918	842.8

YO = 736
XU90 = Feb 2, 1998
XOHAT = Jul 13, 1995
XL90 = Jan 29, 1994
T95 = 1.85955
G = .0790156

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS, THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT G SHOULD BE SMALLER THAN ABOUT 0.20. WHEN G IS MUCH LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

April 9, 1991
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Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. 0
		Reviewed by	Date

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 44 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDX
BAY NUMBER? 5/51/d12
ENTER NAME OF DATE LIST date5112
NAME OF MEAN THICKNESS DATASET? mf5112

 N  DATE5112  MF5112
 *  ********  ******
 1  11/01/87  759.49
 2  7/12/88   751.21
 3  10/08/88  753.41
 4  6/26/89   751.28
 5  9/13/89   757.24
 6  2/8/90    743.03
 7  3/28/90   744.97
 8  4/25/90   745.35
 9  2/23/91   741.56

ENTER NO. OF DESIRED DATA ints(1,9)
ENTER VALUE OF MINIMUM THICKNESS (YO) 670

    BAY       DATES       X         Y
********  ********  ********  ******
5/51/D12  11/01/87  0         759.49
          7/12/88    .69589   751.21
          10/08/88   .936986  753.41
          6/26/89   1.65205   751.28
          9/13/89   1.86849   757.24
          2/8/90    2.27397   743.03
          3/28/90   2.40548   744.97
          4/25/90   2.48219   745.35
          2/23/91   3.31507   741.56

YO    = 670
XU90  = Dec 20, 2019
XOHAT = Mar 19, 2005
XL90  = Feb  2, 2000
T95   = 1.89458
G     = .235277

INVERSE ESTIMATION IS NOT OF MUCH PRACTICAL VALUE
UNLESS THE REGRESSION IS WELL DETERMINED, THAT IS,
THE SLOPE (B1) IS SIGNIFICANT, WHICH IMPLIES THAT
G SHOULD BE SMALLER THAN ABOUT 0.20.  WHEN G IS MUCH
LARGER THAN THIS, THE RESULTS ARE MEANINGLESS.

March 20, 1991
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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 45 of
Originator	Date 4-11-91	Reviewed by	Date

APPENDIX 6.3

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PROGRAM: LINPREDY
BAY NUMBER? 9d
ENTER NAME OF DATE LIST date9d
NAME OF MEAN THICKNESS DATASET? md9d

 N   DATE9D     MD9D
 *   ********   *******
 1   12/4/86    1071.51
 2   12/19/88   1021.39
 3   6/26/89    1054.42
 4   9/13/89    1020.43
 5   2/8/90     1009.96
 6   4/24/90    1002.12
 7   2/23/91     992.55

ENTER NO. OF DESIRED DATA ints(4,7)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

 BAY   DATES       X         Y
 ***   *******   ********  *******
 9D    9/13/89   0         1020.43
       2/8/90     .405479  1009.96
       4/24/90    .610959  1002.12
       2/23/91   1.44658    992.55

X0 = 6/29/94

   YL90     YOHAT     YU90      T95
 *******   ******   *******   *******
 884.078   927.94   971.801   2.91999

F-RATIO = 3.23969


WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE
IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE
F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO
BE USED TO PREDICT FUTURE VALUES.  TO HAVE A HIGH DEGREE OF
CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT
LEAST 8 OR 9.


April 10, 1991
 2:20 PM
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PROGRAM: LINPREDY
BAY NUMBER? 11a
ENTER NAME OF DATE LIST datella
NAME OF MEAN THICKNESS DATASET? mella

N	DATE11A	ME11A
**	********	******
1	12/2/86	891.47
2	4/29/87	918.66
3	5/1/87	904.64
4	8/1/87	922.09
5	9/10/87	905.2
6	7/12/88	912.97
7	10/08/88	888.22
8	6/26/89	881.34
9	9/13/89	891.56
10	2/8/90	875.34
11	4/24/90	858.04
12	2/23/91	844.58

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
***	********	**********	******
11A	4/29/87	0	918.66
	5/1/87	.00547945	904.64
	8/1/87	.257534	922.09
	9/10/87	.367123	905.2
	7/12/88	1.20548	912.97
	10/08/88	1.44658	888.22
	6/26/89	2.16164	881.34
	9/13/89	2.37808	891.56
	2/8/90	2.78356	875.34
	4/24/90	2.98904	858.04
	2/23/91	3.82466	844.58

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
769.772	795.062	820.351	1.83311

F-RATIO = 15.1838

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

April 10, 1991
2:21 PM

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Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. Ø
		Reviewed by	Date

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 47 of
Originator	Date 4-11-91	Reviewed by	Date

PROGRAM: LINPREDY
BAY NUMBER? 11c top 3
ENTER NAME OF DATE LIST date11c
NAME OF MEAN THICKNESS DATASET? md11ct

N	DATE11C	MD11CT
**	********	*******
1	5/1/87	1046
2	8/1/87	1108.6
3	9/10/87	1079.12
4	7/12/88	1045.38
5	10/08/88	1008.86
6	6/26/89	1015.78
7	9/13/89	1005
8	2/8/90	978.45
9	4/24/90	974.9
10	3/4/91	981.68

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
*******	********	********	*******
11C TOP	5/1/87	0	1046
	8/1/87	.252055	1108.6
	9/10/87	.361644	1079.12
	7/12/88	1.2	1045.38
	10/08/88	1.4411	1008.86
	6/26/89	2.15616	1015.78
	9/13/89	2.3726	1005
	2/8/90	2.77808	978.45
	4/24/90	2.98356	974.9
	3/4/91	3.84384	981.68

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
799.315	859.527	919.738	1.85955

F-RATIO = 7.88116

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

April 10, 1991
2:40 PM

PROGRAM: LINPREDY
BAY NUMBER? 11c bottom 4
ENTER NAME OF DATE LIST datellc
NAME OF MEAN THICKNESS DATASET? md11cb

N	DATE11C	MD11CB
**	********	******
1	5/1/87	916.79
2	8/1/87	953.64
3	9/10/87	915.71
4	7/12/88	906.05
5	10/08/88	897
6	6/26/89	876.75
7	9/13/89	890.71
8	2/8/90	869
9	4/24/90	863.29
10	3/4/91	857.54

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
********	********	********	******
11C BOTT	5/1/87	0	916.79
	8/1/87	.252055	953.64
	9/10/87	.361644	915.71
	7/12/88	1.2	906.05
	10/08/88	1.4411	897
	6/26/89	2.15616	876.75
	9/13/89	2.3726	890.71
	2/8/90	2.77808	869
	4/24/90	2.98356	863.29
	3/4/91	3.84384	857.54

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
747.324	781.458	815.593	1.85955

F-RATIO = 11.561

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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GPU Nuclear

Calculation Sheet

Subject	Calc No. C-1362-187-5300-016	Rev. No. 0	Sheet No. 48 of
Originator: [signature]	Date: 4-11-91	Reviewed by	Date

PROGRAM: LINPREDY
BAY NUMBER? 13a all pts
ENTER NAME OF DATE LIST date13a
NAME OF MEAN THICKNESS DATASET? md13a

N	DATE13A	MD13A
*	********	******
1	11/15/86	919.08
2	12/17/88	905.27
3	6/26/89	882.84
4	9/13/89	882.98
5	2/8/90	859.04
6	3/28/90	852.84
7	4/24/90	855.63
8	2/23/91	854.51

ENTER NO. OF DESIRED DATA ints(2,8)
ENTER DATE OF MINIMUM THICKNESS (XO) 6/29/94

BAY	DATES	X	Y
*******	********	********	******
13A ALL	12/17/88	0	905.27
	6/26/89	.523288	882.84
	9/13/89	.739726	882.98
	2/8/90	1.14521	859.04
	3/28/90	1.27671	852.84
	4/24/90	1.35068	855.63
	2/23/91	2.1863	854.51

XO = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
700.099	755.217	810.334	2.01504

F-RATIO = 4.46033

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 49 of
Originator: [signature]	Date 4-11-91	Reviewed by	Date

PROGRAM: LINPREDY
BAY NUMBER? 13a pts < 1100
ENTER NAME OF DATE LIST date13a
NAME OF MEAN THICKNESS DATASET? mf13a

N	DATE13A	MF13A
*	********	******
1	11/15/86	919.08
2	12/17/88	895.94
3	6/26/89	882.84
4	9/13/89	882.98
5	2/8/90	859.04
6	3/28/90	852.84
7	4/24/90	855.63
8	2/23/91	848.81

ENTER NO. OF DESIRED DATA ints(2,8)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
*******	********	********	******
13A PTS	12/17/88	0	895.94
	6/26/89	.523288	882.84
	9/13/89	.739726	882.98
	2/8/90	1.14521	859.04
	3/28/90	1.27671	852.84
	4/24/90	1.35068	855.63
	2/23/91	2.1863	848.81

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
716.266	757.771	799.275	2.01504

F-RATIO = 7.23735

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject			
Originator	Date 4-11-91	Calc No. C-1302-187-5300-016	Rev. No. 0
		Reviewed by	Date

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PROGRAM: LINPREDY
BAY NUMBER? 17a bottom 4
ENTER NAME OF DATE LIST date17a
NAME OF MEAN THICKNESS DATASET? md17ab

N	DATE17A	MD17AB
*	********	******
1	12/17/88	957.36
2	6/26/89	964.5
3	9/13/89	955.18
4	2/8/90	937.5
5	4/24/90	939.61
6	2/23/91	934.71

ENTER NO. OF DESIRED DATA ints(1,6)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
********	********	********	******
17A BOTT	12/17/88	0	957.36
	6/26/89	.523288	964.5
	9/13/89	.739726	955.18
	2/8/90	1.14521	937.5
	4/24/90	1.35068	939.61
	2/23/91	2.1863	934.71

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
841.788	885.371	928.953	2.13182

F-RATIO = 2.12222

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 51 of
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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 52 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDY
BAY NUMBER? 17d
ENTER NAME OF DATE LIST date17d
NAME OF MEAN THICKNESS DATASET? me17d

  N   DATE17D   ME17D
 **  ********  ******
  1  12/2/86   903.51
  2  2/17/87   922.16
  3  5/1/87    895.07
  4  8/1/87    890.69
  5  9/10/87   895.28
  6  7/12/88   877.93
  7  10/08/88  862.22
  8  6/26/89   856.84
  9  9/13/89   847.13
 10  2/8/90    833.37
 11  4/24/90   826.8
 12  2/23/91   825.27

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER DATE OF MINIMUM THICKNESS (XO) 6/29/94

 BAY    DATES       X        Y
 ***  ********  ********  ******
 17D  2/17/87   0         922.16
      5/1/87     .2       895.07
      8/1/87     .452055  890.69
      9/10/87    .561644  895.28
      7/12/88   1.4       877.93
      10/08/88  1.6411    862.22
      6/26/89   2.35616   856.84
      9/13/89   2.5726    847.13
      2/8/90    2.97808   833.37
      4/24/90   3.18356   826.8
      2/23/91   4.01918   825.27

XO = 6/29/94

   YL90     YOHAT     YU90     T95
 *******  *******  *******  *******
 718.035  737.844  757.653  1.83311

F-RATIO = 44.5138


WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE
IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE
F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO
BE USED TO PREDICT FUTURE VALUES.  TO HAVE A HIGH DEGREE OF
CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT
LEAST 8 OR 9.


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PROGRAM: LINPREDY
BAY NUMBER? 19a
ENTER NAME OF DATE LIST date19a
NAME OF MEAN THICKNESS DATASET? me19a

N	DATE19A	ME19A
**	********	******
1	12/2/86	870.22
2	2/17/87	883.64
3	5/1/87	872.93
4	8/1/87	858.6
5	9/10/87	858.29
6	7/12/88	848.57
7	10/08/88	836.91
8	6/26/89	828.82
9	9/13/89	825.36
10	2/8/90	807.78
11	4/24/90	807.8
12	2/23/91	816.67

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
***	********	********	******
19A	2/17/87	0	883.64
	5/1/87	.2	872.93
	8/1/87	.452055	858.6
	9/10/87	.561644	858.29
	7/12/88	1.4	848.57
	10/08/88	1.6411	836.91
	6/26/89	2.35616	828.82
	9/13/89	2.5726	825.36
	2/8/90	2.97808	807.78
	4/24/90	3.18356	807.8
	2/23/91	4.01918	816.67

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
717.797	739.152	760.506	1.83311

F-RATIO = 23.7199

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 53 of
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PROGRAM: LINPREDY
BAY NUMBER? 19b
ENTER NAME OF DATE LIST date19b
NAME OF MEAN THICKNESS DATASET? md19b

N	DATE19B	MD19B
**	********	******
1	12/2/86	880.84
2	5/1/87	897.63
3	8/1/87	892.21
4	9/10/87	887.6
5	7/12/88	863.98
6	10/08/88	856.41
7	6/26/89	852.55
8	9/13/89	854.94
9	2/8/90	840.67
10	4/24/90	839.1
11	2/23/91	852.53

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
***	********	********	******
19B	5/1/87	0	897.63
	8/1/87	.252055	892.21
	9/10/87	.361644	887.6
	7/12/88	1.2	863.98
	10/08/88	1.4411	856.41
	6/26/89	2.15616	852.55
	9/13/89	2.3726	854.94
	2/8/90	2.77808	840.67
	4/24/90	2.98356	839.1
	2/23/91	3.81918	852.53

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
757.144	784.238	811.332	1.85955

F-RATIO = 9.05424

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 54 of
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PROGRAM: LINPREDY
BAY NUMBER? 19c
ENTER NAME OF DATE LIST date19c
NAME OF MEAN THICKNESS DATASET? me19c

N	DATE19C	ME19C
**	********	******
1	12/2/86	866.02
2	5/1/87	900.51
3	8/1/87	888.16
4	9/10/87	888.31
5	7/12/88	873.46
6	10/08/88	856.27
7	6/26/89	845
8	9/13/89	844.7
9	2/8/90	830.51
10	4/24/90	822.52
11	2/23/91	842.8

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER DATE OF MINIMUM THICKNESS (X0) 6/29/94

BAY	DATES	X	Y
***	********	********	******
19C	5/1/87	0	900.51
	8/1/87	.252055	888.16
	9/10/87	.361644	888.31
	7/12/88	1.2	873.46
	10/08/88	1.4411	856.27
	6/26/89	2.15616	845
	9/13/89	2.3726	844.7
	2/8/90	2.77808	830.51
	4/24/90	2.98356	822.52
	2/23/91	3.81918	842.8

X0 = 6/29/94

YL90	YOHAT	YU90	T95
*******	*******	*****	*******
725.988	755.794	785.6	1.85955

F-RATIO = 12.6557

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 55 of
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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 56 of
Originator	Date 4-11-91	Reviewed by	Date

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PROGRAM: LINPREDY
BAY NUMBER? 9d
ENTER NAME OF DATE LIST date9d
NAME OF MEAN THICKNESS DATASET? md9d

 N   DATE9D     MD9D
 *   ********   *******
 1   12/4/86    1071.51
 2   12/19/88   1021.39
 3   6/26/89    1054.42
 4   9/13/89    1020.43
 5   2/8/90     1009.96
 6   4/24/90    1002.12
 7   2/23/91     992.55

ENTER NO. OF DESIRED DATA ints(4,7)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

 BAY   DATES       X         Y
 ***   *******   ********  *******
 9D    9/13/89   0         1020.43
       2/8/90     .405479  1009.96
       4/24/90    .610959  1002.12
       2/23/91   1.44658    992.55

X0 = 7/15/93

   YL90     YOHAT     YU90     T95
 *******  *******  *******  *******
 911.856  945.862  979.868  2.91999

F-RATIO = 3.23969


WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE
IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE
F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO
BE USED TO PREDICT FUTURE VALUES.  TO HAVE A HIGH DEGREE OF
CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT
LEAST 8 OR 9.


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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. Ø	Sheet No. 57 of
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PROGRAM: LINPREDY
BAY NUMBER? 11a
ENTER NAME OF DATE LIST datella
NAME OF MEAN THICKNESS DATASET? mella

N	DATE11A	ME11A
**	********	******
1	12/2/86	891.47
2	4/29/87	918.66
3	5/1/87	904.64
4	8/1/87	922.09
5	9/10/87	905.2
6	7/12/88	912.97
7	10/08/88	888.22
8	6/26/89	881.34
9	9/13/89	891.56
10	2/8/90	875.34
11	4/24/90	858.04
12	2/23/91	844.58

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
***	********	**********	******
11A	4/29/87	0	918.66
	5/1/87	.00547945	904.64
	8/1/87	.257534	922.09
	9/10/87	.367123	905.2
	7/12/88	1.20548	912.97
	10/08/88	1.44658	888.22
	6/26/89	2.16164	881.34
	9/13/89	2.37808	891.56
	2/8/90	2.78356	875.34
	4/24/90	2.98904	858.04
	2/23/91	3.82466	844.58

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*****	*******	*******
790.303	811.5	832.697	1.83311

F-RATIO = 15.1838

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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PROGRAM: LINPREDY
BAY NUMBER? 11c top 3
ENTER NAME OF DATE LIST date11c
NAME OF MEAN THICKNESS DATASET? md11ct

N	DATE11C	MD11CT
**	********	*******
1	5/1/87	1046
2	8/1/87	1108.6
3	9/10/87	1079.12
4	7/12/88	1045.38
5	10/08/88	1008.86
6	6/26/89	1015.78
7	9/13/89	1005
8	2/8/90	978.45
9	4/24/90	974.9
10	3/4/91	981.68

ENTER NO. OF DESIRED DATA ints(1,10)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
*******	********	********	*******
11C TOP	5/1/87	0	1046
	8/1/87	.252055	1108.6
	9/10/87	.361644	1079.12
	7/12/88	1.2	1045.38
	10/08/88	1.4411	1008.86
	6/26/89	2.15616	1015.78
	9/13/89	2.3726	1005
	2/8/90	2.77808	978.45
	4/24/90	2.98356	974.9
	3/4/91	3.84384	981.68

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
838.389	888.565	938.741	1.85955

F-RATIO = 7.88116

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1362-187-5300-016	Rev. No. 0	Sheet No. 58 of
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PROGRAM: LINPREDY
BAY NUMBER? 11c bottom 4
ENTER NAME OF DATE LIST date11c
NAME OF MEAN THICKNESS DATASET? md11cb

N	DATE11C	MD11CB
**	********	******
1	5/1/87	916.79
2	8/1/87	953.64
3	9/10/87	915.71
4	7/12/88	906.05
5	10/08/88	897
6	6/26/89	876.75
7	9/13/89	890.71
8	2/8/90	869
9	4/24/90	863.29
10	3/4/91	857.54

ENTER NO. OF DESIRED DATA inte(1,10)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
********	********	********	******
11C BOTT	5/1/87	0	916.79
	8/1/87	.252055	953.64
	9/10/87	.361644	915.71
	7/12/88	1.2	906.05
	10/08/88	1.4411	897
	6/26/89	2.15616	876.75
	9/13/89	2.3726	890.71
	2/8/90	2.77808	869
	4/24/90	2.98356	863.29
	3/4/91	3.84384	857.54

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
772.951	801.396	829.842	1.85955

F-RATIO = 11.561

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 59 of
Originator: [signature]	Date: 4-11-91	Reviewed by	Date

PROGRAM: LINPREDY
BAY NUMBER? 13a all pts
ENTER NAME OF DATE LIST date13a
NAME OF MEAN THICKNESS DATASET? md13a

N	DATE13A	MD13A
*	********	******
1	11/15/86	919.08
2	12/17/88	905.27
3	6/26/89	882.84
4	9/13/89	882.98
5	2/8/90	859.04
6	3/28/90	852.84
7	4/24/90	855.63
8	2/23/91	854.51

ENTER NO. OF DESIRED DATA ints(2,8)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
*******	********	********	******
13A ALL	12/17/88	0	905.27
	6/26/89	.523288	882.84
	9/13/89	.739726	882.98
	2/8/90	1.14521	859.04
	3/28/90	1.27671	852.84
	4/24/90	1.35068	855.63
	2/23/91	2.1863	854.51

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
736.007	779.687	823.366	2.01504

F-RATIO = 4.46033

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 6 of
Originator	Date 4-11-91	Reviewed by	Date

```
PROGRAM: LINPREDY
BAY NUMBER? 13a pts < 1100
ENTER NAME OF DATE LIST date13a
NAME OF MEAN THICKNESS DATASET? mf13a

 N   DATE13A   MF13A
 *   ********  ******
 1   11/15/86  919.08
 2   12/17/88  895.94
 3   6/26/89   882.84
 4   9/13/89   882.98
 5   2/8/90    859.04
 6   3/28/90   852.84
 7   4/24/90   855.63
 8   2/23/91   848.81

ENTER NO. OF DESIRED DATA ints(2,8)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

   BAY      DATES       X         Y
 *******  ********  ********  ******
 13A PTS  12/17/88  0         895.94
          6/26/89    .523288  882.84
          9/13/89    .739726  882.98
          2/8/90    1.14521   859.04
          3/28/90   1.27671   852.84
          4/24/90   1.35068   855.63
          2/23/91   2.1863    848.81

X0 = 7/15/93

   YL90    YOHAT     YU90     T95
 *******  *******  *******  *******
 748.351  781.242  814.133  2.01504

F-RATIO = 7.23735
```

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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PROGRAM: LINPREDY
BAY NUMBER? 17a bottom 4
ENTER NAME OF DATE LIST date17a
NAME OF MEAN THICKNESS DATASET? md17ab

N	DATE17A	MD17AB
*	********	******
1	12/17/88	957.36
2	6/26/89	964.5
3	9/13/89	955.18
4	2/8/90	937.5
5	4/24/90	939.61
6	2/23/91	934.71

ENTER NO. OF DESIRED DATA inta(1,6)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
********	********	********	******
17A BOTT	12/17/88	0	957.36
	6/26/89	.523288	964.5
	9/13/89	.739726	955.18
	2/8/90	1.14521	937.5
	4/24/90	1.35068	939.61
	2/23/91	2.1863	934.71

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
863.938	898.581	933.224	2.13182

F-RATIO = 2.12222

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 62 of
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PROGRAM: LINPREDY
BAY NUMBER? 17d
ENTER NAME OF DATE LIST date17d
NAME OF MEAN THICKNESS DATASET? me17d

N	DATE17D	ME17D
**	********	******
1	12/2/86	903.51
2	2/17/87	922.16
3	5/1/87	895.07
4	8/1/87	890.69
5	9/10/87	895.28
6	7/12/88	877.93
7	10/08/88	862.22
8	6/26/89	856.84
9	9/13/89	847.13
10	2/8/90	833.37
11	4/24/90	826.8
12	2/23/91	825.27

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
***	********	********	******
17D	2/17/87	0	922.16
	5/1/87	.2	895.07
	8/1/87	.452055	890.69
	9/10/87	.561644	895.28
	7/12/88	1.4	877.93
	10/08/88	1.6411	862.22
	6/26/89	2.35616	856.84
	9/13/89	2.5726	847.13
	2/8/90	2.97808	833.37
	4/24/90	3.18356	826.8
	2/23/91	4.01918	825.27

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
743.186	759.804	776.423	1.83311

F-RATIO = 44.5138

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

Subject	Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 63 of
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PROGRAM: LINPREDY
BAY NUMBER? 19a
ENTER NAME OF DATE LIST date19a
NAME OF MEAN THICKNESS DATASET? me19a

N	DATE19A	ME19A
**	********	******
1	12/2/86	870.22
2	2/17/87	883.64
3	5/1/87	872.93
4	8/1/87	858.6
5	9/10/87	858.29
6	7/12/88	848.57
7	10/08/88	836.91
8	6/26/89	828.82
9	9/13/89	825.36
10	2/8/90	807.78
11	4/24/90	807.8
12	2/23/91	816.67

ENTER NO. OF DESIRED DATA ints(2,12)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
***	********	********	******
19A	2/17/87	0	883.64
	5/1/87	.2	872.93
	8/1/87	.452055	858.6
	9/10/87	.561644	858.29
	7/12/88	1.4	848.57
	10/08/88	1.6411	836.91
	6/26/89	2.35616	828.82
	9/13/89	2.5726	825.36
	2/8/90	2.97808	807.78
	4/24/90	3.18356	807.8
	2/23/91	4.01918	816.67

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
738.518	756.433	774.349	1.83311

F-RATIO = 23.7199

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

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Calculation Sheet

Subject		Calc No. C-1302-187-5300-016	Rev. No. 0	Sheet No. 65 of
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```
PROGRAM: LINPREDY
BAY NUMBER? 19b
ENTER NAME OF DATE LIST date19b
NAME OF MEAN THICKNESS DATASET? md19b

  N   DATE19B   MD19B
 **   ********  ******
  1   12/2/86   880.84
  2   5/1/87    897.63
  3   8/1/87    892.21
  4   9/10/87   887.6
  5   7/12/88   863.98
  6   10/08/88  856.41
  7   6/26/89   852.55
  8   9/13/89   854.94
  9   2/8/90    840.67
 10   4/24/90   839.1
 11   2/23/91   852.53

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

 BAY    DATES       X        Y
 ***   ********  ********  ******
 19B   5/1/87    0         897.63
       8/1/87     .252055  892.21
       9/10/87    .361644  887.6
       7/12/88   1.2       863.98
       10/08/88  1.4411    856.41
       6/26/89   2.15616   852.55
       9/13/89   2.3726    854.94
       2/8/90    2.77808   840.67
       4/24/90   2.98356   839.1
       2/23/91   3.81918   852.53

X0 = 7/15/93

   YL90     YOHAT     YU90     T95
 *******  *******  *******  *******
 775.661  798.239  820.818  1.85955

F-RATIO = 9.05424


WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE
IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE
F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO
BE USED TO PREDICT FUTURE VALUES.  TO HAVE A HIGH DEGREE OF
CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT
LEAST 8 OR 9.


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PROGRAM: LINPREDY
BAY NUMBER? 19c
ENTER NAME OF DATE LIST date19c
NAME OF MEAN THICKNESS DATASET? me19c

N	DATE19C	ME19C
**	********	******
1	12/2/86	866.02
2	5/1/87	900.51
3	8/1/87	888.16
4	9/10/87	888.31
5	7/12/88	873.46
6	10/08/88	856.27
7	6/26/89	845
8	9/13/89	844.7
9	2/8/90	830.51
10	4/24/90	822.52
11	2/23/91	842.8

ENTER NO. OF DESIRED DATA ints(2,11)
ENTER DATE OF MINIMUM THICKNESS (X0) 7/15/93

BAY	DATES	X	Y
***	********	********	******
19C	5/1/87	0	900.51
	8/1/87	.252055	888.16
	9/10/87	.361644	888.31
	7/12/88	1.2	873.46
	10/08/88	1.4411	856.27
	6/26/89	2.15616	845
	9/13/89	2.3726	844.7
	2/8/90	2.77808	830.51
	4/24/90	2.98356	822.52
	2/23/91	3.81918	842.8

X0 = 7/15/93

YL90	YOHAT	YU90	T95
*******	*******	*******	*******
749.166	774.005	798.843	1.85955

F-RATIO = 12.6557

WHEREAS AN F-RATIO OF 1.0 OR GREATER PROVIDES CONFIDENCE IN THE SLOPE AND INTERCEPT OF THE HISTORICAL DATA, THE F-RATIO SHOULD BE 4 OR 5 IF THE REGRESSION EQUATION IS TO BE USED TO PREDICT FUTURE VALUES. TO HAVE A HIGH DEGREE OF CONFIDENCE IN THE PREDICTED VALUE, THE RATIO SHOULD BE AT LEAST 8 OR 9.

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Calculation Sheet

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