# ECONOMIC ANALYSIS

# OTHELLO

# TO

# AVERY

# ELECTRIFICATION

# INDEX

ANNEX


| | |
|---|---|
| - | ECONOMIC COMPARISON OF DIESEL ELECTRIC AND STRAIGHT ELECTRIC OPERATION |
| 1 | VARIANCE FROM DATA INPUTS FOR CASH DISBURSEMENT PROGRAM |
| 2 | GRAPHIC PORTRAYAL OF RESULTS |
| 3 | DISCOUNTED RATES OF RETURN AND BREAKEVEN POINTS |
| 4 | COMPUTER PRINTOUTS - CASH DISBURSEMENT PROGRAM |
| 5 | DESCRIPTION OF SPEED-TIME-DISTANCE COMPUTER PROGRAM |
| 6 | SPEED-TIME-DISTANCE PROGRAM COMPUTER PRINTOUTS |

# MILWAUKEE DATA

A meeting was held at the Milwaukee Railroad on August 7, 1970. Present at the meeting were Messrs. B. J. Worley and C. Lund of the Railroad and Messrs. H. J. Wefers, R. R. Drake and R. J. Meyer of General Electric.

The Railroad reviewed the results of previous economic studies submitted. At this meeting, and through various telephone conversations and additional meetings held subsequently, economic data and alternatives for electrifying the gap between Avery and Othello were finalized.

## A. SUMMARY OF DATA CHANGES

1. Maintenance of electric locomotives to be on the basis of 49% of diesel maintenance on a per unit basis.

2. Catenary and substation maintenance again increased to a final figure of $950,000. The split between catenary and substation maintenance was established at 50-50.

3. Diesel locomotive price lowered to $257,600 on the basis that the previous price of $287,600 included Locotrol equipment.

4. Railroad agreed that an alternate run should be made on the basis of an equal number of axles, diesel versus electric, being purchased in 1972. Replacement locomotives for the "Little Joes" are to be purchased in 1980.

5. Railroad asked that the daily electrical energy consumption figure be increased to 740000 kwhr/day to compensate for the lack of regenerative braking and lower efficiency of the MA Set Locomotives.

6. Railroad requested that the study include $230,000/year (inflated) for 15 years to replace catenary poles on the two existing electrified divisions.

7. If abandonment of electrification were contemplated, $140,000 a year (inflated) for 15 years for signal pole replacement would be required and should be charged against diesel operation.

8. An expense of one million dollars to retire electrical operation personnel is to be charged to diesel operation over the first five years of the study.

It should be pointed out at this juncture that it is the intention of the General Electric Company to render objective assistance in studying the economic decision to be made for the Milwaukee Road. As such, it also bears a responsibility to point out areas where changes might be made or new approaches considered.

A. SUMMARY OF DATA CHANGES (continued)

The last study showed a decision favorable to electrification with breakeven points in year eight or lower. A high discounted rate of return was anticipated with full consideration of all expenses involved.

General Electric recognizes the desire of the Railroad to build in the conservatism necessary to insure a reasonable margin for error. But, it also recognizes that in a systems analysis program of the type utilized here conservatism in interacting items of data can cause geometric redundance in the results. Just one example:

> Conservatism in the initial number of electric locomotives accelerates locomotive principal, maintenance and ICC inspection charges. It also affects the number of locomotives purchased for growth, which in turn affects principal, maintenance, and total ICC inspection charges.

Equally, almost all of the input data have a compounded effect on the total outcome. Thus, attempting to allow for error in all areas simultaneously can introduce great variances from the true picture. To illustrate the magnitudes we would like to point out that the above data changes received from the Railroad represent the addition of $725,000 per year to expenses charged against electric operations. The impact on the study of this amount over 30 years time is approximately $38,000,000 --considering only 5% inflation. When 5% growth is also considered, the amount becomes approximately $60,000,000.

We, therefore, felt encouraged to evaluate realistic alternatives as our contribution to the Railroad's evaluation.

B. INSTALLATION OF AN ALL-RECTIFIED SUBSTATION SYSTEM

The Railroad agreed to consider the alternative of installing all-rectified substations over the route from Harlowton to Van Assel. A capital charge of $3,830,000 for the additional substations would be reduced by the trade-in value and elimination of relocation expenses for motor-generator sets, to a new value of $2,867,000. But more importantly, the magnitude of annual non-tax shielded expenses subject to inflation is reduced.

C. RESULTS OF STUDY

When base data from the Milwaukee Railroad was combined with the lowest growth (1%) and inflation (3%) alternatives, a breakeven point in year 15 results. (Annex 2). Improvement of the growth rate to 4% and the inflation rate to 6% moves the breakeven point downward to year 12. (Annex 2).

C. RESULTS OF STUDY (continued)

When the alternatives of full rectified substations are considered, together with the higher growth and inflation rates, the same breakeven point of year 12 is achieved. (Annex 2). But, it is at this point that the real advantage of offsetting high annual inflated expenses with fixed capital investment to be paid back with cheaper and cheaper dollars becomes apparent.

A fully-rectified system will render many other advantages to the Railroad. As it is inherently a more efficient system, it will bring about lower energy losses, and contribute to the achievement of lower daily electric energy consumption.

In addition, we have used the Locomotive Department's Train Performance Simulation Program to calculate the energy consumption on the Railroad's profile. Based on the computer runs and the Railroad's data annual MGTM, the average daily energy consumption is 420000 KWRS at the pantograph. Furthermore, General Electric's transmission and substation engineers calculated the systems losses with modern rectifier substations to be 14% on the average. Applying a conservative factor of 15% to the total KWRS at the pantograph we arrive at an average daily energy consumption at the substation meter of 494000 KWRS. Using this figure as an alternative input moves the breakeven point to year number five (copies of representative computer printouts and a program specification are attached).

Substation maintenance, while estimated at $3,000/substation per year, will in reality be much lower. Recent experience on the Long Island Railroad, another user of static rectified DC substations, is that little if any maintenance is required. An alternative was run using $1,000/substation for the necessary annual inspections. This comparison revealed the relatively low sensitivity of substation maintenance: the breakeven point remained at year number five.

The train performance simulation also revealed that the performance is governed by usable tractive effort at the rail and not by horsepower as long as each locomotive has at least 3000-hp. This means that as long as axle loads are alike and the continuous tractive effort per locomotive axle is equal to or higher than the running adhesion limit dictated by rail conditions (the Railroad advises that this limit is 18%), an electric locomotive consist should have the same number of axles as a diesel-electric consist, but not the same horsepower to provide equal performance. Computer runs confirmed that on that basis electric and diesel electric locomotives perform alike within 1.5%.

C. RESULTS OF STUDY (continued)

Since the Railroad asked us to base our comparison on 55 diesel electric locomotives (240 axles), a more realistic comparison would be arrived at by using 40 electric locomotives (240 axles) instead of 45 electric locomotives (270 axles). This comparison however would still disfavor the electrics:

1. For the first ten years, "Little Joes" will be included with 8 axles per unit. This raises the number of "electric axles" to 264 as compared to 240 "diesel-electric axles".

2. Electric locomotives have a 6% higher availability which should directly impact on the number of locomotives.

An economic comparison on that basis moves the breakevan point to year number three.

When the historic life span of electric locomotives on the Milwaukee Railroad is considered, the expected date to replace "Little Joes" could reasonably be established at 1985 or later. The effect improves the discounted rate of return.

As the possibility appeared to exist that the expense of replacement of catenary poles had already been allowed for in the increased annual catenary maintenance expense of $475,000, a final alternative was run eliminating this expense item. A breakeven point in the first year was achieved. (Annex 2).

The results of the study by breakeven point and discounted rate of return, are summarized in Annex 3.

August 18, 1970

# VARIANCES FROM BASE INPUT DATA

(See attached Milwaukee Railroad Base Data)

1. Maintenance - Locomotives (Per Unit Basis)

31.4¢/MGTM - Diesel Units
12.6¢/MGTM - Electric Units
} Obtained from Railroad

2. Maintenance - Catenary and Substations

A. Base Data

$475,000 per year - annual catenary maintenance
$475,000 per year - annual substation maintenance
} Obtained from Railroad

B. All-Rectified Substations

(1) Substation Maintenance

$3,000 per substation X 29 substations = $87,000 (Obtained from RR)

$1,000 per substation X 29 substations = $29,000 (GE Alternative)

(2) Substation Operation

$13,440/man (Includes 16.72% overhead)
X 8 men (Obtained from Railroad)
$107,520 per year (Obtained from Railroad)

C. Revised Totals - Catenary and Substation Maintenance

| | | | |
|---|---|---|---|
| (1) | Catenary Maintenance | $ 475,000 | |
| | Substation Operation | 107,520 | |
| | Substation Maintenance | 87,000 | |
| | Total | $ 669,520 | (Obtained from Railroad) |
| (2) | Catenary Maintenance | $ 475,000 | |
| | Substation Operation | 107,520 | |
| | Substation Maintenance | 29,000 | |
| | Total | $ 611,520 | (GE Alternative) |

3. Prices of Locomotives

Diesel - Changed to $257,600 per unit. (Obtained from Railroad)

4. Catenary Principal (in addition to previous $7.5 million for catenary)

A. Base Data

$ 4.6 Million for upgrading system
- .75 Million for relocating MG Sets (takeout if all rectified)
$ 3.85 Million Total for upgrading (Obtained from Railroad)

4. Catenary Principal (continued)

   B. If All-Rectified

   Add $383,000 for Rectified Substation
   X 10
   $ 3 830 000 Subtotal (Obtained from Railroad)
   - 213 000 Deduct Trade-in Value of MG Sets (Obtained from Railroad)
   $ 3,617,000 Total

5. Electrical Energy Consumption

   A. Base Data

   605,000 KWHR/DAY ÷ 82% = 740,000 KWHR/DAY (Obtained from Railroad)

   B. Calculated by GE Speed-Time-Distance Program

   494,000 KWHR/DAY

6. Pole Line Replacement

   A. Electrification - $230,000/yr. for 15 years - Catenary Poles

   B. Diesel Operation - $140,000/yr. for 15 years - Signal Poles

7. Little Joe Replacement

   A. Replace 12 Little Joes with 12 MA-Set locomotives in 1980 (Obtained from Railroad)

   B. Replace 12 Little Joes with 12 MA-Set Locomotives in 1985 (GE Alternative)

RJM
8-14-70

# CASH DISBURSEMENT PROGRAM

## MILWAUKEE RAILROAD BASE DATA

An economic evaluation and comparison of cash disbursements incurred by straight electric railroad operation and diesel-electric operation.

### Assumptions

1. Cash Disbursements = (Revenue-Net Income) - Depreciation + Principal Payments
2. Additional revenue incurred by electric operation is not evaluated.
3. Cash disbursements are calculated on a 30 year basis.

### Input Requirements

#### Initial Year of Electrification

#### Locomotive Data

| | | |
|---|---|---|
| Number of electric locomotives (initial year) (In add. Little Joes) | 33 | |
| Electric locomotive's physical life | 30 | years |
| Electric locomotive unit price | $ 420,100 | |
| Number of diesel-electric locomotives (initial year) | 55 | |
| Diesel-electric locomotive's physical life | 15 | years |
| Diesel-electric locomotive unit price | $ 257,600 | |

#### Train Data

| | | |
|---|---|---|
| Number of trains per day | 5 | |
| MGTM (initial year) | 5.802E6 | |

#### Catenary and Substation Data

| | | |
|---|---|---|
| Catenary plus substation capital investment | 12.1E6 | |
| Catenary's physical life | 50 | years |
| Catenary's and Substation Annual Maintenance Cost | 950,000 | |
| Catenary's annual leasing cost (if leased) | omit | |

#### Signal and Communication Data

| | | |
|---|---|---|
| Signal system conversion costs (total or per mile) | 7.E5 | |
| Signal system physical life | 50 | years |
| Communication system conversion costs (total or per mile) | omit | |
| Communication system physical life | Omit | |

## Operational Expense Data

| | |
|---|---|
| Total KWH required per day (Electric operation: All electric locomotives combined) | 7.4E5 |
| Electric Power Rate (Mills/KWH) | 7 M |
| Total diesel fuel gallons required per day as delivered to locomotive (Diesel operation: All diesel locomotives combined) | 4.2E4 |
| Diesel Fuel Rate (Cents/gallon) as delivered to locomotive | 10.5¢ |
| Lube oil in percent of diesel fuel costs | 9% |
| Maintenance Expense: Electric Operation (cents/MGTM) | 12.6¢ |
| ICC Inspection Charge/Electric Locomotive (Annual $) | 590 |
| Maintenance Expense: Diesel Operation (cents/MGTM) | 31.4¢ |
| ICC Inspection Charge/Diesel Locomotive (Annual $) | 820 |
| Total Wages/Day Electric Operation (All locomotives combined) | 9,640 |
| Total Wages/Day Diesel Electric Operation (All locomotives combined) | 9,640 |
| Annual Inventory Carrying Costs (Parts and fuel) incurred by diesel operation. | 14,320 |
| Annual inflated costs incurred by diesel operation. | 21,725 |

## Financial Data and Parameters

Depreciation Periods

| | |
|---|---|
| Electric Locomotive | 30 |
| Diesel Electric Locomotive | 15 |
| Catenary System/Substation | 50 |
| Communication System | Omit |
| Signal System | 35 |

Depreciation Method : Straight Line**

Loan Periods

| | |
|---|---|
| Electric Locomotive | 20 |
| Diesel Locomotive | 15 |
| Catenary System | 20 |
| Communication System | Omit |
| Signal System | 20 |

| | | |
|---|---|---|
| Loan Payment Method<br>Level payment or level principal payment | | Level Payment |
| Number of Years Between Investments in Locomotives* | | 1 |
| Annual Gross Ton Mile Projected Growth Rate (percent) | | 1 & 4% |
| Cost of Capital (interest rate) | Catenary,Signals,Subst. - 11%<br>Electric Locomotives 10.5%<br>Diesel Locomotives 10% | 11, 10.5, 10 |
| Projected U.S. Economy Inflation Rate | | 3-6% |
| Projected Diesel-Fuel Inflation Rate | | 3.5% |
| Income Tax Rate | | omit |
| Property Tax Rate | | omit |

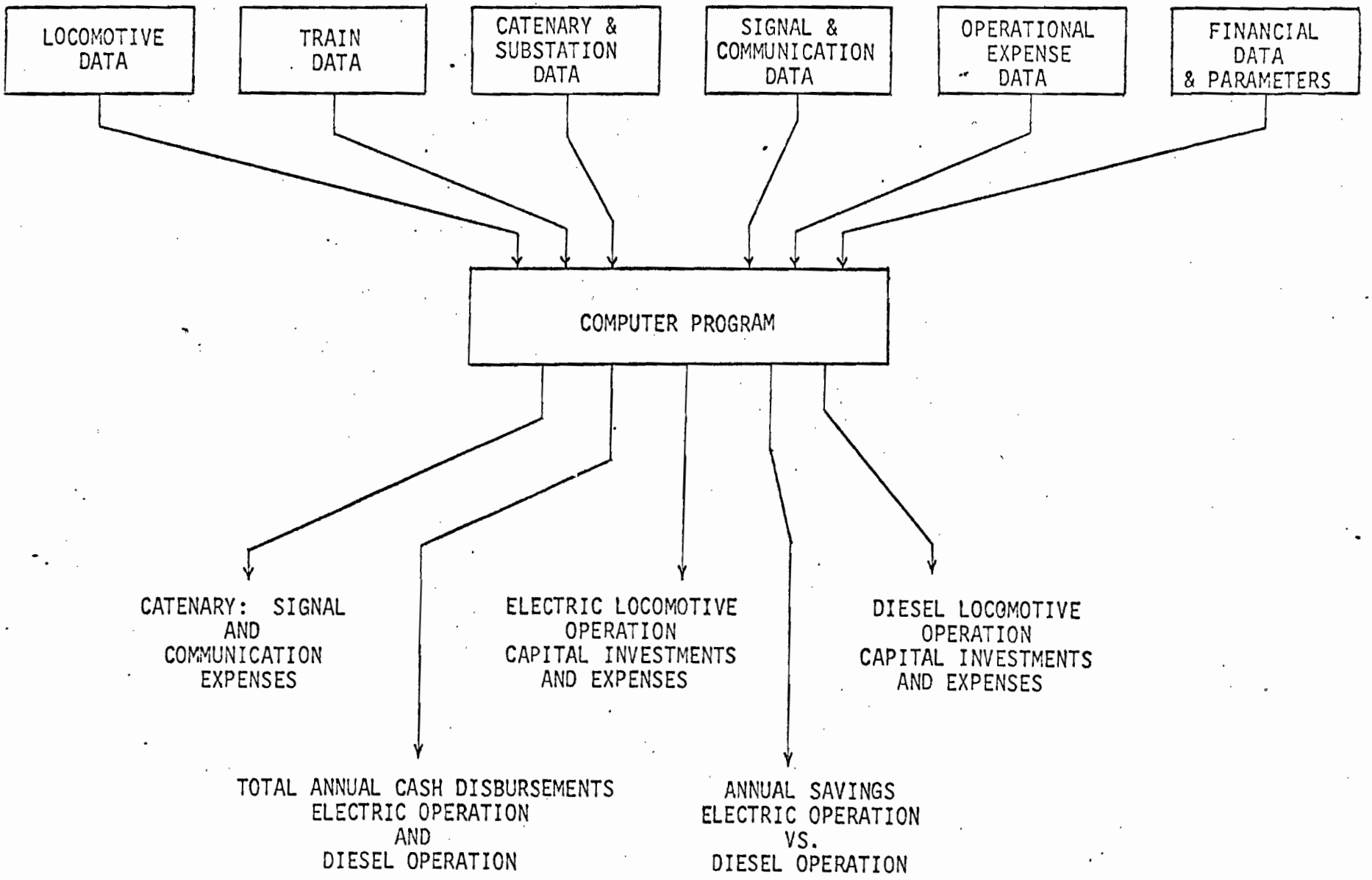
* This time period must be evenly divisible into the time periods used for the physical life of the electric and diesel-electric locomotives, e.g.,

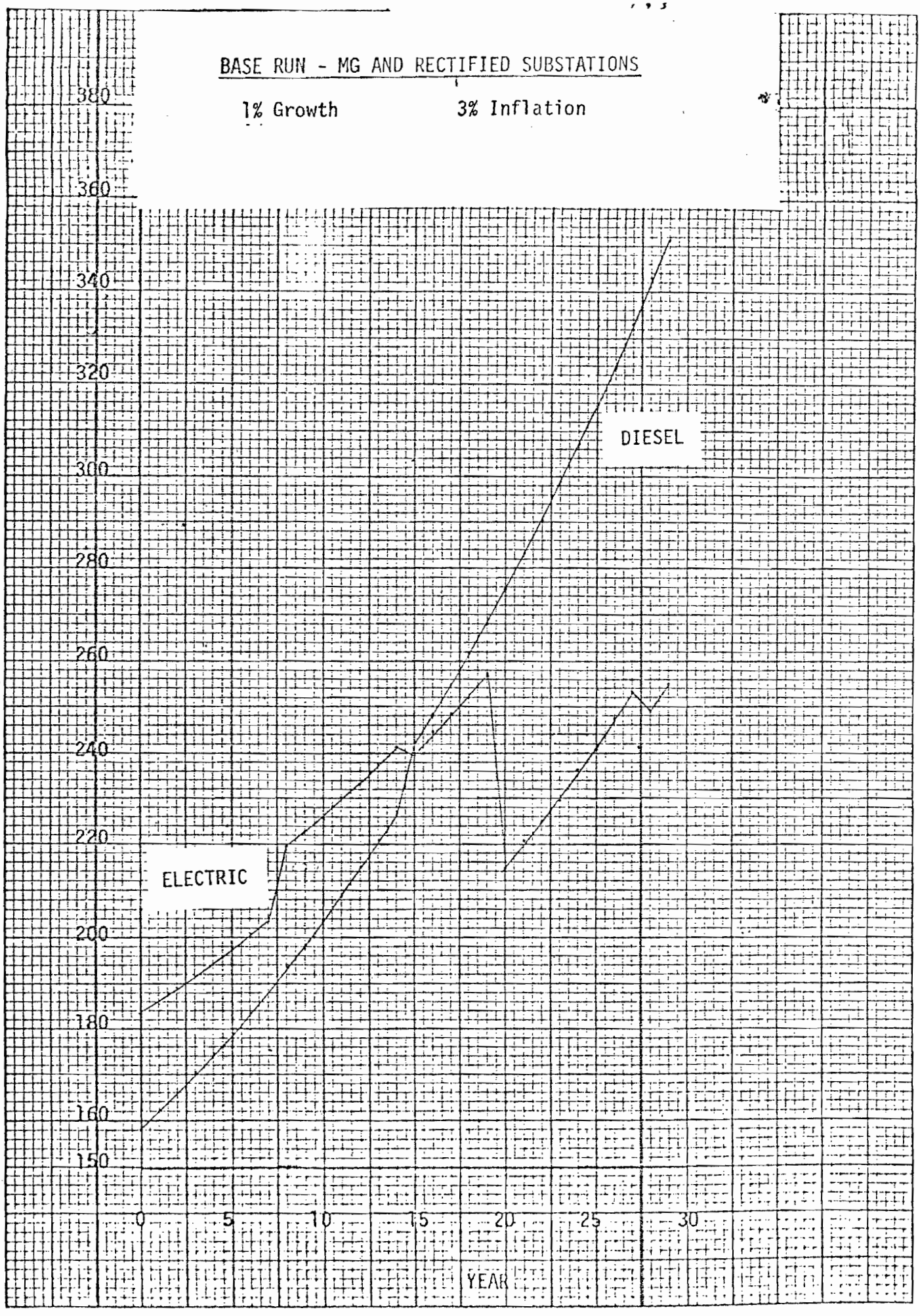
Physical life electric locomotive: 30 years
Physical life diesel-electric locomotive: 15 years

Number of years between investments must be stated as one of the following: 1, 3, 5, or 15 years - since any of these time periods is evenly divisible into both 30 years and 15 years.

RJM
8-18-70

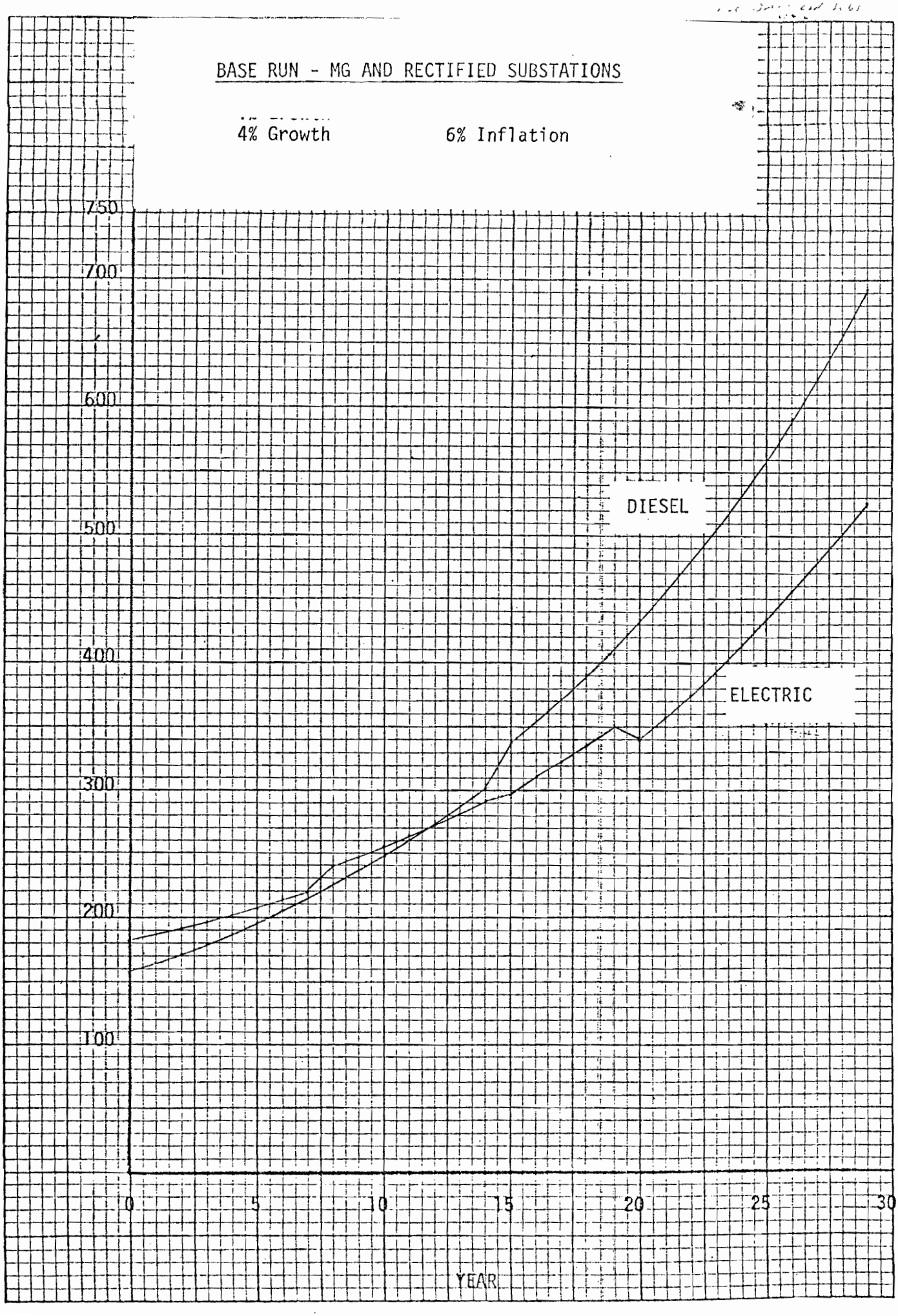
# CASH DISBURSEMENT PROGRAM




BASE RUN - MG AND RECTIFIED SUBSTATIONS
1% Growth
3% Inflation
380
360
340
320
300
280
260
240
220
200
180
160
150
¢/MGTM
DIESEL
ELECTRIC
0
5
10
15
20
25
30
YEAR

BASE RUN - MG AND RECTIFIED SUBSTATIONS

4% Growth 6% Inflation

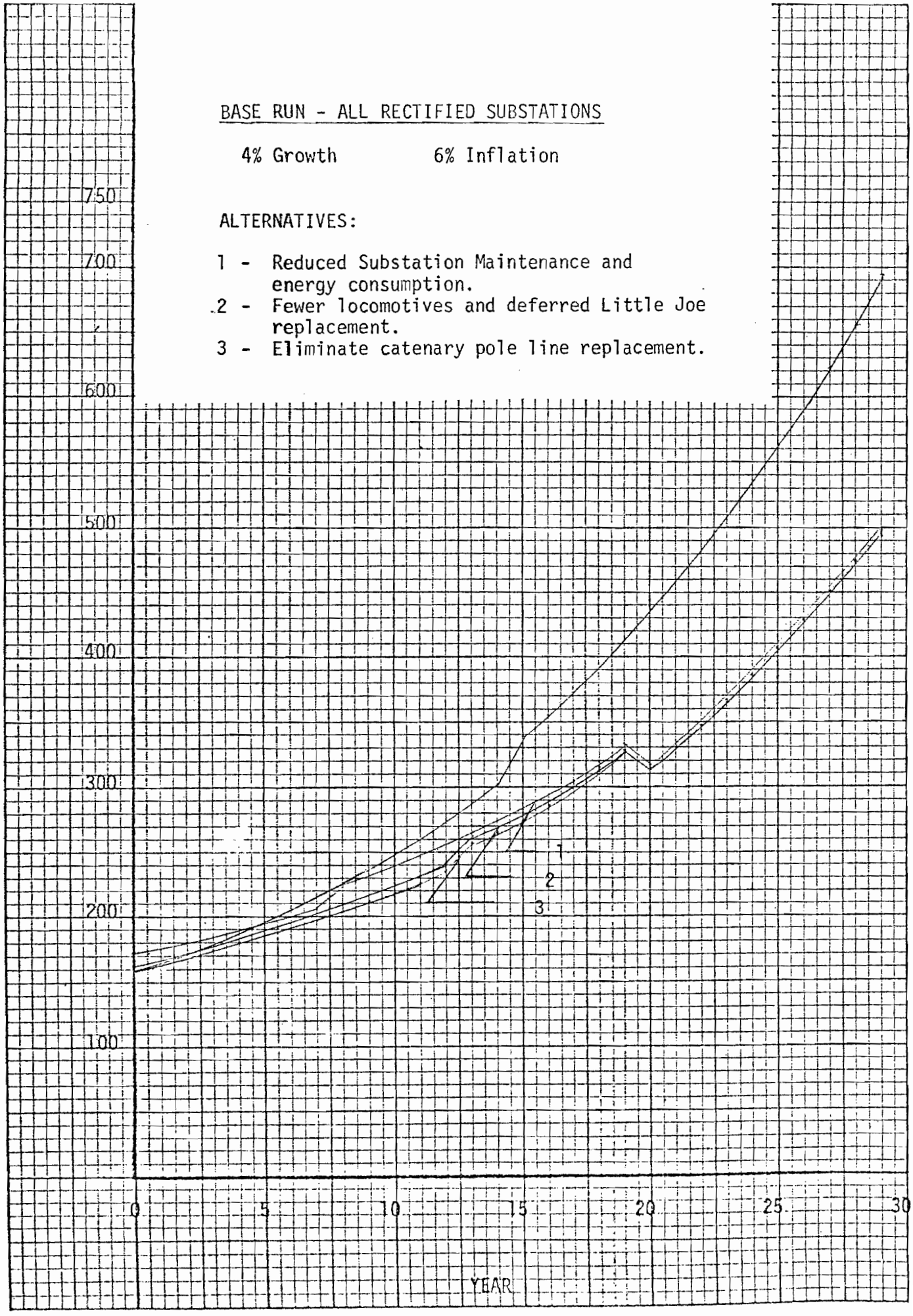


BASE RUN - ALL RECTIFIED SUBSTATIONS

4% Growth 6% Inflation

ALTERNATIVES:

1 - Reduced Substation Maintenance and energy consumption.
2 - Fewer locomotives and deferred Little Joe replacement.
3 - Eliminate catenary pole line replacement.




GENERAL ELECTRIC COMPANY, SCHENECTADY, N.Y.

# TABULATION OF DISCOUNTED RATES OF RETURN AND BREAKEVEN POINTS

| | Discounted Rate of Return | Breakeven Point |
|---|---|---|
| Run # 1 | 6.76% | 15 |
| 2 | 18.03% | 12 |
| 4 | 18.52% | 12 |
| 12 | 29.79% | 5 |
| 13 | 31.96% | 5 |
| 14 | 53.63% | 3 |
| 15 | 58.02% | 3 |
| 16 | | 0 |

R.J.M.
8-17-70

# DISCOUNTED RATE OF RETURN AND YEAR OF BREAKEVEN

RUN NO.

16 ELIMINATE CATENARY POLE REPLACEMENT COST
4% GROWTH-6% INFLATION

15 REPURCHASE "LITTLE JOES" IN 1985
4% GROWTH-6% INFLATION

14 REDUCE NO. ELEC. LOCOS
4% GROWTH-6% INFLATION

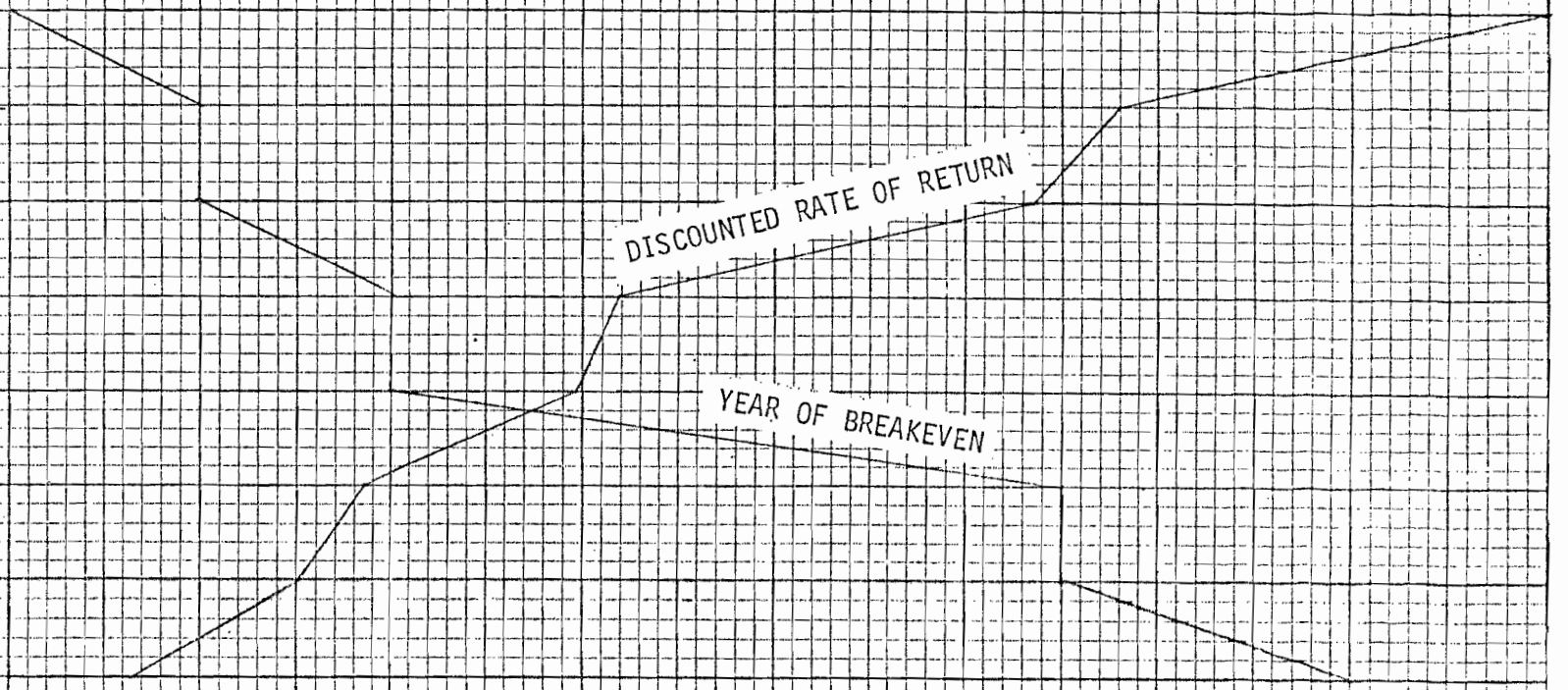
13 LOWER SUBSTATION MAINT.
4% GROWTH-6% INFLATION

12 LOWER ELECTRIC ENERGY
4% GROWTH-6% INFLATION

4 ALL-RECTIFIED
4% GROWTH-6% INFLATION

2 BASE DATA
4% GROWTH-6% INFLATION

1 BASE DATA
1% GROWTH-3% INFLATION



CABANA 15:02 ERIE MON. AUG.17,1970

Run #1

? 1,11,10.5,10,3,1,3.5

? 1,1,4,1

1535

RUN #1

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 3.0%
DIESEL ENERGY INFLATION = 3.5%
ELECTRIC ENERGY INFLATION= 1.0%
INTEREST RATE = 11.0%
Growth = 1.0

~~Case 0#7~~
1% growth
3 1/2% Infl

| | ELECTRIC | | | DIESEL | | | |
|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLOW | +/MGTM | CASHFLOW | +/MGTM | ELECT BOUGHT | DIESL BOUGHT |
| 1972 | 5.80 | 10.63 | 183.24 | 9.18 | 158.20 | 33.00 | 55.00 |
| 1973 | 5.86 | 10.88 | 185.61 | 9.52 | 162.38 | 0.00 | 1.00 |
| 1974 | 5.92 | 11.19 | 188.99 | 9.83 | 166.07 | 1.00 | 0.00 |
| 1975 | 5.98 | 11.45 | 191.52 | 10.19 | 170.53 | 0.00 | 1.00 |
| 1976 | 6.04 | 11.72 | 194.14 | 10.53 | 174.47 | 0.00 | 0.00 |
| 1977 | 6.10 | 12.06 | 197.82 | 10.93 | 179.22 | 1.00 | 1.00 |
| 1978 | 6.16 | 12.36 | 200.61 | 11.30 | 183.43 | 0.00 | 0.00 |
| 1979 | 6.22 | 12.66 | 203.50 | 11.72 | 188.48 | 0.00 | 1.00 |
| 1980 | 6.28 | 13.81 | 219.87 | 12.17 | 193.68 | 13.00 | 1.00 |
| 1981 | 6.35 | 14.14 | 222.81 | 12.59 | 198.33 | 0.00 | 0.00 |
| 1982 | 6.41 | 14.48 | 225.86 | 13.07 | 203.87 | 0.00 | 1.00 |
| 1983 | 6.47 | 14.90 | 230.13 | 13.52 | 208.84 | 1.00 | 0.00 |
| 1984 | 6.54 | 15.26 | 233.38 | 14.04 | 214.73 | 0.00 | 1.00 |
| 1985 | 6.60 | 15.71 | 237.89 | 14.53 | 220.80 | 1.00 | 1.00 |
| 1986 | 6.67 | 16.10 | 241.36 | 15.09 | 226.28 | 0.00 | 0.00 |
| 1987 | 6.74 | 16.14 | 239.63 | 16.31 | 242.17 | 0.00 | 56.00 |
| 1988 | 6.80 | 16.63 | 244.45 | 16.88 | 248.05 | 1.00 | 1.00 |
| 1989 | 6.87 | 17.05 | 248.16 | 17.50 | 254.73 | 0.00 | 1.00 |
| 1990 | 6.94 | 17.49 | 251.99 | 18.17 | 261.87 | 0.00 | 2.00 |
| 1991 | 7.01 | 18.03 | 257.25 | 18.79 | 268.11 | 1.00 | 0.00 |
| 1992 | 7.08 | 15.21 | 214.84 | 19.52 | 275.70 | 0.00 | 2.00 |
| 1993 | 7.15 | 15.79 | 220.56 | 20.25 | 283.27 | 1.00 | 1.00 |
| 1994 | 7.22 | 16.24 | 224.92 | 20.97 | 290.42 | 0.00 | 1.00 |
| 1995 | 7.29 | 16.77 | 229.86 | 21.79 | 298.75 | 0.00 | 2.00 |
| 1996 | 7.37 | 17.41 | 236.33 | 22.62 | 307.06 | 1.00 | 1.00 |
| 1997 | 7.44 | 17.92 | 240.81 | 23.51 | 315.91 | 0.00 | 2.00 |
| 1998 | 7.52 | 18.61 | 247.67 | 24.33 | 323.75 | 1.00 | 0.00 |
| 1999 | 7.59 | 19.22 | 253.19 | 25.29 | 333.16 | 0.00 | 2.00 |
| 2000 | 7.67 | 19.12 | 249.45 | 26.28 | 342.86 | 1.00 | 2.00 |
| 2001 | 7.74 | 19.77 | 255.39 | 27.22 | 351.50 | 0.00 | 0.00 |

SUMMATION OF COLUMNS IN PART 2 AND 3

| ELECTRIC | DIESEL |
|---|---|
| 27.826068 | 46.109973 |
| 381.776629 | 343.369382 |
| 23.609901 | 40.642059 |
| 19.486064 | 38.952129 |
| 36.051253 | 41.633865 |
| 0.000000 | 0.000000 |
| 76.822311 | 107.674969 |
| 198.332314 | 198.332314 |
| 41.207081 | 102.690662 |
| 1.096692 | 2.541570 |
| 0.000000 | 0.000000 |

BASE DATA
1% CHANGE
3% INFLATION

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -1.4527 | -1.4527 | -1.4527 |
| 1973 | -1.3611 | -2.8137 | -2.9735 |
| 1974 | -1.3562 | -4.1699 | -4.6568 |
| 1975 | -1.2548 | -5.4247 | -6.4238 |
| 1976 | -1.1871 | -6.6118 | -8.3175 |
| 1977 | -1.1347 | -7.7465 | -10.3672 |
| 1978 | -1.0581 | -8.8046 | -12.5657 |
| 1979 | -.9341 | -9.7387 | -14.8820 |
| 1980 | -1.6450 | -11.3837 | -18.1640 |
| 1981 | -1.5533 | -12.9370 | -21.7154 |
| 1982 | -1.4094 | -14.3464 | -25.5135 |
| 1983 | -1.3778 | -15.7242 | -29.6977 |
| 1984 | -1.2191 | -16.9433 | -34.1836 |
| 1985 | -1.1282 | -18.0715 | -39.0720 |
| 1986 | -1.0058 | -19.0773 | -44.3757 |
| 1987 | -0.1711 | -18.9062 | -49.0859 |
| 1988 | 0.2454 | -18.6608 | -54.2400 |
| 1989 | 0.4519 | -18.2089 | -59.7544 |
| 1990 | 0.6854 | -17.5234 | -65.6420 |
| 1991 | 0.7612 | -16.7623 | -72.1015 |
| 1992 | 4.3089 | -12.4534 | -75.7237 |
| 1993 | 4.4624 | -7.9910 | -79.5910 |
| 1994 | 4.7308 | -3.2602 | -83.6152 |
| 1995 | 5.0246 | 1.7643 | -87.7883 |
| 1996 | 5.2069 | 6.9713 | -92.2341 |
| 1997 | 5.5880 | 12.5593 | -96.7962 |
| 1998 | 5.7173 | 18.2766 | -101.7265 |
| 1999 | 6.0699 | 24.3465 | -106.3465 |
| 2000 | 7.1612 | 31.5077 | -111.4385 |
| 2001 | 7.4420 | 38.9497 | -116.2547 |

RUNBIG

Run #2

CABANA 15:11 ERIE MON. AUG.17,1970

? 4,11,10.5,10,6,1,3.5

? 1,1,4,1

1535

Base Data
4% Growth
6% Inflation

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 6.0%
DIESEL ENERGY INFLATION = 3.5%
ELECTRIC ENERGY INFLATION= 1.0%
INTEREST RATE = 11.0%
Growth = 4 %

| | ELECTRIC | | | DIESEL | | | | |
|---|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLOW | +/MGTM | CASHFLOW | +/MGTM | ELECT BOUGHT | DIESL BOUGHT |
| 1972 | 5.80 | 10.63 | 183.24 | 9.18 | 158.20 | 33.00 | 55.00 |
| 1973 | 6.03 | 11.29 | 187.08 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | 12.06 | 192.19 | 10.79 | 171.86 | 2.00 | 2.00 |
| 1975 | 6.53 | 12.84 | 196.70 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | 13.75 | 202.53 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 14.67 | 207.76 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 15.74 | 214.39 | 15.14 | 206.24 | 2.00 | 3.00 |
| 1979 | 7.64 | 16.83 | 220.41 | 16.45 | 215.51 | 1.00 | 2.00 |
| 1980 | 7.94 | 19.07 | 240.21 | 17.95 | 226.02 | 14.00 | 3.00 |
| 1981 | 8.26 | 20.45 | 247.68 | 19.58 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 21.96 | 255.65 | 21.36 | 248.76 | 2.00 | 3.00 |
| 1983 | 8.93 | 23.59 | 264.12 | 23.38 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 25.37 | 273.14 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 27.31 | 282.72 | 27.93 | 289.11 | 2.00 | 4.00 |
| 1986 | 10.05 | 29.43 | 292.89 | 30.49 | 303.45 | 2.00 | 3.00 |
| 1987 | 10.45 | 31.18 | 298.41 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 33.79 | 310.98 | 38.68 | 355.91 | 3.00 | 6.00 |
| 1989 | 11.30 | 36.50 | 322.98 | 42.20 | 373.43 | 2.00 | 6.00 |
| 1990 | 11.75 | 39.61 | 336.97 | 46.11 | 392.32 | 3.00 | 7.00 |
| 1991 | 12.22 | 42.99 | 351.70 | 50.43 | 412.59 | 3.00 | 7.00 |
| 1992 | 12.71 | 43.23 | 340.03 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 47.20 | 357.03 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 51.49 | 374.46 | 65.93 | 479.83 | 3.00 | 7.00 |
| 1995 | 14.30 | 56.23 | 393.23 | 72.06 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 61.56 | 413.93 | 78.79 | 532.49 | 4.00 | 8.00 |
| 1997 | 15.47 | 67.23 | 434.64 | 86.22 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 73.35 | 455.84 | 95.04 | 591.03 | 3.00 | 9.00 |
| 1999 | 16.73 | 80.37 | 480.43 | 104.36 | 623.84 | 4.00 | 10.00 |
| 2000 | 17.40 | 86.99 | 499.99 | 114.43 | 657.70 | 4.00 | 10.00 |
| 2001 | 18.09 | 95.29 | 526.65 | 125.53 | 693.75 | 4.00 | 10.00 |

SUMMATION OF COLUMNS IN PART 2 AND 3

| ELECTRIC | DIESEL |
|---|---|
| 113.442452 | 179.628921 |
| 964.941779 | 1018.795240 |
| 48.870704 | 97.990687 |
| 42.232041 | 101.952280 |
| 99.112201 | 121.277901 |
| 0.000000 | 0.000000 |
| 126.482196 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 3.349912 | 7.765930 |
| 0.000000 | 0.000000 |

BASE DATA
4% CONST
6% INFL

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -1.4527 | -1.4527 | -1.4527 |
| 1973 | -1.3424 | -2.7951 | -2.9549 |
| 1974 | -1.2756 | -4.0707 | -4.5555 |
| 1975 | -1.0935 | -5.1641 | -6.1501 |
| 1976 | -.9999 | -6.1640 | -7.8265 |
| 1977 | -.7751 | -6.9391 | -9.4625 |
| 1978 | -.5988 | -7.5379 | -11.1021 |
| 1979 | -.3743 | -7.9121 | -12.6976 |
| 1980 | -1.1262 | -9.0384 | -15.2206 |
| 1981 | -.8742 | -9.9125 | -17.7690 |
| 1982 | -.5912 | -10.5037 | -20.3147 |
| 1983 | -.2082 | -10.7118 | -22.7575 |
| 1984 | 0.1469 | -10.5649 | -25.1139 |
| 1985 | 0.6177 | -9.9472 | -27.2587 |
| 1986 | 1.0609 | -8.8863 | -29.1963 |
| 1987 | 4.2690 | -4.6174 | -28.1390 |
| 1988 | 4.8826 | 0.2652 | -26.3517 |
| 1989 | 5.7012 | 5.9664 | -23.5492 |
| 1990 | 6.5059 | 12.4723 | -19.6337 |
| 1991 | 7.4433 | 19.9156 | -14.3501 |
| 1992 | 11.9912 | 31.9067 | -3.9375 |
| 1993 | 13.1254 | 45.0321 | 8.7548 |
| 1994 | 14.4896 | 59.5217 | 24.2074 |
| 1995 | 16.1273 | 75.6490 | 42.9975 |
| 1996 | 17.6333 | 93.2823 | 65.3605 |
| 1997 | 19.5915 | 112.8738 | 92.1417 |
| 1998 | 21.7309 | 134.6047 | 124.0089 |
| 1999 | 23.9910 | 158.5957 | 161.6401 |
| 2000 | 27.4394 | 186.0351 | 206.8599 |
| 2001 | 30.2347 | 216.2698 | 259.8492 |

CABANA 14:52 ERIE FRI. AUG.14,1970

#4

? 4,11,10.5,10,6,1,3.5

? 1,1,4,1

1535

All Rectifiers

4% Growth

6% Inflation

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 6.0%
DIESEL ENERGY INFLATION = 3.5%
ELECTRIC ENERGY INFLATION= 1.0%
INTEREST RATE = 11.0%
Growth 4%

| | | ELECTRIC | | DIESEL | | | |
|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLOW | +/MGTM | CASHFLOW | +/MGTM | ELECT BOUGHT | DIESL BOUGHT |
| 1972 | 5.80 | 10.71 | 184.61 | 9.18 | 158.20 | 33.00 | 55.00 |
| 1973 | 6.03 | 11.35 | 188.12 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | 12.11 | 192.91 | 10.79 | 171.86 | 2.00 | 2.00 |
| 1975 | 6.53 | 12.86 | 197.09 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | 13.75 | 202.62 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 14.65 | 207.54 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 15.70 | 213.88 | 15.14 | 206.24 | 2.00 | 3.00 |
| 1979 | 7.64 | 16.77 | 219.60 | 16.45 | 215.51 | 1.00 | 2.00 |
| 1980 | 7.94 | 18.99 | 239.11 | 17.95 | 226.02 | 14.00 | 3.00 |
| 1981 | 8.26 | 20.34 | 246.31 | 19.58 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 21.81 | 253.99 | 21.36 | 248.76 | 2.00 | 3.00 |
| 1983 | 8.93 | 23.42 | 262.19 | 23.38 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 25.17 | 270.94 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 27.07 | 280.25 | 27.93 | 289.11 | 2.00 | 4.00 |
| 1986 | 10.05 | 29.15 | 290.16 | 30.49 | 303.45 | 2.00 | 3.00 |
| 1987 | 10.45 | 30.87 | 295.43 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 33.44 | 307.73 | 38.68 | 355.91 | 3.00 | 6.00 |
| 1989 | 11.30 | 36.11 | 319.48 | 42.20 | 373.43 | 2.00 | 6.00 |
| 1990 | 11.75 | 39.17 | 333.22 | 46.11 | 392.32 | 3.00 | 7.00 |
| 1991 | 12.22 | 42.50 | 347.70 | 50.43 | 412.59 | 3.00 | 7.00 |
| 1992 | 12.71 | 42.33 | 332.95 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 46.25 | 349.81 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 50.48 | 367.11 | 65.98 | 479.83 | 3.00 | 7.00 |
| 1995 | 14.30 | 55.16 | 385.73 | 72.36 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 60.42 | 406.29 | 79.19 | 532.49 | 4.00 | 8.00 |
| 1997 | 15.47 | 66.02 | 426.36 | 86.82 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 72.07 | 448.05 | 95.08 | 591.08 | 3.00 | 9.00 |
| 1999 | 16.73 | 79.02 | 472.35 | 104.36 | 623.84 | 4.00 | 10.00 |
| 2000 | 17.40 | 85.56 | 491.75 | 114.43 | 657.70 | 4.00 | 10.00 |
| 2001 | 18.09 | 93.78 | 518.26 | 125.53 | 693.75 | 4.00 | 10.00 |

SUMMATION OF COLUMNS IN PART 2 AND 3

| | |
|---|---|
| 113.442452 | 179.628921 |
| 964.941779 | 1018.795240 |
| 48.870704 | 97.990687 |
| 42.232041 | 101.952280 |
| 99.112201 | 121.277901 |
| 0.000000 | 0.000000 |
| 126.482196 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 3.349912 | 7.765930 |
| 0.000000 | 0.000000 |

All Rectified

4% Growth

6% Inflation

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -1.5322 | -1.5322 | -1.5322 |
| 1973 | -1.4051 | -2.9373 | -3.1059 |
| 1974 | -1.3205 | -4.2578 | -4.7680 |
| 1975 | -1.1194 | -5.3773 | -6.4119 |
| 1976 | -1.0058 | -6.3831 | -8.1231 |
| 1977 | -.7597 | -7.1428 | -9.7763 |
| 1978 | -.5609 | -7.7037 | -11.4127 |
| 1979 | -.3125 | -8.0163 | -12.9806 |
| 1980 | -1.0392 | -9.0555 | -15.4477 |
| 1981 | -.7603 | -9.8158 | -17.9072 |
| 1982 | -.4489 | -10.2647 | -20.3259 |
| 1983 | -.0357 | -10.3005 | -22.5975 |
| 1984 | 0.3513 | -9.9492 | -24.7320 |
| 1985 | 0.8559 | -9.0933 | -26.5966 |
| 1986 | 1.3350 | -7.7583 | -28.1872 |
| 1987 | 4.5811 | -3.1772 | -26.7067 |
| 1988 | 5.2351 | 2.0579 | -24.4094 |
| 1989 | 6.0965 | 8.1544 | -20.9980 |
| 1990 | 6.9465 | 15.1008 | -16.3613 |
| 1991 | 7.9319 | 23.0327 | -10.2292 |
| 1992 | 12.8907 | 35.9234 | 1.5363 |
| 1993 | 14.0789 | 50.0023 | 15.7842 |
| 1994 | 15.5003 | 65.5025 | 33.0208 |
| 1995 | 17.1987 | 82.7012 | 53.8517 |
| 1996 | 18.7689 | 101.4702 | 78.5443 |
| 1997 | 20.7953 | 122.2654 | 107.9795 |
| 1998 | 23.0069 | 145.2724 | 142.3642 |
| 1999 | 25.3436 | 170.6159 | 183.9228 |
| 2000 | 28.3731 | 199.4891 | 233.0274 |
| 2001 | 31.7545 | 231.2435 | 290.4149 |

RUNNING TIME: 11.6 SECS I/O TIME : 26.3 SECS

Run No. 12

Real

Lower electric energy cost

4% Growth

6% Infl

CABANA 15:41 ERIE MON. AUG.17,1970

? 4,11,10.5,10,6,1,3.5

? 1,1,4,1

1535

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 6.0%
DIESEL ENERGY INFLATION = 3.5%
ELECTRIC ENERGY INFLATION= 1.0%
INTEREST RATE = 11.0%
Growth = 4%

| | | ELECTRIC | | DIESEL | | | |
|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLOW | +/MGTM | CASHFLOW | +/MGTM | ELECT BOUGHT | DIESL BOUGHT |
| 1972 | 5.80 | 10.08 | 173.73 | 9.18 | 158.20 | 33.00 | 55.00 |
| 1973 | 6.03 | 10.69 | 177.18 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | 11.41 | 181.85 | 10.79 | 171.86 | 2.00 | 2.00 |
| 1975 | 6.53 | 12.13 | 185.93 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | 12.99 | 191.35 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 13.85 | 196.16 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 14.86 | 202.38 | 15.14 | 206.24 | 2.00 | 3.00 |
| 1979 | 7.64 | 15.88 | 207.99 | 16.45 | 215.51 | 1.00 | 2.00 |
| 1980 | 7.94 | 18.06 | 227.38 | 17.95 | 226.02 | 14.00 | 3.00 |
| 1981 | 8.26 | 19.36 | 234.46 | 19.56 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 20.79 | 242.02 | 21.36 | 248.76 | 2.00 | 3.00 |
| 1983 | 8.93 | 22.34 | 250.11 | 23.38 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 24.03 | 258.73 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 25.88 | 267.92 | 27.93 | 289.11 | 2.00 | 4.00 |
| 1986 | 10.05 | 27.90 | 277.71 | 30.49 | 303.45 | 2.00 | 3.00 |
| 1987 | 10.45 | 29.56 | 282.85 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 32.06 | 295.03 | 38.68 | 355.91 | 3.00 | 6.00 |
| 1989 | 11.30 | 34.66 | 306.65 | 42.20 | 373.43 | 2.00 | 6.00 |
| 1990 | 11.75 | 37.64 | 320.26 | 46.11 | 392.32 | 3.00 | 7.00 |
| 1991 | 12.22 | 40.90 | 334.62 | 50.43 | 412.59 | 3.00 | 7.00 |
| 1992 | 12.71 | 40.65 | 319.74 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 44.49 | 336.46 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 48.62 | 353.62 | 65.93 | 479.83 | 3.00 | 7.00 |
| 1995 | 14.30 | 53.21 | 372.12 | 72.36 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 58.33 | 392.54 | 79.19 | 532.49 | 4.00 | 8.00 |
| 1997 | 15.47 | 63.87 | 412.96 | 86.62 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 69.82 | 434.02 | 95.08 | 591.08 | 3.00 | 9.00 |
| 1999 | 16.73 | 76.65 | 458.18 | 104.36 | 623.84 | 4.00 | 10.00 |
| 2000 | 17.40 | 83.07 | 477.44 | 114.43 | 657.70 | 4.00 | 10.00 |
| 2001 | 18.09 | 91.16 | 503.80 | 125.53 | 693.75 | 4.00 | 10.00 |

SUMMATION OF COLUMNS IN PART 2 AND 3

Run #12

| ELECTRIC | DIESEL |
|---|---|
| 113.442452 | 179.623921 |
| 964.941779 | 1013.795240 |
| 48.870704 | 97.990687 |
| 42.232041 | 101.952280 |
| 99.112201 | 121.277901 |
| 0.000000 | 0.000000 |
| 84.435412 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 3.349912 | 7.765930 |
| 0.000000 | 0.000000 |

Run #13

Lower Elect. En Cost

4% Cmnth

6% INFL

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -.9037 | -.9037 | -.9037 |
| 1973 | -.7449 | -1.6486 | -1.7480 |
| 1974 | -.6270 | -2.2756 | -2.5673 |
| 1975 | -.3910 | -2.6666 | -3.2407 |
| 1976 | -.2407 | -2.9073 | -3.8378 |
| 1977 | 0.0440 | -2.8633 | -4.2160 |
| 1978 | 0.2833 | -2.5800 | -4.3965 |
| 1979 | 0.5742 | -2.0058 | -4.3059 |
| 1980 | -.1078 | -2.1136 | -4.8873 |
| 1981 | 0.2181 | -1.8955 | -5.2068 |
| 1982 | 0.5788 | -1.3166 | -5.2008 |
| 1983 | 1.0438 | -.2729 | -4.7291 |
| 1984 | 1.4852 | 1.2123 | -3.7641 |
| 1985 | 2.0470 | 3.2593 | -2.1311 |
| 1986 | 2.5861 | 5.8454 | 0.2205 |
| 1987 | 5.8953 | 11.7407 | 6.1401 |
| 1988 | 6.6155 | 18.3561 | 13.4309 |
| 1989 | 7.5464 | 25.9025 | 22.4547 |
| 1990 | 8.4695 | 34.3720 | 33.3943 |
| 1991 | 9.5317 | 43.9037 | 46.5993 |
| 1992 | 14.5711 | 58.4748 | 66.2963 |
| 1993 | 15.8440 | 74.3188 | 89.4329 |
| 1994 | 17.3544 | 91.6732 | 116.6949 |
| 1995 | 19.1462 | 110.8194 | 148.5999 |
| 1996 | 20.8146 | 131.6340 | 185.7605 |
| 1997 | 22.9441 | 154.5781 | 229.1382 |
| 1998 | 25.2640 | 179.8421 | 279.6074 |
| 1999 | 27.7144 | 207.5565 | 338.0787 |
| 2000 | 31.3635 | 238.9200 | 406.6303 |
| 2001 | 34.3703 | 273.2903 | 485.7305 |

CABANA 15:54 ERIE MON. AUG.17,1970

Run #13

? 4,11,10.5,10,6,1,3.5

? 1,1,4,1

Lower clear on list

1535

Reduce S/S MAINT

4% CONST

6% Inflation

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 6.0%
DIESEL ENERGY INFLATION = 3.5%
ELECTRIC ENERGY INFLATION= 1.0%
INTEREST RATE = 11.0%
Growth = 4%

| | | ELECTRIC | | DIESEL | | | |
|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLØW | +/MGTM | CASHFLØW | +/MGTM | ELECT BØUGHT | DIESL BØUGHT |
| 1972 | 5.80 | 10.02 | 172.78 | 9.18 | 158.20 | 33.00 | 55.00 |
| 1973 | 6.03 | 10.63 | 176.16 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | 11.35 | 180.82 | 10.79 | 171.86 | 2.00 | 2.00 |
| 1975 | 6.53 | 12.07 | 184.87 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | 12.91 | 190.27 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 13.77 | 195.06 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 14.78 | 201.26 | 15.14 | 206.24 | 2.00 | 3.00 |
| 1979 | 7.64 | 15.79 | 206.85 | 16.45 | 215.51 | 1.00 | 2.00 |
| 1980 | 7.94 | 17.96 | 226.22 | 17.95 | 226.02 | 14.00 | 3.00 |
| 1981 | 8.26 | 19.26 | 233.27 | 19.58 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 20.68 | 240.82 | 21.36 | 248.76 | 2.00 | 3.00 |
| 1983 | 8.93 | 22.23 | 248.87 | 23.33 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 23.92 | 257.47 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 25.76 | 266.64 | 27.93 | 289.11 | 2.00 | 4.00 |
| 1986 | 10.05 | 27.77 | 276.40 | 30.49 | 303.45 | 2.00 | 3.00 |
| 1987 | 10.45 | 29.42 | 281.52 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 31.91 | 293.63 | 38.68 | 355.91 | 3.00 | 6.00 |
| 1989 | 11.30 | 34.50 | 305.27 | 42.20 | 373.43 | 2.00 | 6.00 |
| 1990 | 11.75 | 37.48 | 319.35 | 46.11 | 392.32 | 3.00 | 7.00 |
| 1991 | 12.22 | 40.73 | 333.18 | 50.43 | 412.59 | 3.00 | 7.00 |
| 1992 | 12.71 | 40.46 | 318.27 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 44.29 | 334.97 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 48.41 | 352.10 | 65.93 | 479.83 | 3.00 | 7.00 |
| 1995 | 14.30 | 52.99 | 370.57 | 72.36 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 58.14 | 390.96 | 79.19 | 532.49 | 4.00 | 8.00 |
| 1997 | 15.47 | 63.63 | 411.36 | 86.82 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 69.55 | 432.38 | 95.08 | 591.03 | 3.00 | 9.00 |
| 1999 | 16.73 | 76.37 | 456.56 | 104.36 | 623.34 | 4.00 | 10.00 |
| 2000 | 17.40 | 82.77 | 475.74 | 114.43 | 657.70 | 4.00 | 10.00 |
| 2001 | 18.09 | 90.85 | 502.06 | 125.53 | 693.75 | 4.00 | 10.00 |

SUMMATIØN ØF CØLUMNS IN PART 2 AND 3

| ELECTRIC | DIESEL |
|---|---|
| 113.442452 | 179.698921 |
| 964.941779 | 1018.795240 |
| 48.870704 | 97.990687 |
| 42.232041 | 101.952280 |
| 99.112201 | 121.277901 |
| 0.000000 | 0.000000 |
| 84.435412 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 3.349912 | 7.765930 |
| 0.000000 | 0.000000 |

Run #13

Lower Electr. en. Cost
Reduced S/S maint
4% Growth
6% Infl.

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -.8457 | -.8457 | -.8457 |
| 1973 | -.6834 | -1.5291 | -1.6221 |
| 1974 | -.5618 | -2.0910 | -2.3624 |
| 1975 | -.3219 | -2.4129 | -2.9442 |
| 1976 | -.1675 | -2.5803 | -3.4355 |
| 1977 | 0.1216 | -2.4587 | -3.6918 |
| 1978 | 0.3656 | -2.0932 | -3.7324 |
| 1979 | 0.6614 | -1.4317 | -3.4815 |
| 1980 | -.0153 | -1.4471 | -3.8795 |
| 1981 | 0.3161 | -1.1310 | -3.9905 |
| 1982 | 0.6827 | -.4483 | -3.7467 |
| 1983 | 1.1539 | 0.7056 | -3.0050 |
| 1984 | 1.6019 | 2.3075 | -1.7337 |
| 1985 | 2.1707 | 4.4782 | 0.2463 |
| 1986 | 2.7172 | 7.1954 | 2.9906 |
| 1987 | 6.0343 | 13.2297 | 9.3539 |
| 1988 | 6.7628 | 19.9925 | 17.1456 |
| 1989 | 7.7026 | 27.6951 | 26.7342 |
| 1990 | 8.6351 | 36.3301 | 38.3100 |
| 1991 | 9.7071 | 46.0373 | 52.2313 |
| 1992 | 14.7571 | 60.7944 | 72.7339 |
| 1993 | 16.0412 | 76.8356 | 96.7758 |
| 1994 | 17.5634 | 94.3990 | 124.9845 |
| 1995 | 19.3676 | 113.7667 | 154.1006 |
| 1996 | 21.0494 | 134.8162 | 196.5411 |
| 1997 | 23.1930 | 158.0092 | 241.3536 |
| 1998 | 25.5279 | 183.5371 | 293.4304 |
| 1999 | 27.9941 | 211.5312 | 353.7014 |
| 2000 | 31.6599 | 243.1911 | 424.2689 |
| 2001 | 34.6846 | 277.8757 | 505.6231 |

Run #14

CABANA 16:06 ERIE MON. AUG.17,1970

Run #14

Lower S/S MAINT (OIL)
Lower Electr. EN COSTS
Reduce # of Electric Locos

? 4,11,10.5,10,6,1,3.5

? 1,1,4,1

1535 .

4% Growth
6% Infl

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 6.0%
DIESEL ENERGY INFLATION = 3.5%
ELECTRIC ENERGY INFLATION= 1.0%
INTEREST RATE = 11.0%
Straight 4 %

| | | ELECTRIC | | DIESEL | | | |
|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLOW | +/MGTM | CASHFLOW | +/MGTM | ELECT BOUGHT | DIESL BOUGHT |
| 1972 | 5.80 | 9.77 9.57 | 168.33 | 9.18 | 158.20 | 28.00 | 55.00 |
| 1973 | 6.03 | 10.37 10.17 | 171.88 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | 11.03 10.83 | 175.77 | 10.79 | 171.86 | 1.00 | 2.00 |
| 1975 | 6.53 | 11.75 11.55 | 180.02 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | 12.60 12.40 | 185.60 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 13.45 | 190.56 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 14.38 | 195.93 | 15.14 | 206.24 | 1.00 | 3.00 |
| 1979 | 7.64 | 15.48 | 202.74 | 16.45 | 215.51 | 2.00 | 2.00 |
| 1980 | 7.94 | 17.57 | 221.23 | 17.95 | 226.02 | 13.00 | 3.00 |
| 1981 | 8.26 | 18.87 | 228.47 | 19.58 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 20.19 | 235.12 | 21.36 | 248.76 | 1.00 | 3.00 |
| 1983 | 8.93 | 21.74 | 243.39 | 23.38 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 23.43 | 252.19 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 25.27 | 261.56 | 27.93 | 289.11 | 2.00 | 4.00 |
| 1986 | 10.05 | 27.16 | 270.35 | 30.49 | 303.45 | 1.00 | 3.00 |
| 1987 | 10.45 | 28.81 | 275.69 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 31.17 | 286.86 | 38.68 | 355.91 | 2.00 | 6.00 |
| 1989 | 11.30 | 33.90 | 299.94 | 42.20 | 373.43 | 3.00 | 6.00 |
| 1990 | 11.75 | 36.73 | 312.46 | 46.11 | 392.32 | 2.00 | 7.00 |
| 1991 | 12.22 | 39.82 | 325.75 | 50.43 | 412.59 | 2.00 | 7.00 |
| 1992 | 12.71 | 39.81 | 313.13 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 43.63 | 330.01 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 47.63 | 346.39 | 65.98 | 479.83 | 2.00 | 7.00 |
| 1995 | 14.30 | 52.20 | 365.06 | 72.36 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 57.15 | 384.25 | 79.19 | 532.49 | 3.00 | 8.00 |
| 1997 | 15.47 | 62.63 | 404.89 | 86.82 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 68.62 | 426.60 | 95.08 | 591.08 | 3.00 | 9.00 |
| 1999 | 16.73 | 75.11 | 448.99 | 104.36 | 623.84 | 3.00 | 10.00 |
| 2000 | 17.40 | 81.33 | 467.45 | 114.43 | 657.70 | 3.00 | 10.00 |
| 2001 | 18.09 | 89.12 | 492.53 | 125.53 | 693.75 | 3.00 | 10.00 |

SUMMATION OF COLUMNS IN PART 2 AND 3

| ELECTRIC | DIESEL |
|---|---|
| 96.463481 | 179.628921 |
| 838.201418 | 1018.795240 |
| 42.718224 | 97.990687 |
| 36.695530 | 101.952280 |
| 86.075866 | 121.277901 |
| 0.000000 | 0.000000 |
| 84.435412 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 2.843698 | 7.765930 |
| 0.000000 | 0.000000 |

Cane S/S maintenance
Cane electr energy
Reduce by elec. cost
4% Inmk
6% Infl

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -.5875 | -.5875 | -.5875 |
| 1973 | -.4251 | -1.0127 | -1.0773 |
| 1974 | -.2453 | -1.2580 | -1.4411 |
| 1975 | -.0051 | -1.2631 | -1.6048 |
| 1976 | 0.1496 | -1.1136 | -1.6317 |
| 1977 | 0.4389 | -.6747 | -1.3724 |
| 1978 | 0.7564 | 0.0817 | -.7669 |
| 1979 | 0.9750 | 1.0566 | 0.1237 |
| 1980 | 0.3808 | 1.4374 | 0.5181 |
| 1981 | 0.7126 | 2.1501 | 1.2876 |
| 1982 | 1.1721 | 3.3222 | 2.6014 |
| 1983 | 1.6438 | 4.9659 | 4.5313 |
| 1984 | 2.0923 | 7.0583 | 7.1221 |
| 1985 | 2.6617 | 9.7200 | 10.5673 |
| 1986 | 3.3256 | 13.0456 | 15.0552 |
| 1987 | 6.6434 | 19.6889 | 23.3547 |
| 1988 | 7.5038 | 27.1927 | 33.4275 |
| 1989 | 8.3055 | 35.4982 | 45.4100 |
| 1990 | 9.3861 | 44.8843 | 59.7912 |
| 1991 | 10.6155 | 55.4998 | 76.9837 |
| 1992 | 15.4114 | 70.9112 | 100.8633 |
| 1993 | 16.6967 | 87.6079 | 124.6550 |
| 1994 | 18.3489 | 105.9569 | 161.1560 |
| 1995 | 20.1549 | 126.1117 | 199.0380 |
| 1996 | 22.0472 | 148.1590 | 242.9794 |
| 1997 | 24.1926 | 172.3516 | 293.8998 |
| 1998 | 26.4571 | 198.8087 | 352.6859 |
| 1999 | 29.2511 | 228.0598 | 420.7324 |
| 2000 | 33.1019 | 261.1617 | 500.1149 |
| 2001 | 36.4090 | 297.5707 | 591.5365 |

TØBACØ 16:17 EDIE MØN. AUG.17,1970

Run #15

? 4,11,10.5,10,6,1,3.5

Run #15

? 1,1,4,1

1535

Lower Electr. Energy Cost
Reduced S/S MAINT
Reduce " of Electric Cost
Replacement time year-1975

DEPRECIATIØN--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATIØN = 6.0%
DIESEL ENERGY INFLATIØN = 3.5%
ELECTRIC ENERGY INFLATIØN= 1.0%
INTEREST RATE = 11.0%
Growth 4%

4% Growth

6% Inflation

| | | ELECTRIC | | DIESEL | | | |
|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLØW | +/MGTM | CASHFLØW | +/MGTM | ELECT BØUGHT | DIESL BØUGHT |
| 1972 | 5.80 | 9.77 | 168.33 | 9.18 | 158.20 | 28.00 | 55.00 |
| 1973 | 6.03 | 10.37 | 171.98 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | 11.03 | 175.77 | 10.79 | 171.86 | 1.00 | 2.00 |
| 1975 | 6.53 | 11.75 | 180.02 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | 12.60 | 185.60 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 13.45 | 190.56 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 14.38 | 195.93 | 15.14 | 206.24 | 1.00 | 3.00 |
| 1979 | 7.64 | 15.48 | 202.74 | 16.45 | 215.51 | 2.00 | 2.00 |
| 1980 | 7.94 | 16.59 | 208.93 | 17.95 | 226.02 | 1.00 | 3.00 |
| 1981 | 8.26 | 17.89 | 216.65 | 19.58 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 19.22 | 223.75 | 21.36 | 248.76 | 1.00 | 3.00 |
| 1983 | 8.93 | 20.76 | 232.46 | 23.38 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 22.45 | 241.69 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 25.60 | 264.98 | 27.93 | 289.11 | 14.00 | 4.00 |
| 1986 | 10.05 | 27.49 | 273.64 | 30.49 | 303.45 | 1.00 | 3.00 |
| 1987 | 10.45 | 29.14 | 278.85 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 31.50 | 289.90 | 38.68 | 355.91 | 2.00 | 6.00 |
| 1989 | 11.30 | 34.23 | 302.86 | 42.20 | 373.43 | 3.00 | 6.00 |
| 1990 | 11.75 | 37.06 | 315.27 | 46.11 | 392.32 | 2.00 | 7.00 |
| 1991 | 12.22 | 40.15 | 328.45 | 50.43 | 412.59 | 2.00 | 7.00 |
| 1992 | 12.71 | 40.14 | 315.72 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 43.96 | 332.51 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 47.96 | 348.79 | 65.98 | 479.83 | 2.00 | 7.00 |
| 1995 | 14.30 | 52.54 | 367.37 | 72.36 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 57.48 | 386.47 | 79.19 | 532.49 | 3.00 | 8.00 |
| 1997 | 15.47 | 62.96 | 407.03 | 86.62 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 68.95 | 428.66 | 95.04 | 591.08 | 3.00 | 9.00 |
| 1999 | 16.73 | 75.44 | 450.96 | 104.36 | 623.84 | 3.00 | 10.00 |
| 2000 | 17.40 | 82.64 | 474.96 | 114.43 | 657.70 | 3.00 | 10.00 |
| 2001 | 18.09 | 90.43 | 499.75 | 125.53 | 693.75 | 3.00 | 10.00 |

SUMMATIØN ØF CØLUMNS IN PART 2 AND 3

| ELECTRIC | DIESEL |
|---|---|
| 99.181092 | 179.628921 |
| 855.857157 | 1016.795240 |
| 42.215500 | 97.990687 |
| 36.876275 | 101.952980 |
| 39.262944 | 121.277901 |
| 0.000000 | 0.000000 |
| 84.435412 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 2.843698 | 7.765930 |
| 0.000000 | 0.000000 |

Run #15

Lower Electr. Energy Cost

Reduced S/S MAINT
Reduced # of Circuit Brk.
Repurchase Effective
in 1975

4% Growth

6% Infl.

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -.5875 | -.5875 | -.5875 |
| 1973 | -.4251 | -1.0127 | -1.0772 |
| 1974 | -.2453 | -1.2580 | -1.4411 |
| 1975 | -.0051 | -1.2631 | -1.6040 |
| 1976 | 0.1496 | -1.1136 | -1.6317 |
| 1977 | 0.4389 | -.6747 | -1.3724 |
| 1978 | 0.7564 | 0.0817 | -.7669 |
| 1979 | 0.9750 | 1.0566 | 0.1237 |
| 1980 | 1.3570 | 2.4136 | 1.4942 |
| 1981 | 1.6888 | 4.1024 | 3.3474 |
| 1982 | 2.1483 | 6.2507 | 5.8639 |
| 1983 | 2.6200 | 8.8707 | 9.1239 |
| 1984 | 3.0685 | 11.9392 | 13.2016 |
| 1985 | 2.3316 | 14.2708 | 16.9853 |
| 1986 | 2.9954 | 17.2662 | 21.8491 |
| 1987 | 6.3132 | 23.5793 | 30.5657 |
| 1988 | 7.1736 | 30.7530 | 41.1016 |
| 1989 | 7.9753 | 38.7283 | 53.5930 |
| 1990 | 9.0560 | 47.7842 | 68.5498 |
| 1991 | 10.2853 | 58.0695 | 86.3755 |
| 1992 | 15.0813 | 73.1508 | 110.9531 |
| 1993 | 16.3666 | 89.5173 | 139.5301 |
| 1994 | 18.0184 | 107.5361 | 172.8971 |
| 1995 | 19.3247 | 127.3608 | 211.7405 |
| 1996 | 21.7170 | 149.0778 | 256.7406 |
| 1997 | 23.4625 | 172.5403 | 307.7536 |
| 1998 | 26.1269 | 199.0672 | 368.9547 |
| 1999 | 28.9209 | 227.9882 | 434.4607 |
| 2000 | 31.7955 | 259.7837 | 514.4269 |
| 2001 | 35.1027 | 294.8864 | 610.6231 |

TOHAC9 16:28 ERIE MØN. AUG.17,1970

? 4,11,10.5,10,6,1,3.5

? 1,1,4,1

1535

Run # 16

Lower Electr. Ent. Cost
Reduced S/S MAINT
Repurch Little Joe's in 1985
Reduce # of Electr. Cust
ELIM CAT. Plt Repl Cost
4% Growth
6% INFL.

DEPRECIATION--STRAIGHT LINE -10% SALVAGE
PAYMENTS------LEVEL PAYMENTS
INFLATION = 6.0%
DIESEL ENERGY INFLATIØN = 3.5%
ELECTRIC ENERGY INFLATIØN= 1.0%
INTEREST RATE = 11.0%
Growth 4 4%

| | ELECTRIC | | | DIESEL | | | | |
|---|---|---|---|---|---|---|---|---|
| YEAR | MGTM | CASHFLØW | +/MGTM | CASHFLØW | +/MGTM | ELECT BØUGHT | DIESL BØUGHT |
| 1972 | 5.80 | ~~9.54~~ 9.14 | 157.32 164.36 | 9.18 | 158.20 | 28.00 | 55.00 |
| 1973 | 6.03 | 10.13 9.93 | ~~170.34~~ 165.33 | 9.95 | 164.83 | 1.00 | 2.00 |
| 1974 | 6.28 | ~~10.77~~ 10.57 | ~~171.65~~ 168.13 | 10.79 | 171.86 | 1.00 | 2.00 |
| 1975 | 6.53 | ~~11.48~~ 11.35 | ~~175.92~~ 174.00 | 11.74 | 179.94 | 1.00 | 3.00 |
| 1976 | 6.79 | ~~12.31~~ 12.21 | ~~181.32~~ 180.00 | 12.75 | 187.80 | 2.00 | 2.00 |
| 1977 | 7.06 | 13.14 | 186.20 | 13.89 | 196.78 | 1.00 | 3.00 |
| 1978 | 7.34 | 14.06 | 191.49 | 15.14 | 206.24 | 1.00 | 3.00 |
| 1979 | 7.64 | 15.13 | 198.21 | 16.45 | 215.51 | 2.00 | 2.00 |
| 1980 | 7.94 | 16.22 | 204.32 | 17.95 | 226.02 | 1.00 | 3.00 |
| 1981 | 8.26 | 17.50 | 211.94 | 19.58 | 237.10 | 2.00 | 3.00 |
| 1982 | 8.59 | 18.80 | 218.95 | 21.36 | 248.76 | 1.00 | 3.00 |
| 1983 | 8.93 | 20.33 | 227.57 | 23.38 | 261.79 | 2.00 | 4.00 |
| 1984 | 9.29 | 21.99 | 236.70 | 25.52 | 274.72 | 2.00 | 3.00 |
| 1985 | 9.66 | 25.11 | 259.90 | 27.93 | 289.11 | 14.00 | 4.00 |
| 1986 | 10.05 | 26.97 | 268.46 | 30.49 | 303.45 | 1.00 | 3.00 |
| 1987 | 10.45 | 29.14 | 278.85 | 35.45 | 339.27 | 2.00 | 59.00 |
| 1988 | 10.87 | 31.50 | 289.90 | 38.68 | 355.91 | 2.00 | 6.00 |
| 1989 | 11.30 | 34.23 | 302.86 | 42.20 | 373.43 | 3.00 | 6.00 |
| 1990 | 11.75 | 37.06 | 315.27 | 46.11 | 392.32 | 2.00 | 7.00 |
| 1991 | 12.22 | 40.15 | 328.45 | 50.43 | 412.59 | 2.00 | 7.00 |
| 1992 | 12.71 | 40.14 | 315.72 | 55.22 | 434.35 | 2.00 | 8.00 |
| 1993 | 13.22 | 43.96 | 332.51 | 60.33 | 456.30 | 3.00 | 7.00 |
| 1994 | 13.75 | 47.96 | 348.79 | 65.98 | 479.83 | 2.00 | 7.00 |
| 1995 | 14.30 | 52.54 | 367.37 | 72.36 | 506.00 | 3.00 | 9.00 |
| 1996 | 14.87 | 57.48 | 386.47 | 79.19 | 532.49 | 3.00 | 8.00 |
| 1997 | 15.47 | 62.96 | 407.03 | 86.82 | 561.30 | 3.00 | 9.00 |
| 1998 | 16.09 | 68.95 | 428.66 | 95.09 | 591.08 | 3.00 | 9.00 |
| 1999 | 16.73 | 75.44 | 450.96 | 104.36 | 623.84 | 3.00 | 10.00 |
| 2000 | 17.40 | 82.64 | 474.96 | 114.43 | 657.70 | 3.00 | 10.00 |
| 2001 | 18.09 | 90.43 | 499.75 | 125.53 | 693.75 | 3.00 | 10.00 |

SUMMATIØN ØF CØLUMNS IN PART 2 AND 3

| ELECTRIC | DIESEL |
|---|---|
| 99.181092 | 179.628921 |
| 855.857157 | 1018.795240 |
| 42.215500 | 97.990687 |
| 36.876275 | 101.952280 |
| 89.262944 | 121.277901 |
| 0.000000 | 0.000000 |
| 84.435412 | 186.097178 |
| 605.736094 | 605.736094 |
| 125.852493 | 313.632404 |
| 2.843698 | 7.765930 |
| 0.000000 | 0.000000 |

Climate Rate Rate.
Lower Electr. Energy Cost
Reduced Sub stat Maint
Repurchase Little Juli in 1995
Reduce # of Reactr Cycles
4% Contr
6% Infl

| YEAR | ANNUAL SAVINGS | CUMMALATIV SAVINGS | INVESTED SAVINGS |
|---|---|---|---|
| 1972 | -.3575 | -.3575 | -.3575 |
| 1973 | -.1813 | -.5389 | -.5782 |
| 1974 | 0.0131 | -.5257 | -.6287 |
| 1975 | 0.2688 | -.2570 | -.4290 |
| 1976 | 0.4399 | 0.1830 | -.0363 |
| 1977 | 0.7467 | 0.9296 | 0.7064 |
| 1978 | 1.0826 | 2.0123 | 1.8667 |
| 1979 | 1.3208 | 3.3331 | 3.3928 |
| 1980 | 1.7236 | 5.0566 | 5.4896 |
| 1981 | 2.0774 | 7.1340 | 8.1708 |
| 1982 | 2.5602 | 9.6942 | 11.6298 |
| 1983 | 3.0566 | 12.7508 | 15.9657 |
| 1984 | 3.5313 | 16.2821 | 21.2532 |
| 1985 | 2.8222 | 19.1042 | 26.4132 |
| 1986 | 3.5154 | 22.6196 | 32.8341 |
| 1987 | 6.3132 | 28.9328 | 42.7590 |
| 1988 | 7.1736 | 36.1064 | 54.6361 |
| 1989 | 7.9753 | 44.0817 | 68.6214 |
| 1990 | 9.0560 | 53.1377 | 85.2957 |
| 1991 | 10.2853 | 63.4230 | 104.3858 |
| 1992 | 15.0813 | 78.5043 | 131.5045 |
| 1993 | 16.3666 | 94.8709 | 169.3366 |
| 1994 | 16.0188 | 112.8896 | 196.2123 |
| 1995 | 19.8247 | 132.7143 | 239.1404 |
| 1996 | 21.7170 | 154.4313 | 287.9399 |
| 1997 | 23.4625 | 177.8938 | 343.4757 |
| 1998 | 26.1269 | 204.0207 | 407.3850 |
| 1999 | 28.9209 | 233.3416 | 481.1133 |
| 2000 | 31.7955 | 265.1372 | 565.8368 |
| 2001 | 35.1027 | 300.2398 | 663.1315 |

7

# SUMMARY OF VARIABLES

## DESCRIPTION OF SPEED TIME DISTANCE PROGRAM 2LS001

The General Electric Speed Time Distance Digital Computer Program simulates train performance between two terminals. The program is designed to factor in grades, curves and speed restrictions encountered in the actual right-of-way profile. Variations in locomotive characteristics (horsepower, weight, number of axle), train characteristics (type of cars, No. of cars, weight of cars, etc.) and other operating parameters can be accommodated.

Input for the Speed Time Distance Program is as follows:

I. Locomotive Data
   a. Resistance formula
   b. Tractive effort vs speed curve
   c. Adhesion factor
   d. Fuel ratio
   e. Idling fuel (5 gal/hr/unit)
   f. Amps/motor curve
   g. No. axles/unit
   h. No. units
   i. Frontal area
   j. Wt./unit
   k. Maximum acceleration rate
   l. Maximum deceleration rate

II. Car Data
   a. Resistance formula
   b. No. axles/car
   c. Wt./car
   d. Trailing train wt.
   e. Maximum acceleration rate
   f. Maximum deceleration rate

III. Track Data
   a. Maximum speed
   b. Speed restrictions
   c. Stops
   d. Profile of grades (compensated to include curves)

Output for the Speed Time Distance Program is as follows:

For each card of input, speed, time, distance, fuel, amps per motor ~~and amps squared minutes~~ are printed out. Time, distance, fuel and amps squared minutes are accumulated.

One can thus determine total running time, total distance, total fuel, ~~and total amps squared minutes.~~

Also available are minimum time, minimum speed, time in braking and miles at speed limit.

Fuel consumption is available in kwhrs or gallons as desired.

Amps and amps squared minutes is an option available and does not appear on all printouts.

Results are available in either English or metric units.

JP Kuhar
6/18/68

MILWAUKEE ROAD
HARLOWTON TO VAN ASSELT
3 M&A LOCOMOTIVES
U36C SPEED T.E.
4000 TRAILING TONS

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| HARLOWTON | 1335.600 | 55.0 | 0.380 | 0.00 | 0.00 | 0.000 | 0.0000 | 0.00 | 0 |
| | 1337.600 | 55.0 | 0.600 | 41.99 | 4.17 | 2.000 | 0.0524 | 450.06 | 0 |
| | 1338.800 | 55.0 | 0.010 | 42.68 | 5.86 | 3.199 | 0.0052 | 649.61 | 0 |
| | 1339.300 | 55.0 | 0.500 | 47.18 | 6.53 | 3.699 | 0.1025 | 728.49 | 0 |
| | 1340.000 | 55.0 | 0.430 | 47.39 | 7.42 | 4.398 | 0.0035 | 833.64 | 0 |
| | 1343.200 | 55.0 | 0.720 | 50.03 | 11.36 | 7.598 | 0.0054 | 1299.45 | 0 |
| | 1343.800 | 40.0 | 0.180 | 40.00 | 12.12 | 8.198 | 0.4000 | 1346.32 | 0 |
| | 1344.600 | 50.0 | 0.720 | 40.00 | 13.32 | 8.998 | 0.0000 | 1410.74 | 0 |
| | 1345.600 | 55.0 | 0.270 | 39.56 | 14.83 | 9.997 | 0.0035 | 1585.89 | 0 |
| | 1346.800 | 55.0 | 0.480 | 46.44 | 16.49 | 11.197 | 0.0539 | 1781.97 | 0 |
| | 1349.700 | 55.0 | 0.810 | 48.13 | 20.17 | 14.096 | 0.0041 | 2217.41 | 0 |
| | 1350.600 | 55.0 | 0.370 | 44.41 | 21.34 | 14.996 | 0.0448 | 2355.79 | 0 |
| | 1352.300 | 55.0 | 0.960 | 48.69 | 23.52 | 16.696 | 0.0235 | 2614.51 | 0 |
| | 1353.500 | 55.0 | 0.520 | 41.32 | 25.13 | 17.896 | 0.0605 | 2804.42 | 0 |
| | 1354.900 | 55.0 | 0.240 | 43.86 | 27.10 | 19.295 | 0.0158 | 3036.10 | 0 |
| | 1355.600 | 55.0 | 0.740 | 47.37 | 28.02 | 19.995 | 0.0556 | 3145.02 | 0 |
| | 1358.100 | 55.0 | 0.695 | 41.42 | 31.42 | 22.494 | 0.0170 | 3546.64 | 0 |
| | 1361.000 | 55.0 | 0.880 | 40.15 | 35.69 | 25.394 | 0.0022 | 4044.03 | 0 |
| | 1363.900 | 55.0 | 0.520 | 35.07 | 40.40 | 28.293 | 0.0055 | 4595.12 | 0 |
| GROVELAND | 1364.600 | 55.0 | 0.000 | 38.73 | 41.54 | 28.993 | 0.0420 | 4728.16 | 0 |
| | 1365.400 | 55.0 | 0.720 | 47.01 | 42.65 | 29.793 | 0.1052 | 4859.41 | 0 |
| | 1369.900 | 25.0 | 0.860 | 25.00 | 49.10 | 34.293 | 0.4000 | 5542.75 | 0 |
| | 1371.600 | 25.0 | 1.055 | 25.00 | 53.18 | 35.993 | 0.0000 | 5873.02 | 0 |
| | 1372.900 | 30.0 | 0.930 | 25.00 | 56.30 | 37.293 | 0.0000 | 6172.25 | 0 |
| | 1374.600 | 25.0 | 1.050 | 25.00 | 59.83 | 38.993 | 0.4000 | 6543.18 | 0 |
| BRUNO | 1377.400 | 30.0 | 1.150 | 25.00 | 66.55 | 41.793 | 0.0000 | 7185.10 | 0 |
| | 1378.400 | 30.0 | 1.350 | 27.75 | 68.82 | 42.792 | 0.0040 | 7452.07 | 0 |
| | 1378.800 | 30.0 | 2.100 | 26.30 | 69.71 | 43.191 | 0.0197 | 7556.15 | 0 |
| | 1379.300 | 30.0 | 2.000 | 18.20 | 71.10 | 43.690 | 0.0442 | 7720.10 | 0 |
| LOWETH | 1381.000 | 30.0 | 0.680 | 16.84 | 77.09 | 45.390 | 0.0000 | 8393.63 | 0 |
| | 1382.100 | 35.0 | 0.850 | 30.00 | 79.41 | 46.490 | 0.0000 | 8452.57 | 0 |
| | 1383.600 | 35.0 | 0.920 | 35.00 | 82.00 | 47.990 | 0.0000 | 8479.62 | 0 |
| | 1386.000 | 30.0 | 0.860 | 30.00 | 86.13 | 50.390 | 0.4000 | 8479.62 | 0 |
| | 1388.100 | 35.0 | 0.86 | 30.00 | 89.93 | 52.290 | 0.0000 | 8479.62 | 0 |

MOORE BUSINESS FORMS, INC., HO
FORM 1092
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMPSQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1389.100 | 55.0 | -1.000 | 35.00 | 91.66 | 53.290 | 0.0000 | 8506.52 | 0 |
| | 1389.700 | 55.0 | -.380 | 51.11 | 92.49 | 53.890 | 0.2869 | 8604.25 | 0 |
| | 1392.700 | 45.0 | -.310 | 45.00 | 95.83 | 56.890 | -.4000 | 8653.71 | 0 |
| MOYNE | 1395.200 | 45.0 | -.780 | 45.00 | 99.16 | 59.390 | 0.0000 | 8653.71 | 0 |
| | 1396.200 | 30.0 | 0.000 | 30.00 | 100.60 | 60.390 | -.4000 | 8653.71 | 0 |
| | 1397.400 | 30.0 | -.800 | 30.00 | 103.00 | 61.590 | 0.0000 | 8700.86 | 0 |
| | 1398.700 | 25.0 | -.820 | 25.00 | 105.62 | 62.890 | -.4000 | 8700.86 | 0 |
| FANALULU | 1400.200 | 55.0 | -.715 | 25.00 | 109.22 | 64.390 | 0.0000 | 8700.86 | 0 |
| | 1401.100 | 55.0 | -.150 | 49.97 | 110.62 | 65.290 | 0.2346 | 8864.85 | 0 |
| | 1401.900 | 55.0 | -.820 | 55.00 | 111.52 | 66.090 | 0.0000 | 8958.96 | 0 |
| | 1403.200 | 55.0 | -.390 | 55.00 | 113.16 | 67.590 | 0.0000 | 8958.96 | 0 |
| | 1404.200 | 30.0 | -.950 | 30.00 | 114.49 | 68.590 | -.4000 | 8958.96 | 0 |
| | 1404.900 | 30.0 | -.600 | 30.00 | 115.89 | 69.290 | 0.0000 | 8958.96 | 0 |
| | 1408.400 | 25.0 | -.520 | 25.00 | 122.90 | 72.790 | -.4000 | 8958.96 | 0 |
| | 1410.100 | 30.0 | -.640 | 25.00 | 126.98 | 74.490 | 0.0000 | 8958.96 | 0 |
| FRANCIS | 1411.800 | 25.0 | -.570 | 25.00 | 130.42 | 76.190 | -.4000 | 8985.72 | 0 |
| | 1413.500 | 30.0 | -.930 | 25.00 | 134.50 | 77.890 | 0.0000 | 8985.72 | 0 |
| | 1415.200 | 30.0 | -.380 | 30.00 | 137.92 | 79.590 | 0.0000 | 9008.09 | 0 |
| | 1417.100 | 35.0 | -.440 | 30.00 | 141.72 | 81.490 | 0.0000 | 9008.09 | 0 |
| | 1419.600 | 25.0 | -.420 | 25.00 | 146.10 | 83.990 | -.4000 | 9043.17 | 0 |
| | 1420.600 | 25.0 | -.720 | 25.00 | 148.50 | 84.990 | 0.0000 | 9043.17 | 0 |
| DEER PARK | 1422.800 | 25.0 | -.280 | 25.00 | 153.78 | 87.190 | 0.0000 | 9043.17 | 0 |
| | 1426.900 | 40.0 | -.630 | 25.00 | 163.62 | 91.290 | 0.0000 | 9043.17 | 0 |
| | 1428.300 | 25.0 | -.350 | 25.00 | 165.99 | 92.690 | -.4000 | 9135.69 | 0 |
| LOMBARD | 1430.000 | 25.0 | 0.200 | 25.00 | 170.07 | 94.390 | 0.0000 | 9135.69 | 0 |
| | 1431.100 | 35.0 | -.050 | 25.00 | 172.71 | 95.490 | 0.0000 | 9215.72 | 0 |
| | 1432.200 | 45.0 | -.120 | 35.00 | 174.69 | 96.590 | 0.0000 | 9328.59 | 0 |
| | 1433.300 | 45.0 | 0.220 | 45.00 | 176.27 | 97.690 | 0.0000 | 9461.21 | 0 |
| | 1435.100 | 45.0 | 0.300 | 45.00 | 178.67 | 99.490 | 0.0000 | 9628.41 | 0 |
| | 1435.800 | 35.0 | 0.200 | 35.00 | 179.65 | 100.190 | -.4000 | 9673.85 | 0 |
| | 1439.800 | 35.0 | 0.260 | 35.00 | 186.51 | 104.190 | 0.0000 | 9994.23 | 0 |
| | 1438.700 | 30.0 | 0.260 | 30.00 | 188.06 | 105.090 | -.4000 | 10065.97 | 0 |
| SHORT MIL | 1441.800 | 40.0 | 0.000 | 30.00 | 189.76 | 105.940 | 0.0000 | 10140.06 | 0 |
| | 1442.500 | 55.0 | 0.000 | 40.00 | 190.93 | 106.640 | 0.0000 | 10260.61 | 0 |
| | 1443.600 | 55.0 | 0.150 | 49.91 | 192.39 | 107.740 | 0.0919 | 10432.65 | 0 |
| | 1445.100 | 55.0 | -.200 | 55.00 | 194.20 | 109.340 | 0.0000 | 10642.26 | 0 |
| | 1446.300 | 55.0 | 0.150 | 55.00 | 195.40 | 110.440 | 0.0000 | 10671.40 | 0 |
| THREE FOR | 1450.000 | 0.0 | 0.150 | 0.00 | 200.59 | 114.140 | -.4000 | 10912.35 | 0 |
| THREE FOR | 1450.000 | 55.0 | 0.150 | 0.00 | 200.59 | 114.140 | 0.0000 | 10912.35 | 0 |
| | 1450.900 | 55.0 | 0.150 | 37.25 | 202.96 | 115.040 | 0.1259 | 11149.21 | 0 |
| | 1459.000 | 50.0 | -.150 | 50.00 | 212.34 | 123.140 | -.4000 | 12054.37 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| SADDINGTO | 1462.600 | 40.0 | 0.190 | 40.00 | 216.70 | 126.740 | .4000 | 12333.81 | 0 |
| | 1464.300 | 40.0 | 0.190 | 40.00 | 219.03 | 128.290 | 0.0000 | 12461.47 | 0 |
| SHORT MIL | 1466.400 | 50.0 | 0.300 | 40.00 | 222.18 | 130.390 | 0.0000 | 12634.43 | 0 |
| SHORT MIL | 1468.000 | 25.0 | 0.190 | 25.00 | 224.35 | 131.840 | .4000 | 12791.53 | 0 |
| SHORT MIL | 1469.700 | 40.0 | 0.240 | 25.00 | 227.95 | 133.340 | 0.0000 | 12897.91 | 0 |
| | 1471.800 | 25.0 | 0.240 | 25.00 | 231.52 | 135.440 | .4000 | 13179.24 | 0 |
| | 1474.700 | 55.0 | 0.200 | 25.00 | 238.48 | 138.340 | 0.0000 | 13411.59 | 0 |
| | 1482.400 | 40.0 | 0.200 | 40.00 | 247.90 | 145.840 | .4000 | 14376.33 | 0 |
| | 1483.000 | 55.0 | 0.200 | 40.00 | 248.80 | 146.440 | 0.0000 | 14426.85 | 0 |
| SHORT MIL | 1484.600 | 55.0 | 2.000 | 49.43 | 250.93 | 148.040 | 0.0541 | 14677.84 | 0 |
| | 1485.000 | 55.0 | 1.200 | 40.28 | 251.46 | 148.440 | .2638 | 14741.10 | 0 |
| | 1487.000 | 55.0 | 1.990 | 28.62 | 255.10 | 150.439 | .0157 | 15164.04 | 0 |
| SHORT MIL | 1489.100 | 25.0 | 1.880 | 16.92 | 261.31 | 152.389 | 0.0000 | 15874.22 | 0 |
| | 1490.100 | 25.0 | 2.000 | 18.18 | 264.67 | 153.389 | 0.0000 | 16257.95 | 0 |
| | 1492.900 | 25.0 | 1.780 | 16.84 | 274.58 | 156.189 | 0.0000 | 17371.18 | 0 |
| SHORT MIL | 1493.300 | 25.0 | 2.020 | 17.90 | 275.09 | 156.339 | 0.0249 | 17429.58 | 0 |
| | 1504.400 | 25.0 | 1.940 | 16.69 | 314.95 | 167.439 | 0.0000 | 21900.80 | 0 |
| LONG MILE | 1505.400 | 25.0 | 1.320 | 17.47 | 318.08 | 168.339 | 0.0001 | 22254.15 | 0 |
| SHORT MIL | 1514.700 | 25.0 | 0.040 | 25.00 | 339.72 | 177.339 | 0.0000 | 22271.82 | 0 |
| | 1515.800 | 55.0 | 0.040 | 25.00 | 342.84 | 178.639 | 0.0000 | 22328.11 | 0 |
| LONG MILE | 1516.200 | 55.0 | .860 | 34.68 | 343.64 | 179.039 | 0.1651 | 22420.82 | 0 |
| | 1517.700 | 55.0 | .173 | 55.00 | 345.48 | 180.539 | 0.0000 | 22560.19 | 0 |
| | 1518.200 | 45.0 | .700 | 45.00 | 346.06 | 181.039 | .4000 | 22565.00 | 0 |
| | 1518.700 | 35.0 | .530 | 35.00 | 346.78 | 181.539 | .4000 | 22565.00 | 0 |
| | 1520.200 | 15.0 | .530 | 15.00 | 349.59 | 183.039 | .4000 | 22565.00 | 0 |
| | 1521.000 | 25.0 | 0.660 | 15.00 | 352.79 | 183.839 | 0.0000 | 22565.00 | 0 |
| BUTTE | 1522.000 | 30.0 | .810 | 25.00 | 355.33 | 184.839 | 0.0000 | 22772.97 | 0 |
| LONG MILE | 1523.000 | 30.0 | .520 | 30.00 | 357.75 | 186.039 | 0.0000 | 22797.22 | 0 |
| | 1524.500 | 30.0 | .330 | 30.00 | 360.75 | 187.539 | 0.0000 | 22797.22 | 0 |
| LONG MILE | 1527.600 | 50.0 | .360 | 30.00 | 367.15 | 190.739 | 0.0000 | 22797.22 | 0 |
| | 1530.800 | 25.0 | .200 | 25.00 | 371.55 | 193.939 | .4000 | 22983.51 | 0 |
| | 1532.000 | 20.0 | .360 | 20.00 | 374.45 | 195.139 | .4000 | 22983.51 | 0 |
| SHORT MIL | 1534.700 | 40.0 | .560 | 20.00 | 382.10 | 197.689 | 0.0000 | 22983.51 | 0 |
| | 1535.800 | 45.0 | .500 | 40.00 | 383.99 | 198.789 | 0.0000 | 23103.73 | 0 |
| | 1546.900 | 55.0 | .500 | 45.00 | 398.81 | 209.889 | 0.0000 | 23147.06 | 0 |
| | 1547.400 | 55.0 | .595 | 52.30 | 399.43 | 210.389 | 0.1819 | 23219.94 | 0 |
| | 1548.800 | 55.0 | .360 | 55.00 | 400.96 | 211.789 | 0.0000 | 23247.17 | 0 |
| | 1551.800 | 55.0 | 0.000 | 55.00 | 404.23 | 214.789 | 0.0000 | 23247.17 | 0 |
| | 1552.800 | 45.0 | 0.000 | 45.00 | 405.36 | 215.789 | .4000 | 23288.51 | 0 |
| | 1553.100 | 45.0 | .260 | 45.00 | 405.76 | 216.089 | 0.0000 | 23304.22 | 0 |
| | 1553.300 | 55.0 | .260 | 45.00 | 406.03 | 216.289 | 0.0000 | 23305.12 | 0 |

ACCO® BUSINESS FORMS, INC. 540
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1554.200 | 55.0 | 0.600 | 54.38 | 407.11 | 217.188 | 0.1253 | 23433.08 | 0 |
| | 1557.400 | 55.0 | 0.300 | 55.00 | 410.60 | 220.388 | 0.0000 | 23439.44 | 0 |
| | 1560.600 | 15.0 | 0.200 | 15.00 | 414.70 | 223.588 | 0.4000 | 23457.44 | 0 |
| DEER LODG | 1561.600 | 0.0 | 0.200 | 0.00 | 419.01 | 224.588 | 0.4000 | 23457.44 | 0 |
| DEER LODG | 1561.600 | 15.0 | 0.200 | 0.00 | 419.01 | 224.588 | 0.0000 | 23457.44 | 0 |
| | 1562.000 | 55.0 | 0.200 | 15.00 | 420.92 | 224.988 | 0.0000 | 23485.58 | 0 |
| | 1563.600 | 55.0 | 0.330 | 50.24 | 423.58 | 226.588 | 0.1305 | 23795.88 | 0 |
| | 1571.500 | 45.0 | 0.330 | 45.00 | 432.27 | 234.488 | 0.4000 | 23878.01 | 0 |
| GARRISON | 1572.600 | 45.0 | 0.290 | 45.00 | 433.74 | 235.588 | 0.0000 | 23878.01 | 0 |
| | 1575.200 | 40.0 | 0.360 | 40.00 | 437.21 | 238.188 | 0.4000 | 23878.01 | 0 |
| | 1576.200 | 50.0 | 0.360 | 40.00 | 438.71 | 239.188 | 0.0000 | 23878.01 | 0 |
| | 1577.900 | 45.0 | 0.000 | 45.00 | 440.85 | 240.888 | 0.4000 | 23983.93 | 0 |
| | 1579.000 | 55.0 | 0.360 | 45.00 | 442.31 | 241.988 | 0.0000 | 24041.55 | 0 |
| | 1582.300 | 50.0 | 0.360 | 50.00 | 446.00 | 245.288 | 0.4000 | 24162.35 | 0 |
| | 1584.600 | 55.0 | 0.360 | 50.00 | 449.12 | 247.888 | 0.0000 | 24162.35 | 0 |
| | 1591.600 | 45.0 | 0.360 | 45.00 | 456.50 | 254.588 | 0.4000 | 24226.69 | 0 |
| | 1592.100 | 50.0 | 0.360 | 45.00 | 457.17 | 255.088 | 0.0000 | 24226.69 | 0 |
| | 1593.500 | 55.0 | 0.250 | 50.00 | 458.87 | 256.488 | 0.0000 | 24283.14 | 0 |
| | 1595.200 | 45.0 | 0.250 | 45.00 | 460.80 | 258.188 | 0.4000 | 24372.19 | 0 |
| | 1596.700 | 45.0 | 0.090 | 45.00 | 462.80 | 259.688 | 0.0000 | 24381.71 | 0 |
| OZAN | 1598.200 | 45.0 | 0.280 | 45.00 | 464.80 | 261.188 | 0.0000 | 24435.43 | 0 |
| | 1600.400 | 35.0 | 0.210 | 35.00 | 467.78 | 263.388 | 0.4000 | 24437.02 | 0 |
| | 1601.400 | 35.0 | 0.160 | 35.00 | 469.50 | 264.388 | 0.0000 | 24441.62 | 0 |
| | 1601.800 | 45.0 | 0.200 | 35.00 | 470.18 | 264.788 | 0.0000 | 24470.71 | 0 |
| | 1611.000 | 45.0 | 0.280 | 45.00 | 482.55 | 273.988 | 0.0000 | 24713.40 | 0 |
| | 1612.700 | 55.0 | 0.280 | 45.00 | 484.81 | 275.688 | 0.0000 | 24714.80 | 0 |
| | 1615.400 | 55.0 | 0.380 | 55.00 | 487.86 | 278.388 | 0.0000 | 24869.43 | 0 |
| | 1617.000 | 55.0 | 0.350 | 55.00 | 489.60 | 279.988 | 0.0000 | 24869.43 | 0 |
| | 1621.000 | 55.0 | 0.350 | 55.00 | 493.97 | 283.988 | 0.0000 | 24869.43 | 0 |
| | 1633.500 | 45.0 | 0.090 | 45.00 | 507.64 | 296.488 | 0.4000 | 24869.43 | 0 |
| | 1635.800 | 45.0 | 0.300 | 45.00 | 510.71 | 298.788 | 0.0000 | 25028.02 | 0 |
| | 1639.800 | 20.0 | 0.300 | 20.00 | 516.33 | 302.788 | 0.4000 | 25028.02 | 0 |
| | 1641.500 | 55.0 | 0.180 | 20.00 | 521.43 | 304.488 | 0.0000 | 25028.02 | 0 |
| | 1644.400 | 55.0 | 0.200 | 55.00 | 525.41 | 307.388 | 0.0000 | 25424.95 | 0 |
| | 1646.200 | 55.0 | 0.400 | 55.00 | 527.37 | 309.188 | 0.0000 | 25605.20 | 0 |
| PRIMROSE | 1650.200 | 55.0 | 0.085 | 55.00 | 531.74 | 313.188 | 0.0000 | 25605.20 | 0 |
| | 1654.700 | 55.0 | 0.280 | 55.00 | 536.65 | 317.688 | 0.0000 | 25819.71 | 0 |
| | 1656.600 | 55.0 | 0.000 | 55.00 | 538.72 | 319.588 | 0.0000 | 25842.07 | 0 |
| | 1660.500 | 55.0 | 0.170 | 55.00 | 542.97 | 323.488 | 0.0000 | 26089.01 | 0 |
| | 1660.900 | 45.0 | 0.170 | 45.00 | 543.45 | 323.888 | 0.4000 | 26090.70 | 0 |
| | 1661.500 | 50.0 | 0.170 | 45.00 | 544.25 | 324.488 | 0.0000 | 26103.35 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1662.800 | 50.0 | 0.020 | 50.00 | 545.84 | 325.788 | 0.0000 | 26196.82 | 0 |
| | 1664.300 | 50.0 | 0.290 | 50.00 | 547.64 | 327.288 | 0.0000 | 26288.41 | 0 |
| | 1665.200 | 45.0 | 0.290 | 45.00 | 548.73 | 328.188 | .4000 | 26369.84 | 0 |
| | 1668.300 | 45.0 | 0.300 | 45.00 | 552.86 | 331.288 | 0.0000 | 26697.74 | 0 |
| | 1669.000 | 45.0 | 0.400 | 45.00 | 553.79 | 331.988 | 0.0000 | 26773.08 | 0 |
| LONG MILE | 1669.900 | 45.0 | .180 | 45.00 | 555.13 | 332.988 | 0.0000 | 26899.10 | 0 |
| | 1671.600 | 35.0 | .250 | 35.00 | 557.44 | 334.688 | .4000 | 26926.47 | 0 |
| ALBERTON | 1672.300 | 0.0 | .250 | 0.00 | 559.37 | 335.388 | .4000 | 26926.47 | 0 |
| ALBERTON | 1672.300 | 50.0 | .250 | 0.00 | 559.37 | 335.388 | 0.0000 | 26926.47 | 0 |
| | 1673.100 | 50.0 | .200 | 39.90 | 561.48 | 336.188 | 0.1882 | 27124.59 | 0 |
| | 1674.500 | 50.0 | .150 | 50.00 | 563.26 | 337.588 | 0.0000 | 27265.66 | 0 |
| | 1675.100 | 50.0 | .100 | 50.00 | 563.98 | 338.188 | 0.0000 | 27283.52 | 0 |
| | 1676.200 | 45.0 | .130 | 45.00 | 565.31 | 339.288 | .4000 | 27319.96 | 0 |
| | 1677.900 | 45.0 | 0.000 | 45.00 | 567.58 | 340.988 | 0.0000 | 27368.32 | 0 |
| | 1678.300 | 55.0 | 0.000 | 45.00 | 568.11 | 341.388 | 0.0000 | 27389.27 | 0 |
| SHORT MIL | 1680.300 | 55.0 | .200 | 55.00 | 570.40 | 343.338 | 0.0000 | 27632.69 | 0 |
| | 1681.600 | 45.0 | .200 | 45.00 | 571.85 | 344.638 | .4000 | 27657.94 | 0 |
| | 1682.000 | 45.0 | 0.300 | 45.00 | 572.39 | 345.038 | 0.0000 | 27664.16 | 0 |
| | 1682.900 | 45.0 | .170 | 45.00 | 573.59 | 345.938 | 0.0000 | 27761.01 | 0 |
| | 1683.600 | 50.0 | .250 | 45.00 | 574.52 | 346.638 | 0.0000 | 27775.77 | 0 |
| | 1684.900 | 50.0 | .120 | 50.00 | 576.11 | 347.938 | 0.0000 | 27850.21 | 0 |
| | 1686.100 | 35.0 | .200 | 35.00 | 577.64 | 349.138 | .4000 | 27876.94 | 0 |
| | 1686.900 | 45.0 | .240 | 35.00 | 579.01 | 349.938 | 0.0000 | 27882.09 | 0 |
| | 1689.200 | 50.0 | .240 | 45.00 | 582.04 | 352.138 | 0.0000 | 27999.79 | 0 |
| | 1691.100 | 35.0 | .240 | 35.00 | 584.56 | 354.138 | .4000 | 28080.05 | 0 |
| | 1692.700 | 55.0 | .080 | 35.00 | 587.31 | 355.738 | 0.0000 | 28080.05 | 0 |
| | 1694.800 | 45.0 | 0.000 | 45.00 | 590.05 | 357.838 | .4000 | 28361.11 | 0 |
| | 1696.400 | 55.0 | .190 | 45.00 | 592.18 | 359.438 | 0.0000 | 28444.92 | 0 |
| | 1700.600 | 55.0 | .310 | 55.00 | 596.88 | 363.638 | 0.0000 | 28686.13 | 0 |
| | 1704.300 | 55.0 | 0.230 | 55.00 | 600.91 | 367.338 | 0.0000 | 28709.22 | 0 |
| | 1705.800 | 45.0 | .260 | 45.00 | 602.59 | 368.838 | .4000 | 28831.03 | 0 |
| ASHMORE | 1709.700 | 45.0 | 0.000 | 45.00 | 607.79 | 372.738 | 0.0000 | 28848.61 | 0 |
| | 1710.600 | 45.0 | 0.050 | 45.00 | 608.99 | 373.638 | 0.0000 | 28895.76 | 0 |
| | 1712.700 | 45.0 | .150 | 45.00 | 611.79 | 375.738 | 0.0000 | 29025.09 | 0 |
| | 1713.700 | 35.0 | 0.180 | 35.00 | 613.17 | 376.738 | .4000 | 29042.97 | 0 |
| | 1714.500 | 45.0 | 0.280 | 35.00 | 614.54 | 377.538 | 0.0000 | 29104.10 | 0 |
| | 1715.500 | 45.0 | .300 | 43.02 | 616.06 | 378.538 | 0.0676 | 29282.75 | 0 |
| ST. REGIS | 1716.400 | 25.0 | .170 | 25.00 | 617.44 | 379.438 | .4000 | 29304.48 | 0 |
| | 1717.000 | 25.0 | 0.240 | 25.00 | 618.88 | 380.038 | 0.0000 | 29307.26 | 0 |
| | 1717.700 | 30.0 | 0.460 | 25.00 | 620.56 | 380.738 | 0.0000 | 29363.35 | 0 |
| | 1719.600 | 25.0 | 0.620 | 25.00 | 624.45 | 382.638 | .4000 | 29623.43 | 0 |

MOORE BUSINESS FORMS, INC. FORM 1662 PRINTED IN U.S.A.

| ATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DIST. CE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQ_ARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1724.500 | 25.0 | 0.840 | 25.00 | 636.21 | 387.538 | 0.0000 | 30358.86 | 0 |
| | 1728.500 | 25.0 | 0.580 | 25.00 | 645.81 | 391.538 | 0.0000 | 31121.24 | 0 |
| HENDERSON | 1729.500 | 50.0 | 0.500 | 25.00 | 648.21 | 392.538 | 0.0000 | 31263.96 | 0 |
| | 1731.900 | 45.0 | 0.720 | 41.81 | 652.25 | 394.938 | 0.0292 | 31735.06 | 0 |
| | 1732.900 | 45.0 | 0.780 | 40.74 | 653.70 | 395.937 | 0.0099 | 31904.89 | 0 |
| | 1736.000 | 30.0 | 0.890 | 30.00 | 656.93 | 398.037 | 0.4000 | 32242.58 | 0 |
| | 1737.200 | 25.0 | 0.950 | 25.00 | 659.35 | 399.237 | 0.4000 | 32466.97 | 0 |
| | 1738.500 | 25.0 | 1.700 | 25.00 | 662.47 | 400.537 | 0.0000 | 32741.08 | 0 |
| | 1739.200 | 25.0 | 1.950 | 20.33 | 667.24 | 402.237 | 0.0001 | 33303.61 | 0 |
| | 1739.900 | 25.0 | 1.750 | 17.35 | 669.50 | 402.937 | 0.0000 | 33563.26 | 0 |
| | 1748.000 | 15.0 | 1.700 | 15.00 | 694.26 | 411.037 | 0.4000 | 36428.43 | 0 |
| E. PORTAL | 1749.100 | 15.0 | 0.400 | 15.00 | 698.66 | 412.137 | 0.0000 | 36806.42 | 0 |
| | 1749.900 | 25.0 | 0.200 | 15.00 | 701.86 | 412.937 | 0.0000 | 36889.84 | 0 |
| | 1750.900 | 25.0 | 1.250 | 25.00 | 704.35 | 413.937 | 0.0000 | 36940.47 | 0 |
| | 1762.900 | 25.0 | 1.100 | 25.00 | 733.15 | 425.937 | 0.0000 | 36940.47 | 0 |
| | 1770.200 | 25.0 | 0.800 | 25.00 | 750.67 | 433.237 | 0.0000 | 36940.47 | 0 |
| | 1772.300 | 25.0 | 0.200 | 25.00 | 755.71 | 435.337 | 0.0000 | 36940.47 | 0 |
| | 1773.100 | 20.0 | 0.200 | 20.00 | 757.41 | 436.037 | 0.4000 | 36940.47 | 0 |
| AVERY | 1774.380 | 0.0 | 0.160 | 0.00 | 761.66 | 437.317 | 0.4000 | 36940.47 | 0 |
| AVERY | 1774.380 | 25.0 | 0.160 | 0.00 | 761.66 | 437.317 | 0.0000 | 36940.47 | 0 |
| | 1776.600 | 25.0 | 0.110 | 25.00 | 767.76 | 439.637 | 0.0000 | 37034.46 | 0 |
| | 1783.900 | 25.0 | 0.000 | 25.00 | 785.28 | 446.937 | 0.0000 | 37148.93 | 0 |
| | 1784.300 | 25.0 | 0.180 | 25.00 | 786.24 | 447.337 | 0.0000 | 37163.30 | 0 |
| | 1787.700 | 30.0 | 0.200 | 25.00 | 794.40 | 450.737 | 0.0000 | 37172.80 | 0 |
| | 1790.800 | 30.0 | 0.100 | 30.00 | 800.62 | 453.837 | 0.0000 | 37215.39 | 0 |
| | 1791.700 | 25.0 | 0.250 | 25.00 | 802.44 | 454.737 | 0.4000 | 37261.81 | 0 |
| | 1793.200 | 30.0 | 0.200 | 25.00 | 806.04 | 456.237 | 0.0000 | 37261.81 | 0 |
| | 1794.800 | 35.0 | 0.080 | 30.00 | 809.26 | 457.837 | 0.0000 | 37300.70 | 0 |
| | 1796.700 | 25.0 | 0.090 | 25.00 | 812.62 | 459.737 | 0.4000 | 37390.34 | 0 |
| | 1798.200 | 25.0 | 0.060 | 25.00 | 816.22 | 461.237 | 0.0000 | 37469.09 | 0 |
| | 1799.000 | 25.0 | 0.000 | 25.00 | 818.14 | 462.037 | 0.0000 | 37489.00 | 0 |
| | 1801.000 | 25.0 | 0.200 | 25.00 | 822.94 | 464.037 | 0.0000 | 37560.87 | 0 |
| | 1802.500 | 25.0 | 0.080 | 25.00 | 826.54 | 465.537 | 0.0000 | 37670.01 | 0 |
| | 1803.900 | 30.0 | 0.080 | 25.00 | 829.90 | 466.937 | 0.0000 | 37740.93 | 0 |
| | 1806.500 | 45.0 | 0.040 | 30.00 | 835.93 | 469.937 | 0.0000 | 37937.89 | 0 |
| | 1809.600 | 35.0 | 0.060 | 35.00 | 839.83 | 472.637 | 0.4000 | 38219.76 | 0 |
| | 1810.800 | 25.0 | 0.220 | 25.00 | 841.95 | 473.837 | 0.4000 | 38273.62 | 0 |
| LONG MILE | 1813.800 | 35.0 | 0.100 | 25.00 | 849.87 | 477.137 | 0.0000 | 38525.88 | 0 |
| | 1816.500 | 20.0 | 0.060 | 20.00 | 854.76 | 479.837 | 0.4000 | 38750.40 | 0 |
| | 1819.100 | 45.0 | 0.100 | 20.00 | 862.56 | 482.437 | 0.0000 | 38865.01 | 0 |
| LONG MILE | 1819.900 | 40.0 | 0.080 | 40.00 | 864.72 | 483.637 | 0.4000 | 39108.93 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1823.100 | 35.0 | 0.100 | 35.00 | 869.54 | 486.837 | 0.4000 | 39299.59 | 0 |
| | 1823.900 | 25.0 | 0.160 | 25.00 | 870.97 | 487.637 | 0.4000 | 39336.09 | 0 |
| | 1824.900 | 25.0 | 1.000 | 25.00 | 873.37 | 488.637 | 0.0000 | 39401.48 | 0 |
| | 1831.900 | 20.0 | 1.000 | 20.00 | 890.19 | 495.637 | 0.4000 | 40924.66 | 0 |
| | 1832.800 | 25.0 | 1.000 | 20.00 | 892.89 | 496.537 | 0.0000 | 41120.10 | 0 |
| SHORT HIL | 1836.300 | 12.0 | 1.000 | 12.00 | 901.51 | 500.037 | 0.4000 | 41882.57 | 0 |
| PLUMMER J | 1836.900 | 12.0 | 1.000 | 12.00 | 904.51 | 500.637 | 0.0000 | 42010.67 | 0 |
| | 1838.000 | 40.0 | 1.000 | 12.00 | 910.01 | 501.737 | 0.0000 | 42245.51 | 0 |
| | 1840.200 | 40.0 | 0.320 | 30.42 | 915.05 | 503.936 | 0.0042 | 42832.52 | 0 |
| | 1841.200 | 40.0 | 0.320 | 40.00 | 916.55 | 504.886 | 0.0000 | 42912.66 | 0 |
| | 1848.500 | 40.0 | 0.320 | 40.00 | 921.13 | 507.936 | 0.0000 | 42912.66 | 0 |
| | 1849.500 | 45.0 | 0.320 | 40.00 | 922.63 | 508.936 | 0.0000 | 42912.66 | 0 |
| TEKOA | 1852.800 | 40.0 | 0.100 | 40.00 | 932.84 | 516.536 | 0.4000 | 42964.21 | 0 |
| | 1853.200 | 45.0 | 0.100 | 40.00 | 933.44 | 516.936 | 0.0000 | 42975.80 | 0 |
| | 1854.000 | 40.0 | 0.240 | 40.00 | 934.55 | 517.736 | 0.4000 | 43051.47 | 0 |
| | 1855.500 | 45.0 | 0.240 | 40.00 | 936.80 | 519.236 | 0.0000 | 43188.83 | 0 |
| | 1857.500 | 40.0 | 0.240 | 40.00 | 939.51 | 521.236 | 0.4000 | 43257.53 | 0 |
| | 1861.200 | 40.0 | 0.240 | 40.00 | 945.06 | 524.936 | 0.0000 | 43269.34 | 0 |
| MALDEN | 1882.000 | 0.0 | 0.280 | 0.00 | 977.09 | 545.736 | 0.4000 | 43333.96 | 0 |
| MALDEN | 1882.000 | 40.0 | 0.280 | 0.00 | 977.09 | 545.736 | 0.0000 | 43333.96 | 0 |
| | 1887.700 | 35.0 | 0.280 | 35.00 | 986.55 | 551.436 | 0.4000 | 43528.84 | 0 |
| | 1890.200 | 30.0 | 0.280 | 30.00 | 990.85 | 553.936 | 0.4000 | 43528.84 | 0 |
| | 1892.000 | 30.0 | 0.250 | 30.00 | 994.25 | 555.636 | 0.0000 | 43528.84 | 0 |
| | 1906.000 | 40.0 | 0.020 | 30.00 | 1022.45 | 569.736 | 0.0000 | 43528.84 | 0 |
| | 1911.200 | 40.0 | 0.020 | 40.00 | 1030.37 | 574.936 | 0.0000 | 43881.71 | 0 |
| | 1913.000 | 40.0 | 0.400 | 40.00 | 1033.07 | 576.736 | 0.0000 | 43973.62 | 0 |
| | 1920.000 | 40.0 | 0.280 | 40.00 | 1043.57 | 583.736 | 0.0000 | 44820.82 | 0 |
| | 1922.000 | 40.0 | 0.400 | 40.00 | 1046.57 | 585.736 | 0.0000 | 44820.82 | 0 |
| | 1924.000 | 40.0 | 0.300 | 40.00 | 1049.57 | 587.736 | 0.0000 | 45062.88 | 0 |
| MARENGO | 1926.800 | 40.0 | 0.400 | 40.00 | 1053.70 | 590.486 | 0.0000 | 45062.88 | 0 |
| | 1927.200 | 40.0 | 0.400 | 40.00 | 1054.30 | 590.886 | 0.0000 | 45062.88 | 0 |
| | 1927.800 | 40.0 | 0.600 | 40.00 | 1055.20 | 591.486 | 0.0000 | 45062.88 | 0 |
| | 1928.800 | 50.0 | 0.200 | 40.00 | 1056.70 | 592.486 | 0.0000 | 45220.73 | 0 |
| | 1930.400 | 40.0 | 0.240 | 40.00 | 1058.85 | 594.086 | 0.4000 | 45434.24 | 0 |
| | 1931.300 | 55.0 | 0.400 | 40.00 | 1060.20 | 594.986 | 0.0000 | 45516.65 | 0 |
| HILLCREST | 1932.400 | 55.0 | 0.000 | 44.39 | 1061.76 | 596.086 | 0.0373 | 45699.72 | 0 |
| | 1932.900 | 55.0 | 0.310 | 48.55 | 1062.41 | 596.586 | 0.0982 | 45776.12 | 0 |
| | 1935.200 | 55.0 | 0.170 | 55.00 | 1064.96 | 598.886 | 0.0000 | 45873.55 | 0 |
| | 1941.500 | 55.0 | 0.370 | 55.00 | 1071.83 | 605.186 | 0.0000 | 46075.26 | 0 |
| | 1942.800 | 40.0 | 0.370 | 40.00 | 1073.33 | 606.486 | 0.4000 | 46075.26 | 0 |
| | 1944.900 | 55.0 | 0.340 | 40.00 | 1076.48 | 608.586 | 0.0000 | 46075.26 | 0 |

AMERICAN BUSINESS FORMS, INC. INC.
FORM 1062
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTAN MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQU MINUTES | ED |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1947.500 | 50.0 | 0.340 | 50.00 | 1079.52 | 611.186 | 0.4000 | 46250.49 | 0 | |
| | 1948.500 | 45.0 | 0.340 | 45.00 | 1080.73 | 612.186 | 0.4000 | 46250.49 | 0 | |
| | 1949.300 | 50.0 | 0.300 | 45.00 | 1081.79 | 612.986 | 0.0000 | 46250.49 | 0 | |
| SHORT MIL | 1952.900 | 45.0 | 0.290 | 45.00 | 1085.70 | 616.186 | 0.4000 | 46316.80 | 0 | |
| | 1953.800 | 55.0 | 0.380 | 45.00 | 1086.90 | 617.086 | 0.0000 | 46316.80 | 0 | |
| | 1957.200 | 55.0 | 0.200 | 55.00 | 1090.69 | 620.486 | 0.0000 | 46434.70 | 0 | |
| | 1959.000 | 55.0 | 0.140 | 55.00 | 1092.66 | 622.286 | 0.0000 | 46482.39 | 0 | |
| | 1963.900 | 55.0 | 0.094 | 55.00 | 1098.00 | 627.186 | 0.0000 | 46666.34 | 0 | |
| | 1966.400 | 55.0 | 0.010 | 55.00 | 1100.73 | 629.686 | 0.0000 | 46867.91 | 0 | |
| | 1969.300 | 55.0 | 0.171 | 55.00 | 1103.89 | 632.586 | 0.0000 | 47056.87 | 0 | |
| | 1971.200 | 50.0 | 0.171 | 50.00 | 1105.76 | 634.286 | 0.4000 | 47200.75 | 0 | |
| SHORT MIL | 1972.000 | 40.0 | 0.151 | 40.00 | 1106.76 | 635.086 | 0.4000 | 47244.08 | 0 | |
| | 1973.100 | 50.0 | 0.151 | 40.00 | 1108.03 | 635.936 | 0.0000 | 47307.98 | 0 | |
| SHORT MIL | 1973.900 | 55.0 | 0.020 | 46.17 | 1109.15 | 636.736 | 0.0789 | 47438.71 | 0 | |
| | 1975.800 | 55.0 | 0.320 | 55.00 | 1111.34 | 638.636 | 0.0000 | 47659.97 | 0 | |
| | 1976.600 | 50.0 | 0.320 | 50.00 | 1112.22 | 639.436 | 0.4000 | 47662.69 | 0 | |
| | 1977.800 | 55.0 | 0.320 | 50.00 | 1113.66 | 640.636 | 0.0000 | 47662.69 | 0 | |
| | 1983.000 | 50.0 | 0.320 | 50.00 | 1120.38 | 646.736 | 0.4000 | 47754.52 | 0 | |
| OTHELLO | 1987.300 | 0.0 | 0.370 | 0.00 | 1125.50 | 650.136 | 0.4000 | 47754.52 | 0 | |
| OTHELLO | 1987.300 | 50.0 | 0.370 | 0.00 | 1125.50 | 650.136 | 0.0000 | 47754.52 | 0 | |
| SHORT MIL | 1989.000 | 50.0 | 0.600 | 48.59 | 1128.25 | 651.436 | 0.1720 | 48025.86 | 0 | |
| | 1989.900 | 55.0 | 0.600 | 50.00 | 1129.34 | 652.336 | 0.0000 | 48038.76 | 0 | |
| | 1990.500 | 55.0 | 0.920 | 55.00 | 1130.01 | 652.936 | 0.0000 | 48087.72 | 0 | |
| | 1991.500 | 55.0 | 0.180 | 55.00 | 1131.10 | 653.936 | 0.0000 | 48087.72 | 0 | |
| | 1993.400 | 55.0 | 0.380 | 55.00 | 1133.17 | 655.836 | 0.0000 | 48270.99 | 0 | |
| | 1994.200 | 45.0 | 0.290 | 45.00 | 1134.08 | 656.636 | 0.4000 | 48270.99 | 0 | |
| | 1994.900 | 25.0 | 0.290 | 25.00 | 1135.20 | 657.336 | 0.4000 | 48270.99 | 0 | |
| | 1995.200 | 25.0 | 0.380 | 25.00 | 1135.92 | 657.636 | 0.0000 | 48270.99 | 0 | |
| | 1996.100 | 50.0 | 0.380 | 25.00 | 1138.08 | 658.536 | 0.0000 | 48270.99 | 0 | |
| | 1997.500 | 40.0 | 0.240 | 40.00 | 1140.21 | 659.936 | 0.4000 | 48475.46 | 0 | |
| | 1998.700 | 25.0 | 0.230 | 25.00 | 1142.13 | 661.136 | 0.4000 | 48478.21 | 0 | |
| | 2001.700 | 40.0 | 0.340 | 25.00 | 1149.33 | 664.136 | 0.0000 | 48478.21 | 0 | |
| | 2008.000 | 55.0 | 0.340 | 40.00 | 1158.94 | 670.436 | 0.0000 | 48591.95 | 0 | |
| SMYRNA | 2012.300 | 55.0 | 0.020 | 55.00 | 1163.82 | 674.736 | 0.0000 | 48768.52 | 0 | |
| | 2013.100 | 55.0 | 0.343 | 55.00 | 1164.70 | 675.536 | 0.0000 | 48822.12 | 0 | |
| | 2014.100 | 55.0 | 0.000 | 55.00 | 1165.79 | 676.536 | 0.0000 | 48948.60 | 0 | |
| | 2015.500 | 50.0 | 0.000 | 50.00 | 1167.32 | 677.936 | 0.4000 | 49025.70 | 0 | |
| | 2016.000 | 40.0 | 0.135 | 40.00 | 1167.97 | 678.436 | 0.4000 | 49036.46 | 0 | |
| | 2016.800 | 55.0 | 0.000 | 40.00 | 1169.17 | 679.236 | 0.0000 | 49054.48 | 0 | |
| | 2021.900 | 35.0 | 0.000 | 35.00 | 1175.19 | 684.336 | 0.4000 | 49506.27 | 0 | |
| | 1922.300 | 25.0 | 0.000 | 25.00 | 1175.94 | 684.736 | 0.4000 | 49514.56 | 0 | |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARE MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 2022.900 | 25.0 | 0.220 | 25.00 | 1177.38 | 685.336 | 0.0000 | 49536.12 | 0 |
| | 2023.400 | 25.0 | 0.000 | 25.00 | 1178.58 | 685.836 | 0.0000 | 49574.34 | 0 |
| | 2024.900 | 25.0 | 0.350 | 25.00 | 1182.18 | 687.336 | 0.0000 | 49628.24 | 0 |
| BEVERLY | 2025.900 | 18.0 | 0.050 | 18.00 | 1184.62 | 688.336 | .4000 | 49718.13 | 0 |
| LONG MILE | 2026.400 | 18.0 | 2.200 | 18.00 | 1186.29 | 688.836 | 0.0000 | 49738.74 | 0 |
| | 2042.900 | 30.0 | 0.240 | 15.29 | 1250.91 | 705.336 | 0.0000 | 56918.34 | 0 |
| | 2043.400 | 30.0 | 1.500 | 30.00 | 1252.12 | 705.836 | 0.0000 | 57043.87 | 0 |
| | 2044.100 | 30.0 | 1.400 | 30.00 | 1253.52 | 706.536 | 0.0000 | 57043.87 | 0 |
| | 2046.100 | 30.0 | 1.550 | 30.00 | 1257.52 | 708.536 | 0.0000 | 57043.87 | 0 |
| | 2053.500 | 50.0 | 0.000 | 30.00 | 1272.32 | 715.936 | 0.0000 | 57043.87 | 0 |
| | 2053.700 | 50.0 | 0.400 | 34.28 | 1272.70 | 716.136 | 0.1758 | 57087.25 | 0 |
| | 2054.500 | 55.0 | 0.000 | 40.08 | 1273.98 | 716.936 | 0.0572 | 57237.46 | 0 |
| | 2055.500 | 55.0 | 0.000 | 49.28 | 1275.32 | 717.936 | 0.0948 | 57395.03 | 0 |
| | 2058.000 | 55.0 | 0.150 | 55.00 | 1278.10 | 720.436 | 0.0000 | 57626.40 | 0 |
| | 2060.700 | 55.0 | 0.000 | 55.00 | 1281.05 | 723.136 | 0.0000 | 57722.79 | 0 |
| | 2062.800 | 50.0 | 0.240 | 50.00 | 1283.35 | 725.236 | .4000 | 57844.22 | 0 |
| WOOLDALE | 2064.200 | 40.0 | 0.240 | 40.00 | 1285.07 | 726.636 | .4000 | 57954.68 | 0 |
| | 2065.000 | 55.0 | 0.450 | 40.00 | 1286.27 | 727.436 | 0.0000 | 58027.93 | 0 |
| | 2066.700 | 55.0 | 0.560 | 45.01 | 1288.66 | 729.136 | 0.0244 | 58308.51 | 0 |
| | 2069.900 | 40.0 | 0.560 | 40.00 | 1292.91 | 732.336 | .4000 | 58785.70 | 0 |
| | 2070.200 | 40.0 | 0.120 | 40.00 | 1293.36 | 732.636 | 0.0000 | 58830.85 | 0 |
| | 2071.400 | 25.0 | 0.420 | 25.00 | 1295.28 | 733.836 | .4000 | 58890.70 | 0 |
| | 2073.400 | 35.0 | 0.400 | 25.00 | 1300.08 | 735.836 | 0.0000 | 59117.23 | 0 |
| | 2074.300 | 35.0 | 0.100 | 35.00 | 1301.79 | 736.736 | 0.0000 | 59297.00 | 0 |
| HORLICK | 2076.000 | 35.0 | 0.400 | 35.00 | 1304.70 | 738.436 | 0.0000 | 59401.86 | 0 |
| | 2076.400 | 40.0 | 0.400 | 35.00 | 1305.39 | 738.836 | 0.0000 | 59448.62 | 0 |
| | 2078.600 | 30.0 | 0.400 | 30.00 | 1308.81 | 741.036 | .4000 | 59732.47 | 0 |
| | 2080.300 | 30.0 | 0.400 | 30.00 | 1312.21 | 742.736 | 0.0000 | 59924.47 | 0 |
| | 2081.300 | 50.0 | 0.400 | 30.00 | 1314.21 | 743.736 | 0.0000 | 60037.41 | 0 |
| | 2083.300 | 50.0 | 0.005 | 43.68 | 1317.36 | 745.736 | 0.0406 | 60406.15 | 0 |
| | 2084.600 | 50.0 | 0.430 | 50.00 | 1318.98 | 747.036 | 0.0000 | 60555.31 | 0 |
| CLE ELUM | 2086.000 | 0.0 | 0.340 | 0.00 | 1321.70 | 748.436 | .4000 | 60627.95 | 0 |
| CLE ELUM | 2086.000 | 50.0 | 0.340 | 0.00 | 1321.70 | 748.436 | 0.0000 | 60627.95 | 0 |
| | 2088.100 | 50.0 | 0.215 | 43.24 | 1325.97 | 750.535 | 0.0546 | 61088.90 | 0 |
| | 2088.900 | 50.0 | 0.350 | 47.61 | 1327.02 | 751.335 | 0.0595 | 61213.72 | 0 |
| | 2089.300 | 35.0 | 0.700 | 35.00 | 1327.59 | 751.735 | .4000 | 61219.14 | 0 |
| | 2090.100 | 25.0 | 0.700 | 25.00 | 1329.03 | 752.535 | .4000 | 61321.00 | 0 |
| | 2090.900 | 25.0 | 0.360 | 25.00 | 1330.95 | 753.335 | 0.0000 | 61452.85 | 0 |
| | 2091.100 | 50.0 | 0.200 | 25.00 | 1331.43 | 753.535 | 0.0000 | 61473.30 | 0 |
| | 2091.700 | 50.0 | 0.530 | 36.27 | 1332.58 | 754.135 | 0.1225 | 61608.01 | 0 |
| LAVENDAR | 2093.800 | 50.0 | .080 | 42.68 | 1335.74 | 756.235 | 0.0192 | 61977.45 | 0 |

MOORE BUSINESS FORMS, INC., HO
FORM 1082
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 2095.000 | 50.0 | 0.300 | 50.00 | 1337.24 | 757.435 | 0.0000 | 62112.74 | 0 |
| | 2095.900 | 50.0 | 0.650 | 50.00 | 1338.32 | 758.335 | 0.0000 | 62214.10 | 0 |
| | 2097.900 | 35.0 | 0.700 | 35.00 | 1340.89 | 760.335 | .4000 | 62461.82 | 0 |
| | 2099.700 | 40.0 | 0.540 | 35.00 | 1343.97 | 762.135 | 0.0000 | 62771.70 | 0 |
| | 2100.300 | 40.0 | 0.700 | 38.10 | 1344.96 | 762.734 | 0.0422 | 62887.06 | 0 |
| | 2100.900 | 45.0 | 0.540 | 38.58 | 1345.90 | 763.334 | 0.0070 | 62996.67 | 0 |
| | 2103.000 | 40.0 | 0.700 | 40.00 | 1348.96 | 765.434 | .4000 | 63341.08 | 0 |
| WHITTIER | 2106.200 | 40.0 | 0.630 | 39.64 | 1353.78 | 768.633 | .0001 | 63900.88 | 0 |
| | 2108.600 | 40.0 | 0.120 | 40.00 | 1357.38 | 771.033 | 0.0000 | 64296.57 | 0 |
| | 2110.500 | 40.0 | 0.500 | 40.00 | 1360.23 | 772.933 | 0.0000 | 64428.57 | 0 |
| | 2111.100 | 40.0 | 0.120 | 40.00 | 1361.13 | 773.533 | 0.0000 | 64512.24 | 0 |
| | 2111.700 | 40.0 | 0.500 | 40.00 | 1362.03 | 774.133 | 0.0000 | 64553.92 | 0 |
| | 2112.100 | 40.0 | 0.100 | 40.00 | 1362.63 | 774.533 | 0.0000 | 64609.70 | 0 |
| | 2112.900 | 35.0 | 0.100 | 35.00 | 1363.85 | 775.333 | .4000 | 64653.76 | 0 |
| SHORT MIL | 2114.200 | 30.0 | 0.340 | 30.00 | 1367.12 | 777.233 | .4000 | 64764.00 | 0 |
| | 2114.900 | 30.0 | 0.040 | 30.00 | 1368.52 | 777.933 | 0.0000 | 64835.33 | 0 |
| HYAK | 2115.400 | 20.0 | .300 | 20.00 | 1369.59 | 778.433 | .4000 | 64850.56 | 0 |
| | 2117.900 | 20.0 | -1.500 | 20.00 | 1377.09 | 780.933 | 0.0000 | 64850.56 | 0 |
| | 2124.000 | 20.0 | -1.340 | 20.00 | 1395.39 | 787.033 | 0.0000 | 64850.56 | 0 |
| | 2131.000 | 20.0 | -1.500 | 20.00 | 1416.39 | 794.033 | 0.0000 | 64850.56 | 0 |
| | 2136.600 | 20.0 | 0.000 | 20.00 | 1433.19 | 799.633 | 0.0000 | 64850.56 | 0 |
| SHORT MIL | 2138.000 | 40.0 | .400 | 20.00 | 1436.49 | 800.733 | 0.0000 | 64886.89 | 0 |
| | 2138.900 | 40.0 | .670 | 40.00 | 1438.10 | 801.633 | 0.0000 | 65021.01 | 0 |
| | 2141.200 | 40.0 | .800 | 40.00 | 1441.55 | 803.933 | 0.0000 | 65021.01 | 0 |
| | 2142.000 | 40.0 | .600 | 40.00 | 1442.75 | 804.733 | 0.0000 | 65021.01 | 0 |
| | 2143.500 | 35.0 | .600 | 35.00 | 1445.01 | 806.233 | .4000 | 65021.01 | 0 |
| | 2144.000 | 35.0 | .500 | 35.00 | 1445.87 | 806.733 | 0.0000 | 65021.01 | 0 |
| | 2144.700 | 40.0 | .720 | 35.00 | 1447.07 | 807.433 | 0.0000 | 65021.01 | 0 |
| | 2148.000 | 40.0 | .600 | 40.00 | 1452.03 | 810.733 | 0.0000 | 65053.71 | 0 |
| | 2151.300 | 40.0 | .600 | 40.00 | 1456.98 | 814.033 | 0.0000 | 65053.71 | 0 |
| | 2153.100 | 30.0 | .550 | 30.00 | 1459.74 | 815.833 | .4000 | 65053.71 | 0 |
| | 2153.700 | 20.0 | .720 | 20.00 | 1461.01 | 816.433 | .4000 | 65053.71 | 0 |
| | 2155.400 | 20.0 | .420 | 20.00 | 1466.11 | 818.133 | 0.0000 | 65053.71 | 0 |
| | 2156.700 | 20.0 | 0.000 | 20.00 | 1470.01 | 819.433 | 0.0000 | 65053.71 | 0 |
| | 2157.000 | 45.0 | .720 | 20.00 | 1470.91 | 819.733 | 0.0000 | 65063.62 | 0 |
| | 2158.400 | 45.0 | .470 | 45.00 | 1473.09 | 821.133 | 0.0000 | 65208.47 | 0 |
| | 2160.300 | 45.0 | .550 | 45.00 | 1475.63 | 823.033 | 0.0000 | 65208.47 | 0 |
| | 2161.000 | 45.0 | .350 | 45.00 | 1476.56 | 823.733 | 0.0000 | 65208.47 | 0 |
| | 2163.500 | 45.0 | .500 | 45.00 | 1479.89 | 826.233 | 0.0000 | 65208.47 | 0 |
| RENTON | 2164.100 | 45.0 | .020 | 45.00 | 1480.69 | 826.833 | 0.0000 | 65208.47 | 0 |
| BLACK RV | 2166.000 | 45.0 | .020 | 45.00 | 1483.23 | 828.733 | 0.0000 | 65300.99 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 2168.000 | 45.0 | 0.040 | 45.00 | 1485.89 | 830.733 | 0.0000 | 65398.39 | 0 |
| VAN ASSEL | 2178.500 | 0.0 | 0.040 | 0.00 | 1491.50 | 834.233 | 0.4000 | 65524.29 | 0 |

TOT TIME 24:51.50 TIME BRAKING 0:53.24 MINIMUM TIME 23: 4.54
65524.29 KWHRS TOT DIST 834.2 MI AVG SPEED 33.56 MI / HR
MILES AT MAX SPLMT 617.17

FUEL CONSUMPTION

TOTAL (KWH) x x # EQUIV x # TRIPS

EFFICIENCY

MOORE BUSINESS FORMS, INC., NO. NEODATA 1070 PRINTED IN U.S.A.

MILWAUKEE ROAD
VAN ASSELT TO HARLOWTON
3 M-A SETS 3600 HP
5000 TRAILING TONS

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| VAN ASSEL | 2171,500 | 40,0 | 0%035 | 0.00 | 0,00 | 0,000 | 0.0000 | 0.00 | 0 |
| | 2168,200 | 40,0 | 0%130 | 40.00 | 6,08 | 3,300 | 0,0000 | 456.96 | 0 |
| | 2167,300 | 40,0 | -%040 | 40,00 | 7,43 | 4,200 | 0,0000 | 535,87 | 0 |
| | 2166,600 | 40,0 | 0%290 | 40,00 | 8,48 | 4,900 | 0,0000 | 570,45 | 0 |
| BLACK RV | 2166,000 | 40,0 | 0%150 | 40,00 | 9,38 | 5,500 | 0,0000 | 644,67 | 0 |
| RENTON | 2164,100 | 40,0 | 0.550 | 40.00 | 12,23 | 7,400 | 0,0000 | 819,83 | 0 |
| | 2161,600 | 40,0 | 0.650 | 39,41 | 16,01 | 9,899 | -,0014 | 1267.09 | 0 |
| | 2158,500 | 45,0 | 0.650 | 35,84 | 20,99 | 12,999 | -.0050 | 1850,72 | 0 |
| | 2158,000 | 45,0 | 1.000 | 35,62 | 21,82 | 13,498 | -,0039 | 1948,15 | 0 |
| CEDAR MT | 2157,400 | 45,0 | 0.200 | 31.60 | 22,90 | 14,098 | -,0516 | 2071,78 | 0 |
| | 2156,800 | 45,0 | 0%470 | 37.34 | 23,94 | 14,697 | 0,0781 | 2192,28 | 0 |
| | 2155,300 | 45,0 | 0.810 | 39,88 | 26,27 | 16,197 | 0,0124 | 2466,83 | 0 |
| LONG MILE | 2153,900 | 40,0 | 0.800 | 32.90 | 29.44 | 18,096 | -,0210 | 2836.62 | 0 |
| | 2145,000 | 35,0 | 0%800 | 29,78 | 47,09 | 26,996 | 0,0000 | 4840,19 | 0 |
| | 2143,900 | 40,0 | 0%800 | 29.78 | 49,31 | 28,096 | 0.0000 | 5091.11 | 0 |
| | 2141,800 | 40,0 | 0%450 | 29,78 | 53,54 | 30,196 | 0,0000 | 5570.15 | 0 |
| | 2141,500 | 40,0 | 0%800 | 31,98 | 54,12 | 30,495 | 0.0562 | 5636,45 | 0 |
| | 2138,800 | 40,0 | 0.550 | 29,91 | 59,39 | 33,195 | -,0014 | 6234,55 | 0 |
| SHORT MIL | 2137,800 | 40,0 | 0%120 | 33,05 | 60,73 | 33,894 | 0.0301 | 6386,70 | 0 |
| | 2136,500 | 30,0 | 1%740 | 30,00 | 62,83 | 35,194 | -,4000 | 6555.08 | 0 |
| | 2134,300 | 20,0 | 1%600 | 15,29 | 70,35 | 37,394 | 0,0000 | 7400,05 | 0 |
| | 2133,500 | 20,0 | 1,880 | 17.00 | 73,27 | 38,194 | 0,0011 | 7727,40 | 0 |
| | 2133,000 | 20,0 | 1.700 | 14,26 | 75,21 | 38,693 | -,0014 | 7944,12 | 0 |
| | 2131,800 | 20,0 | 1%740 | 15,80 | 79,84 | 39,893 | 0,0000 | 8456.17 | 0 |
| | 2131,000 | 20,0 | 1%690 | 15,31 | 82,95 | 40,692 | -.0004 | 8797.36 | 0 |
| | 2130,000 | 20,0 | 1%740 | 15,92 | 86,76 | 41,692 | 0,0000 | 9218,90 | 0 |
| | 2128,900 | 20,0 | 1%540 | 15.30 | 91,03 | 42,792 | -,0001 | 9688,41 | 0 |
| GARCIA | 2128,300 | 20,0 | 1%740 | 17,54 | 93,18 | 43,392 | 0,0047 | 9930,92 | 0 |
| | 2122,900 | 20,0 | 1%540 | 15,29 | 114,22 | 48,792 | -,0000 | 12239,16 | 0 |
| | 2122,300 | 20,0 | 1%740 | 17,54 | 116,37 | 49,391 | 0,0047 | 12481,72 | 0 |
| | 2118,700 | 20,0 | 1%600 | 15,29 | 130,34 | 52,991 | -,0000 | 14016,83 | 0 |
| | 2118,000 | 20,0 | 0%450 | 16,97 | 132,91 | 53,691 | 0.0017 | 14304,10 | 0 |
| | 2116,000 | 20,0 | -%100 | 20,00 | 138,92 | 55,691 | 0,0000 | 14605,18 | 0 |
| | 2115,600 | 30,0 | 0.040 | 20.00 | 140,12 | 56,091 | 0,0000 | 14612,36 | 0 |
| | 2114,900 | 35,0 | -%260 | 30,00 | 141,65 | 56,791 | 0,0000 | 14729,36 | 0 |

MCCORE BUSINESS FORMS, INC., HO
FORM 1000
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 2114.200 | 35.0 | 0.080 | 35.00 | 142.88 | 57.491 | 0.0000 | 14780.35 | 0 |
| | 2113.400 | 40.0 | 0.080 | 35.00 | 144.25 | 58.291 | 0.0000 | 14837.03 | 0 |
| SHORT MIL | 2112.000 | 40.0 | 0.040 | 40.00 | 145.80 | 59.291 | 0.0000 | 14970.72 | 0 |
| | 2111.000 | 40.0 | -.240 | 40.00 | 147.30 | 60.291 | 0.0000 | 15038.13 | 0 |
| | 2110.400 | 40.0 | 0.050 | 40.00 | 148.20 | 60.891 | 0.0000 | 15040.75 | 0 |
| | 2108.500 | 40.0 | -.550 | 40.00 | 151.05 | 62.791 | 0.0000 | 15173.11 | 0 |
| | 2103.500 | 45.0 | -.550 | 40.00 | 158.55 | 67.791 | 0.0000 | 15191.86 | 0 |
| | 2101.500 | 40.0 | -.620 | 40.00 | 161.25 | 69.791 | -.4000 | 15245.95 | 0 |
| | 2100.900 | 35.0 | -.620 | 35.00 | 162.17 | 70.391 | -.4000 | 15248.23 | 0 |
| | 2100.200 | 35.0 | -.520 | 35.00 | 163.37 | 71.091 | 0.0000 | 15251.23 | 0 |
| | 2098.500 | 50.0 | -.520 | 35.00 | 166.28 | 72.791 | 0.0000 | 15258.52 | 0 |
| EASTON | 2097.900 | 50.0 | -.650 | 45.97 | 167.17 | 73.390 | 0.1830 | 15362.88 | 0 |
| | 2095.900 | 50.0 | -.240 | 50.00 | 169.58 | 75.390 | 0.0000 | 15407.62 | 0 |
| | 2094.800 | 50.0 | 0.400 | 50.00 | 170.90 | 76.490 | 0.0000 | 15425.94 | 0 |
| | 2094.100 | 50.0 | -.400 | 49.24 | 171.74 | 77.190 | -.0136 | 15526.17 | 0 |
| | 2091.700 | 25.0 | -.400 | 25.00 | 174.87 | 79.590 | -.4000 | 15544.14 | 0 |
| | 2090.900 | 35.0 | -.400 | 25.00 | 176.79 | 80.390 | 0.0000 | 15548.94 | 0 |
| | 2089.900 | 50.0 | -.700 | 35.00 | 178.60 | 81.390 | 0.0000 | 15631.25 | 0 |
| | 2089.400 | 50.0 | -.300 | 45.79 | 179.34 | 81.890 | 0.2197 | 15718.47 | 0 |
| CLE ELUM | 2086.000 | 0.0 | -.350 | 0.00 | 184.49 | 85.290 | -.4000 | 15793.49 | 0 |
| CLE ELUM | 2086.000 | 50.0 | -.350 | 0.00 | 184.49 | 85.290 | 0.0000 | 15793.49 | 0 |
| | 2084.600 | 50.0 | 0.020 | 50.00 | 188.69 | 87.690 | 0.0000 | 16148.03 | 0 |
| | 2083.100 | 50.0 | -.390 | 50.00 | 190.49 | 89.190 | 0.0000 | 16260.83 | 0 |
| | 2081.900 | 40.0 | -.330 | 40.00 | 191.97 | 90.390 | -.4000 | 16264.54 | 0 |
| | 2081.500 | 30.0 | -.150 | 30.00 | 192.62 | 90.790 | -.4000 | 16266.17 | 0 |
| | 2079.100 | 40.0 | -.200 | 30.00 | 197.42 | 93.190 | 0.0000 | 16300.62 | 0 |
| | 2077.000 | 35.0 | -.100 | 35.00 | 200.70 | 95.290 | -.4000 | 16434.05 | 0 |
| | 2073.800 | 25.0 | -.030 | 25.00 | 206.24 | 98.490 | -.4000 | 16525.79 | 0 |
| | 2072.000 | 40.0 | -.120 | 25.00 | 208.16 | 99.290 | 0.0000 | 16555.59 | 0 |
| TANEUM | 2070.500 | 50.0 | -.550 | 40.00 | 210.67 | 100.790 | 0.0000 | 16749.81 | 0 |
| | 2066.700 | 50.0 | -.600 | 50.00 | 215.31 | 104.590 | 0.0000 | 16861.57 | 0 |
| | 2065.500 | 40.0 | 0.100 | 40.00 | 216.79 | 105.790 | -.4000 | 16865.28 | 0 |
| | 2064.800 | 50.0 | -.190 | 40.00 | 217.84 | 106.490 | 0.0000 | 16921.92 | 0 |
| | 2063.200 | 55.0 | 0.050 | 50.00 | 219.89 | 108.090 | 0.0000 | 17101.21 | 0 |
| ELLENSBUR | 2060.700 | 55.0 | 0.220 | 55.00 | 222.70 | 110.590 | 0.0000 | 17399.74 | 0 |
| | 2058.000 | 55.0 | 0.050 | 55.00 | 225.65 | 113.290 | 0.0000 | 17742.57 | 0 |
| | 2055.500 | 55.0 | 0.500 | 45.44 | 228.41 | 115.790 | -.4000 | 17935.72 | 0 |
| | 2055.000 | 25.0 | 0.500 | 25.00 | 229.26 | 116.290 | -.4000 | 17937.85 | 0 |
| | 2054.600 | 25.0 | 0.280 | 25.00 | 230.22 | 116.690 | 0.0000 | 18000.49 | 0 |
| | 2053.400 | 25.0 | 1.500 | 25.00 | 233.10 | 117.890 | 0.0000 | 18128.97 | 0 |
| | 2052.700 | 25.0 | 1.600 | 19.55 | 235.03 | 118.589 | -.0187 | 18356.41 | 0 |

MOORE BUSINESS FORMS, INC. HO FORM 1062 PRINTED IN U.S.A. 17"

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMPS SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 2044.400 | 25.0 | 1.450 | 17.07 | 264.04 | 126.889 | 0.0000 | 21654.87 | 0 |
| LONG MILE | 2043.500 | 18.0 | -1.800 | 18.00 | 267.94 | 128.089 | -.4000 | 22100.44 | 0 |
| | 2041.200 | 18.0 | -2.120 | 18.00 | 275.61 | 130.389 | 0.0000 | 22119.61 | 0 |
| | 2038.900 | 18.0 | -2.180 | 18.00 | 283.27 | 132.689 | 0.0000 | 22138.78 | 0 |
| | 2034.200 | 18.0 | -2.040 | 18.00 | 298.94 | 137.389 | 0.0000 | 22177.94 | 0 |
| | 2027.900 | 18.0 | -2.200 | 18.00 | 319.94 | 143.689 | 0.0000 | 22230.44 | 0 |
| LONG MILE | 2026.500 | 25.0 | -.150 | 18.00 | 325.61 | 145.389 | 0.0000 | 22244.61 | 0 |
| | 2023.000 | 55.0 | 0.000 | 25.00 | 334.06 | 148.889 | 0.0000 | 22327.17 | 0 |
| | 2017.900 | 50.0 | 0.075 | 50.00 | 340.75 | 153.989 | -.4000 | 23035.78 | 0 |
| | 2017.300 | 40.0 | 0.100 | 40.00 | 341.51 | 154.589 | -.4000 | 23062.00 | 0 |
| | 2016.600 | 55.0 | 0.110 | 40.00 | 342.56 | 155.289 | 0.0000 | 23118.65 | 0 |
| | 2015.600 | 55.0 | -.100 | 45.84 | 343.95 | 156.289 | 0.0575 | 23283.80 | 0 |
| | 2014.200 | 55.0 | 0.180 | 54.13 | 345.62 | 157.689 | 0.0675 | 23481.47 | 0 |
| SMYRNA | 2012.300 | 55.0 | 0.400 | 55.00 | 347.71 | 159.589 | 0.0000 | 23719.61 | 0 |
| | 2008.500 | 40.0 | 0.400 | 40.00 | 352.16 | 163.389 | -.4000 | 24200.53 | 0 |
| CORFU | 2002.800 | 25.0 | 0.420 | 25.00 | 360.83 | 169.089 | -.4000 | 24998.19 | 0 |
| | 1999.200 | 40.0 | 0.400 | 25.00 | 369.47 | 172.689 | 0.0000 | 25497.14 | 0 |
| | 1998.000 | 50.0 | 0.400 | 35.54 | 371.78 | 173.888 | 0.0464 | 25764.34 | 0 |
| | 1997.200 | 25.0 | 0.400 | 25.00 | 373.16 | 174.688 | -.4000 | 25865.34 | 0 |
| | 1995.500 | 45.0 | 0.400 | 25.00 | 377.24 | 176.388 | 0.0000 | 26093.30 | 0 |
| | 1994.900 | 55.0 | 0.400 | 31.97 | 378.49 | 176.988 | 0.0663 | 26237.77 | 0 |
| | 1993.200 | 55.0 | 0.020 | 39.43 | 381.31 | 178.688 | 0.0285 | 26566.63 | 0 |
| | 1992.600 | 55.0 | 0.000 | 44.23 | 382.16 | 179.287 | 0.0823 | 26668.42 | 0 |
| | 1991.500 | 55.0 | 1.040 | 50.37 | 383.56 | 180.387 | 0.0621 | 26833.34 | 0 |
| | 1990.700 | 55.0 | 0.020 | 42.31 | 384.60 | 181.187 | -.1128 | 26956.47 | 0 |
| | 1990.400 | 50.0 | 0.750 | 44.45 | 385.01 | 181.487 | 0.0813 | 27005.58 | 0 |
| SHORT MIL | 1989.000 | 50.0 | 0.400 | 39.87 | 386.44 | 182.487 | -.0435 | 27174.64 | 0 |
| OTHELLO | 1987.300 | 0.0 | 0.400 | 0.00 | 389.76 | 184.187 | -.4000 | 27366.65 | 0 |
| OTHELLO | 1987.300 | 50.0 | 0.400 | 0.00 | 389.76 | 184.187 | 0.0000 | 27366.65 | 0 |
| | 1983.500 | 55.0 | 0.400 | 41.75 | 397.02 | 187.987 | 0.0178 | 28183.37 | 0 |
| | 1975.800 | 55.0 | 0.080 | 45.53 | 407.44 | 195.686 | 0.0008 | 29415.74 | 0 |
| | 1974.200 | 50.0 | 0.080 | 49.64 | 409.41 | 197.286 | -.4000 | 29639.94 | 0 |
| | 1973.900 | 40.0 | 0.020 | 40.00 | 409.81 | 197.586 | -.4000 | 29640.95 | 0 |
| SHORT MIL | 1972.800 | 55.0 | -.131 | 40.00 | 411.08 | 198.436 | 0.0000 | 29694.42 | 0 |
| SHORT MIL | 1969.300 | 55.0 | 0.000 | 55.00 | 415.00 | 201.736 | 0.0000 | 30057.92 | 0 |
| | 1966.400 | 55.0 | 0.100 | 55.00 | 418.16 | 204.636 | 0.0000 | 30282.46 | 0 |
| SERVIA | 1959.000 | 55.0 | 0.200 | 55.00 | 426.24 | 212.036 | 0.0000 | 31022.08 | 0 |
| | 1957.100 | 55.0 | 0.400 | 55.00 | 428.31 | 213.936 | 0.0000 | 31254.77 | 0 |
| | 1954.300 | 45.0 | 0.400 | 45.00 | 431.53 | 216.736 | -.4000 | 31608.62 | 0 |
| | 1953.300 | 50.0 | 0.400 | 45.00 | 432.86 | 217.736 | 0.0000 | 31762.67 | 0 |
| | 1949.900 | 45.0 | 0.400 | 45.00 | 437.41 | 221.166 | -.4000 | 32296.61 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | FUEL MPHPS | KWHS AT RAIL | A SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1949.100 | 50.0 | 0.400 | 45.00 | 438.43 | 221.936 | 0.0000 | 32415.23 | 0 |
| | 1948.000 | 55.0 | 0.400 | 45.21 | 439.90 | 223.035 | 0.0020 | 32587.64 | 0 |
| | 1945.400 | 40.0 | 0.400 | 40.00 | 443.34 | 225.635 | -.4000 | 32968.09 | 0 |
| | 1943.400 | 55.0 | 0.400 | 40.00 | 446.34 | 227.635 | 0.0000 | 33265.06 | 0 |
| | 1941.500 | 55.0 | 0.275 | 43.07 | 449.09 | 229.535 | 0.0117 | 33590.37 | 0 |
| | 1938.400 | 55.0 | 0.190 | 48.70 | 453.11 | 232.634 | 0.0135 | 34066.99 | 0 |
| | 1934.800 | 55.0 | 0.270 | 53.66 | 457.30 | 236.234 | 0.0114 | 34562.33 | 0 |
| | 1932.400 | 55.0 | -.370 | 53.10 | 460.00 | 238.633 | -.0025 | 34879.34 | 0 |
| | 1931.900 | 40.0 | -.280 | 40.00 | 460.63 | 239.133 | -.4000 | 34888.53 | 0 |
| | 1931.100 | 50.0 | -.070 | 40.00 | 461.83 | 239.933 | 0.0000 | 34891.53 | 0 |
| | 1929.300 | 40.0 | -.380 | 40.00 | 464.19 | 241.733 | -.4000 | 35107.14 | 0 |
| MARENGO | 1926.800 | 40.0 | 0.400 | 40.00 | 467.94 | 244.233 | 0.0000 | 35116.52 | 0 |
| | 1924.600 | 40.0 | 0.020 | 40.00 | 471.24 | 246.433 | 0.0000 | 35443.19 | 0 |
| | 1923.800 | 40.0 | 0.400 | 40.00 | 472.44 | 247.233 | 0.0000 | 35493.51 | 0 |
| | 1923.300 | 40.0 | -.450 | 40.00 | 473.19 | 247.733 | 0.0000 | 35567.76 | 0 |
| | 1922.200 | 40.0 | 0.400 | 40.00 | 474.84 | 248.833 | 0.0000 | 35571.88 | 0 |
| | 1919.800 | 40.0 | -.300 | 40.00 | 478.44 | 251.233 | 0.0000 | 35928.24 | 0 |
| | 1913.100 | 40.0 | 0.050 | 40.00 | 488.49 | 257.933 | 0.0000 | 35953.37 | 0 |
| | 1911.600 | 40.0 | 0.400 | 40.00 | 490.74 | 259.433 | 0.0000 | 36057.87 | 0 |
| | 1906.600 | 30.0 | 0.110 | 30.00 | 498.29 | 264.433 | -.4000 | 36765.24 | 0 |
| | 1905.200 | 30.0 | 0.400 | 30.00 | 501.09 | 265.833 | 0.0000 | 36867.31 | 0 |
| ROCK LAKE | 1894.600 | 30.0 | 0.160 | 30.00 | 522.29 | 276.433 | 0.0000 | 38332.39 | 0 |
| | 1894.000 | 30.0 | 0.400 | 30.00 | 523.49 | 277.033 | 0.0000 | 38382.89 | 0 |
| | 1892.000 | 30.0 | 0.120 | 30.00 | 527.49 | 279.033 | 0.0000 | 38659.31 | 0 |
| | 1891.300 | 30.0 | 0.350 | 30.00 | 528.89 | 279.733 | 0.0000 | 38711.93 | 0 |
| | 1890.200 | 35.0 | 0.350 | 30.00 | 531.09 | 280.833 | 0.0000 | 38851.57 | 0 |
| | 1888.600 | 35.0 | 0.400 | 35.00 | 533.91 | 282.433 | 0.0000 | 39111.68 | 0 |
| | 1888.200 | 40.0 | 0.400 | 35.00 | 534.60 | 282.833 | 0.0000 | 39168.85 | 0 |
| MALDEN | 1882.000 | 0.0 | 0.420 | 0.00 | 544.88 | 289.033 | -.4000 | 40067.80 | 0 |
| MALDEN | 1882.000 | 40.0 | 0.420 | 0.00 | 544.88 | 289.033 | 0.0000 | 40067.80 | 0 |
| | 1858.000 | 45.0 | 0.420 | 40.00 | 582.59 | 313.083 | 0.0000 | 43975.50 | 0 |
| | 1856.000 | 40.0 | 0.420 | 40.00 | 585.49 | 315.083 | -.4000 | 44307.11 | 0 |
| | 1853.900 | 45.0 | 0.100 | 40.00 | 588.64 | 317.183 | 0.0000 | 44628.39 | 0 |
| TEKOA | 1852.200 | 45.0 | 0.400 | 45.00 | 590.97 | 318.883 | 0.0000 | 44839.78 | 0 |
| | 1850.000 | 40.0 | 0.400 | 40.00 | 593.91 | 321.083 | -.4000 | 45156.49 | 0 |
| | 1841.300 | 30.0 | 0.400 | 30.00 | 607.17 | 329.883 | -.4000 | 46428.11 | 0 |
| | 1840.100 | 40.0 | -.900 | 30.00 | 609.57 | 331.083 | 0.0000 | 46593.97 | 0 |
| PLUMMER J | 1836.900 | 25.0 | -.700 | 25.00 | 614.57 | 334.283 | -.4000 | 46667.58 | 0 |
| | 1833.200 | 20.0 | -.700 | 20.00 | 623.47 | 337.983 | -.4000 | 46689.84 | 0 |
| SHORT MIL | 1825.000 | 25.0 | 0.100 | 20.00 | 648.07 | 346.183 | 0.0000 | 46751.34 | 0 |
| | 1824.500 | 35.0 | 0.100 | 25.00 | 649.31 | 346.683 | 0.0000 | 46819.56 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUA MINUTES | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1761,100 | 25,0 | 1,780 | 14,87 | 803,59 | 410,079 | -,0078 | 57422,26 | | 0 |
| | 1759,400 | 25,0 | 1,600 | 14,88 | 810,44 | 411,779 | 0,0000 | 58167,41 | | 0 |
| | 1758,800 | 25,0 | 1,980 | 16.85 | 812,67 | 412,379 | 0,0035 | 58416.17 | | 0 |
| | 1757,300 | 25,0 | 1,700 | 13,54 | 819,14 | 413,879 | 0,0000 | 59124,82 | -19.5% | 0 |
| | 1756,300 | 25,0 | 1,550 | 15,80 | 823,06 | 414,879 | 0,0000 | 59555,72 | | 0 |
| | 1755,600 | 25,0 | 1,750 | 17,57 | 825,53 | 415,578 | 0,0022 | 59836,09 | | 0 |
| | 1754,200 | 25,0 | 1,700 | 15,17 | 830,91 | 416,978 | -,0002 | 60428,57 | | 0 |
| | 1753,000 | 25,0 | 1,880 | 15,80 | 835,51 | 418,178 | 0,0000 | 60936,49 | .7 mile | 0 |
| ROLAND | 1751,900 | 15,0 | 2,050 | 14,21 | 840,07 | 419,278 | 0,0000 | 61435,75 | | 0 |
| | 1751,200 | 15,0 | 1,300 | 13,07 | 843,24 | 419,978 | 0,0000 | 61779,72 | ADH = 20% | 0 |
| | 1750,900 | 15,0 | -,200 | 15,00 | 844,46 | 420,278 | 0,0000 | 61887,24 | | 0 |
| | 1749,200 | 25,0 | -1,070 | 15,00 | 851,26 | 421,978 | 0,0000 | 61904,24 | | 0 |
| EST PORTA | 1749,000 | 25,0 | -1,600 | 25,00 | 851,82 | 422,178 | 0,0000 | 61939,37 | | 0 |
| | 1748,300 | 25,0 | -1,000 | 25,00 | 853,50 | 422,878 | 0,0000 | 61943,57 | | 0 |
| | 1747,800 | 25,0 | -1,650 | 25,00 | 854,70 | 423,378 | 0,0000 | 61946,57 | | 0 |
| | 1747,400 | 25,0 | -1,050 | 25,00 | 855,66 | 423,778 | 0,0000 | 61948,97 | | 0 |
| | 1744,900 | 25,0 | -1,400 | 25,00 | 861,66 | 426,278 | 0,0000 | 61963,97 | | 0 |
| | 1738,100 | 25,0 | -,600 | 25,00 | 877,98 | 433,078 | 0,0000 | 62004,77 | | 0 |
| | 1737,800 | 30,0 | -,400 | 25,00 | 878,70 | 433,378 | 0,0000 | 62006,57 | | 0 |
| | 1737,000 | 30,0 | -,650 | 30,00 | 880,32 | 434,178 | 0,0000 | 62046,49 | | 0 |
| | 1736,500 | 45,0 | -,820 | 30,00 | 881,32 | 434,678 | 0,0000 | 62048,99 | | 0 |
| | 1733,300 | 45,0 | -,580 | 45,00 | 885,73 | 437,878 | 0,0000 | 62161,90 | | 0 |
| | 1732,400 | 50,0 | -,620 | 45,00 | 886,93 | 438,778 | 0,0000 | 62164,90 | | 0 |
| | 1731,000 | 50,0 | -,450 | 50,00 | 888,63 | 440,178 | 0,0000 | 62218,19 | | 0 |
| HENDERSON | 1730,100 | 25,0 | -,350 | 25,00 | 889,97 | 441,078 | -,4000 | 62221,54 | | 0 |
| | 1727,400 | 25,0 | -,240 | 25,00 | 896,45 | 443,778 | 0,0000 | 62237,74 | | 0 |
| | 1725,000 | 25,0 | -,470 | 25,00 | 902,21 | 446,178 | 0,0000 | 62252,14 | | 0 |
| | 1724,200 | 25,0 | -,100 | 25,00 | 904,13 | 446,978 | 0,0000 | 62256,94 | | 0 |
| | 1723,600 | 25,0 | -,590 | 25,00 | 905,57 | 447,578 | 0,0000 | 62269,83 | | 0 |
| | 1723,000 | 25,0 | -,370 | 25,00 | 907,01 | 448,178 | 0,0000 | 62273,43 | | 0 |
| FORAKER | 1720,200 | 30,0 | -,370 | 25,00 | 913,73 | 450,978 | 0,0000 | 62290,23 | | 0 |
| | 1718,200 | 25,0 | -,370 | 25,00 | 917,78 | 452,978 | -,4000 | 62337,04 | | 0 |
| | 1717,900 | 25,0 | 0,240 | 25,00 | 918,50 | 453,278 | 0,0000 | 62338,84 | | 0 |
| | 1716,900 | 45,0 | 0,320 | 25,00 | 920,90 | 454,278 | 0,0000 | 62436,90 | | 0 |
| | 1715,500 | 45,0 | -,240 | 37,93 | 923,48 | 455,677 | 0,0514 | 62736,44 | | 0 |
| | 1715,000 | 35,0 | -,060 | 35,00 | 924,24 | 456,177 | -,4000 | 62791,56 | | 0 |
| | 1714,200 | 45,0 | -,140 | 35,00 | 925,61 | 456,977 | 0,0000 | 62823,01 | | 0 |
| | 1713,300 | 45,0 | 0,270 | 45,00 | 926,94 | 457,877 | 0,0000 | 62973,06 | | 0 |
| | 1710,700 | 45,0 | 0,020 | 45,00 | 930,41 | 460,477 | 0,0000 | 63297,48 | | 0 |
| ASHMORE | 1709,700 | 45,0 | 0,400 | 45,00 | 931,74 | 461,477 | 0,0000 | 63365,96 | | 0 |
| | 1706,300 | 55,0 | 0,400 | 45,00 | 936,28 | 464,877 | 0,0000 | 63889,75 | | 0 |

MOORE BUSINESS FORMS, INC.
FORM 1610
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1705,900 | 55,0 | -0,230 | 45.08 | 936,81 | 465.276 | 0.0025 | 63952.45 | 0 |
| | 1704,100 | 55,0 | 0,370 | 55,00 | 938,90 | 467,076 | 0,0000 | 64145,98 | 0 |
| | 1701,500 | 55,0 | 0,350 | 51.14 | 941.85 | 469,676 | -,0149 | 64492.66 | 0 |
| | 1700,700 | 55,0 | 0,230 | 50,59 | 942,79 | 470,475 | -,0088 | 64604.28 | 0 |
| | 1697,000 | 45,0 | 0,060 | 45,00 | 947,09 | 474,175 | -,4000 | 65072,63 | 0 |
| | 1696,000 | 55,0 | 0,120 | 45.00 | 948,42 | 475.175 | 0,0000 | 65150.12 | 0 |
| | 1693,200 | 35,0 | 0,200 | 35.00 | 951,92 | 477,975 | -,4000 | 65481,47 | 0 |
| | 1691,500 | 50,0 | 0,360 | 35,00 | 954,83 | 479,675 | 0,0000 | 65647,86 | 0 |
| | 1689,800 | 45,0 | 0,360 | 41.45 | 957.48 | 481.375 | 0,0272 | 65959.40 | 0 |
| TARKIO | 1687,500 | 35,0 | 0,370 | 35.00 | 960,70 | 483,675 | -,4000 | 66293,84 | 0 |
| | 1686,600 | 50,0 | 0,400 | 35.00 | 962,24 | 484,575 | 0,0000 | 66416,38 | 0 |
| | 1685,100 | 50,0 | 0,040 | 40,15 | 964,62 | 486,075 | 0,0252 | 66695,98 | 0 |
| | 1684,100 | 45,0 | 0,350 | 45.00 | 966,00 | 487,075 | -,4000 | 66851,22 | 0 |
| | 1682,800 | 45,0 | -,180 | 45.00 | 967,73 | 488,375 | 0,0000 | 67036,85 | 0 |
| | 1681,600 | 55,0 | 0,230 | 45,00 | 969,33 | 489,575 | 0,0000 | 67064,97 | 0 |
| | 1680,300 | 55,0 | 0,070 | 48,09 | 971,01 | 490,875 | 0,0249 | 67263.17 | 0 |
| | 1679,000 | 45,0 | 0,070 | 45,00 | 972,57 | 492,175 | -,4000 | 67415,16 | 0 |
| | 1676,800 | 50,0 | 0,100 | 45,00 | 975,50 | 494,375 | 0,0000 | 67590.59 | 0 |
| | 1675,700 | 50,0 | 0,250 | 49,50 | 976,90 | 495,474 | 0,0454 | 67755.68 | 0 |
| | 1675,100 | 50,0 | 0,320 | 50,00 | 977,62 | 496,074 | 0,0000 | 67839,52 | 0 |
| | 1673,100 | 35,0 | 0,240 | 35,00 | 980,11 | 498,074 | -,4000 | 68061,98 | 0 |
| ALBERTON | 1672,300 | 0,0 | 0,280 | 0,00 | 982,21 | 498,874 | -,4000 | 68105,67 | 0 |
| ALBERTON | 1672,300 | 45,0 | 0,280 | 0,00 | 982,21 | 498,874 | 0,0000 | 68105,67 | 0 |
| LONG MILE | 1669,900 | 45,0 | -,180 | 41.91 | 987,30 | 501,374 | 0,0410 | 68668,11 | 0 |
| | 1668,800 | 45,0 | -,200 | 45,00 | 988,78 | 502,474 | 0,0000 | 68735,35 | 0 |
| | 1665,900 | 50,0 | -,200 | 45,00 | 992,65 | 505,374 | 0,0000 | 68790,26 | 0 |
| | 1664,400 | 50,0 | 0,160 | 50,00 | 994,49 | 506,874 | 0,0000 | 68901,14 | 0 |
| | 1662,000 | 45,0 | 0,160 | 45,00 | 997,38 | 509,274 | -,4000 | 69140,21 | 0 |
| | 1661,500 | 55,0 | 0,160 | 45,00 | 998,04 | 509,774 | 0,0000 | 69190,22 | 0 |
| | 1660,500 | 55,0 | 0,060 | 48,40 | 999,33 | 510,774 | 0,0377 | 69342,12 | 0 |
| | 1656,500 | 55,0 | 0,245 | 55,00 | 1003,83 | 514,774 | 0,0000 | 69803,94 | 0 |
| | 1654,000 | 55,0 | 0,085 | 54,41 | 1006,57 | 517,273 | -,0025 | 70124,22 | 0 |
| | 1650,200 | 55,0 | 0,400 | 55,00 | 1010,72 | 521,073 | 0,0000 | 70501,12 | 0 |
| | 1646,100 | 55,0 | -,200 | 48,71 | 1015,50 | 525,172 | -,0115 | 71066,14 | 0 |
| | 1644,300 | 55,0 | 0,210 | 55,00 | 1017,53 | 526,972 | 0,0000 | 71222,70 | 0 |
| | 1642,100 | 20,0 | 0,370 | 20,00 | 1020,39 | 529,172 | -,4000 | 71387,05 | 0 |
| | 1640,300 | 45,0 | 0,415 | 20,00 | 1025,79 | 530,972 | 0,0000 | 71609,88 | 0 |
| NEAL | 1636,200 | 45,0 | 0,160 | 41,94 | 1032,78 | 535,071 | 0,0139 | 72428,70 | 0 |
| | 1634,000 | 55,0 | 0,000 | 45,00 | 1035,74 | 537,271 | 0,0000 | 72689,20 | 0 |
| | 1633,700 | 55,0 | 0,360 | 46,86 | 1036,13 | 537,571 | 0,0756 | 72735,49 | 0 |
| | 1627,000 | 55,0 | 0,390 | 47,70 | 1044,62 | 544,270 | 0,0004 | 73740,92 | 0 |

MOORE BUSINESS FORMS, INC. FORM 1C-3 PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1619.500 | 55.0 | 0.300 | 46.26 | 1054.21 | 551.770 | -.0001 | 74877.32 | 0 |
| | 1617.600 | 55.0 | 0.390 | 48.27 | 1056.62 | 553.670 | 0.0102 | 75162.80 | 0 |
| | 1615.300 | 55.0 | 0.270 | 47.27 | 1059.51 | 555.969 | -.0040 | 75505.38 | 0 |
| | 1613.700 | 45.0 | 0.320 | 45.00 | 1061.51 | 557.569 | -.4000 | 75722.08 | 0 |
| | 1612.000 | 45.0 | 0.400 | 45.00 | 1063.77 | 559.269 | 0.0000 | 75953.34 | 0 |
| | 1610.800 | 45.0 | 0.280 | 45.00 | 1065.37 | 560.469 | 0.0000 | 76138.21 | 0 |
| | 1608.500 | 45.0 | 0.360 | 45.00 | 1068.44 | 562.769 | 0.0000 | 76430.38 | 0 |
| | 1602.900 | 45.0 | 0.120 | 45.00 | 1075.91 | 568.369 | 0.0000 | 77242.64 | 0 |
| BEARMOUTH | 1602.200 | 35.0 | 0.370 | 35.00 | 1076.89 | 569.069 | -.4000 | 77282.10 | 0 |
| | 1600.800 | 45.0 | 0.400 | 35.00 | 1079.29 | 570.469 | 0.0000 | 77472.72 | 0 |
| | 1598.900 | 45.0 | 0.400 | 41.01 | 1082.26 | 572.368 | 0.0212 | 77822.84 | 0 |
| OZAN | 1598.100 | 45.0 | 0.130 | 42.27 | 1083.41 | 573.168 | 0.0154 | 77959.39 | 0 |
| | 1596.400 | 45.0 | 0.320 | 45.00 | 1085.70 | 574.868 | 0.0000 | 78154.38 | 0 |
| | 1595.700 | 50.0 | 0.320 | 45.00 | 1086.64 | 575.568 | 0.0000 | 78249.61 | 0 |
| | 1592.700 | 45.0 | 0.320 | 45.00 | 1090.51 | 578.568 | -.4000 | 78693.70 | 0 |
| | 1592.000 | 55.0 | 0.320 | 45.00 | 1091.44 | 579.268 | 0.0000 | 78788.93 | 0 |
| | 1588.600 | 55.0 | 0.400 | 48.21 | 1095.81 | 582.667 | 0.0064 | 79306.01 | 0 |
| | 1585.100 | 50.0 | 0.400 | 46.59 | 1100.25 | 586.167 | -.0033 | 79831.84 | 0 |
| | 1583.000 | 55.0 | 0.400 | 46.18 | 1102.96 | 588.266 | -.0018 | 80153.19 | 0 |
| GOLD CREE | 1579.500 | 45.0 | 0.210 | 45.00 | 1107.53 | 591.766 | -.4000 | 80688.52 | 0 |
| | 1578.500 | 50.0 | 0.100 | 45.00 | 1108.86 | 592.766 | 0.0000 | 80799.79 | 0 |
| | 1578.000 | 50.0 | 0.400 | 47.28 | 1109.51 | 593.265 | 0.0540 | 80876.63 | 0 |
| | 1576.700 | 40.0 | 0.400 | 40.00 | 1111.19 | 594.565 | -.4000 | 81042.18 | 0 |
| | 1575.700 | 45.0 | 0.400 | 40.00 | 1112.69 | 595.565 | 0.0000 | 81190.66 | 0 |
| | 1572.000 | 55.0 | 0.300 | 44.35 | 1117.90 | 599.265 | 0.0058 | 81808.14 | 0 |
| | 1570.900 | 55.0 | 0.400 | 46.25 | 1119.36 | 600.365 | 0.0180 | 81980.30 | 0 |
| | 1567.300 | 55.0 | 0.310 | 45.89 | 1124.04 | 603.964 | -.0006 | 82534.70 | 0 |
| | 1564.100 | 55.0 | 0.400 | 48.75 | 1128.10 | 607.163 | 0.0063 | 83015.19 | 0 |
| | 1562.200 | 15.0 | 0.180 | 15.00 | 1130.93 | 609.063 | -.4000 | 83191.96 | 0 |
| DEER LODG | 1561.200 | 0.0 | 0.220 | 0.00 | 1135.24 | 610.063 | -.4000 | 83265.47 | 0 |
| DEER LODG | 1561.200 | 15.0 | 0.220 | 0.00 | 1135.24 | 610.063 | 0.0000 | 83265.47 | 0 |
| | 1560.100 | 55.0 | 0.350 | 15.00 | 1139.96 | 611.163 | 0.0000 | 83396.24 | 0 |
| | 1557.300 | 55.0 | 0.700 | 41.29 | 1145.09 | 613.963 | 0.0299 | 83995.53 | 0 |
| | 1555.900 | 55.0 | 0.600 | 37.37 | 1147.24 | 615.363 | -.0220 | 84248.47 | 0 |
| SINCLAIR | 1554.100 | 45.0 | 0.280 | 37.13 | 1150.13 | 617.162 | -.0009 | 84588.33 | 0 |
| | 1553.100 | 55.0 | 0.000 | 41.82 | 1151.65 | 618.161 | 0.0414 | 84767.26 | 0 |
| | 1551.700 | 55.0 | 0.350 | 50.31 | 1153.46 | 619.561 | 0.0623 | 84981.95 | 0 |
| | 1548.800 | 55.0 | 0.600 | 49.19 | 1156.96 | 622.460 | -.0034 | 85396.87 | 0 |
| | 1547.400 | 45.0 | 0.600 | 44.47 | 1158.76 | 623.860 | -.0348 | 85609.76 | 0 |
| | 1536.500 | 40.0 | 0.600 | 36.93 | 1175.73 | 634.760 | 0.0000 | 87606.56 | 0 |
| | 1535.200 | 20.0 | 0.600 | 20.00 | 1178.00 | 636.060 | -.4000 | 87791.05 | 0 |

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| SHORT MIL | 1532,600 | 25,0 | 0,630 | 20.00 | 1185.35 | 638,510 | 0,0000 | 88221.24 | 0 |
| | 1531,600 | 25,0 | 0,310 | 25,00 | 1187,81 | 639,510 | 0,0000 | 88441.87 | 0 |
| | 1531,300 | 50,0 | 0,280 | 25.00 | 1188.53 | 639,810 | 0,0000 | 88476.02 | 0 |
| | 1529,000 | 50,0 | 0,360 | 42.42 | 1192,41 | 642,109 | 0,0387 | 88929.91 | 0 |
| | 1528,200 | 30,0 | 0,390 | 30.00 | 1193,61 | 642,909 | -,4000 | 89007.71 | 0 |
| LONG MILE | 1527,200 | 30,0 | 0,360 | 30,00 | 1195,81 | 644,009 | 0,0000 | 89157,27 | 0 |
| | 1525,700 | 30,0 | 0,530 | 30.00 | 1198,81 | 645,509 | 0,0000 | 89351.08 | 0 |
| | 1524,200 | 30,0 | 0,600 | 30,00 | 1201,81 | 647,009 | 0,0000 | 89602.32 | 0 |
| | 1523,100 | 30,0 | 0,137 | 30,00 | 1204,01 | 648,109 | 0,0000 | 89803,90 | 0 |
| LONG MILE | 1523,000 | 30,0 | 1,060 | 30,00 | 1204,21 | 648,209 | 0,0000 | 89811.79 | 0 |
| BUTTE | 1522,000 | 30,0 | -,410 | 25,86 | 1206,83 | 649,409 | -,0090 | 90117,15 | 0 |
| | 1521,500 | 15,0 | 0,000 | 15,00 | 1208,00 | 649,909 | -,4000 | 90149,99 | 0 |
| | 1520,900 | 35,0 | 0,750 | 15,00 | 1210,40 | 650,509 | 0,0000 | 90172,49 | 0 |
| | 1520,500 | 35,0 | 0,300 | 24,00 | 1211,59 | 650,908 | 0,0748 | 90311,16 | 0 |
| SHORT MIL | 1519,400 | 55,0 | 0,705 | 34,26 | 1213,20 | 651,708 | 0,0732 | 90497,28 | 0 |
| LONG MILE | 1518,000 | 55,0 | 0,173 | 33,43 | 1215,87 | 653,207 | -,0031 | 90804,07 | 0 |
| LONG MILE | 1517,600 | 55,0 | 0,901 | 38,76 | 1216,86 | 653,807 | 0,0770 | 90920,15 | 0 |
| | 1516,400 | 25,0 | 0,060 | 25,00 | 1218,94 | 655,007 | -,4000 | 91123,52 | 0 |
| NEWCOMB | 1514,900 | 25,0 | 1,400 | 25,00 | 1222,54 | 656,507 | 0,0000 | 91209,81 | 0 |
| | 1514,300 | 25,0 | 1,660 | 21,16 | 1224,12 | 657,107 | -,0202 | 91396,60 | 0 |
| LONG MILE | 1512,100 | 25,0 | 1,560 | 16,31 | 1232,62 | 659,507 | 0,0000 | 92358,23 | 0 |
| | 1511,000 | 25,0 | 1,660 | 17,59 | 1236,45 | 660,607 | 0,0000 | 92794,15 | 0 |
| SHORT MIL | 1508,000 | 25,0 | 1,660 | 16,31 | 1246,67 | 663,407 | -,0000 | 93941,52 | 0 |
| SHORT MIL | 1505,900 | 25,0 | -1,250 | 16,31 | 1252,93 | 665,107 | -,0000 | 94642,11 | 0 |
| LONG MILE | 1505,300 | 25,0 | -1,840 | 20,82 | 1254,81 | 665,706 | 0,0140 | 94860,96 | 0 |
| SHORT MIL | 1501,900 | 25,0 | -1,510 | 25,00 | 1257,95 | 667,006 | 0,0000 | 94873,58 | 0 |
| LONG MILE | 1500,300 | 25,0 | -1,900 | 25,00 | 1267,07 | 670,806 | 0,0000 | 94896,38 | 0 |
| SHORT MIL | 1498,000 | 25,0 | -1,650 | 25,00 | 1272,23 | 672,956 | 0,0000 | 94909,28 | 0 |
| | 1494,800 | 25,0 | -1,850 | 25,00 | 1279,91 | 676,156 | 0,0000 | 94928,48 | 0 |
| SHORT MIL | 1493,000 | 25,0 | -1,420 | 25,00 | 1283,99 | 677,856 | 0,0000 | 94938,68 | 0 |
| LONG MILE | 1492,000 | 25,0 | -1,720 | 25,00 | 1286,75 | 679,006 | 0,0000 | 94945,58 | 0 |
| SHORT MIL | 1491,000 | 25,0 | -1,760 | 25,00 | 1288,67 | 679,806 | 0,0000 | 94950,38 | 0 |
| | 1489,300 | 25,0 | -1,990 | 25,00 | 1292,75 | 681,506 | 0,0000 | 94960,58 | 0 |
| SHORT MIL | 1487,200 | 25,0 | -1,200 | 25,00 | 1297,43 | 683,456 | 0,0000 | 94972,28 | 0 |
| | 1486,400 | 25,0 | -2,000 | 25,00 | 1299,35 | 684,256 | 0,0000 | 94977,08 | 0 |
| | 1485,700 | 25,0 | -,570 | 25,00 | 1301,03 | 684,956 | 0,0000 | 94981,28 | 0 |
| | 1485,000 | 40,0 | -2,000 | 25,00 | 1302,71 | 685,656 | 0,0000 | 94985,48 | 0 |
| PIEDMONT | 1484,500 | 40,0 | -,222 | 40,00 | 1303,57 | 686,156 | 0,0000 | 95003,44 | 0 |
| SHORT MIL | 1483,000 | 55,0 | -,180 | 40,00 | 1305,67 | 687,556 | 0,0000 | 95015,22 | 0 |
| | 1475,200 | 35,0 | -,180 | 35,00 | 1314,52 | 695,256 | -,4000 | 95485,41 | 0 |
| SHORT MIL | 1474,600 | 25,0 | 0,040 | 25,00 | 1315,61 | 695,856 | -,4000 | 95491,27 | 0 |

MOORE BUSINESS FORMS, INC.
FORM 1070
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUA MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1472.000 | 40.0 | 0.040 | 25.00 | 1321.85 | 698.456 | 0.0000 | 95629.12 | 0 |
| | 1470.200 | 25.0 | 0.160 | 25.00 | 1324.99 | 700.256 | -.4000 | 95875.93 | 0 |
| | 1468.800 | 50.0 | -.160 | 25.00 | 1328.35 | 701.656 | 0.0000 | 95987.99 | 0 |
| SHORT MIL | 1466.700 | 40.0 | -.100 | 40.00 | 1331.09 | 703.406 | -.4000 | 96273.84 | 0 |
| | 1464.900 | 40.0 | -.080 | 40.00 | 1333.79 | 705.206 | 0.0000 | 96338.43 | 0 |
| SHORT MIL | 1463.100 | 50.0 | -.166 | 40.00 | 1336.11 | 706.756 | 0.0000 | 96401.04 | 0 |
| | 1459.600 | 55.0 | -.166 | 50.00 | 1340.45 | 710.256 | 0.0000 | 96652.03 | 0 |
| | 1457.900 | 55.0 | 0.040 | 55.00 | 1342.35 | 711.956 | 0.0000 | 96799.50 | 0 |
| | 1456.300 | 55.0 | -.300 | 55.00 | 1344.09 | 713.556 | 0.0000 | 96937.79 | 0 |
| | 1453.200 | 55.0 | -.160 | 55.00 | 1347.47 | 716.656 | 0.0000 | 96968.39 | 0 |
| THREE FOR | 1450.000 | 0.0 | -.160 | 0.00 | 1352.11 | 719.856 | -.4000 | 97063.10 | 0 |
| THREE FOR | 1450.000 | 45.0 | -.160 | 0.00 | 1352.11 | 719.856 | 0.0000 | 97063.10 | 0 |
| | 1448.700 | 55.0 | -.160 | 41.79 | 1354.93 | 721.056 | 0.1296 | 97353.15 | 0 |
| | 1447.300 | 55.0 | -.110 | 53.43 | 1356.80 | 722.556 | 0.0823 | 97574.96 | 0 |
| | 1446.000 | 55.0 | 0.220 | 55.00 | 1358.22 | 723.856 | 0.0000 | 97669.70 | 0 |
| | 1445.200 | 55.0 | -.200 | 55.00 | 1359.10 | 724.656 | 0.0000 | 97771.28 | 0 |
| | 1444.900 | 55.0 | -.120 | 55.00 | 1359.42 | 724.956 | 0.0000 | 97781.00 | 0 |
| ROCK QUAR | 1442.800 | 30.0 | 0.120 | 30.00 | 1361.95 | 727.056 | -.4000 | 97852.26 | 0 |
| | 1441.800 | 30.0 | -.070 | 30.00 | 1363.95 | 728.056 | 0.0000 | 97927.42 | 0 |
| SHORT MIL | 1440.200 | 30.0 | -.010 | 30.00 | 1366.65 | 729.406 | 0.0000 | 97971.12 | 0 |
| | 1439.200 | 35.0 | -.010 | 30.00 | 1368.65 | 730.406 | 0.0000 | 98017.00 | 0 |
| | 1438.900 | 35.0 | 0.180 | 34.83 | 1369.20 | 730.705 | 0.1319 | 98080.36 | 0 |
| | 1438.200 | 35.0 | -.300 | 35.00 | 1370.40 | 731.405 | 0.0000 | 98147.62 | 0 |
| | 1437.700 | 35.0 | 0.220 | 35.00 | 1371.26 | 731.905 | 0.0000 | 98149.76 | 0 |
| | 1437.100 | 35.0 | -.270 | 35.00 | 1372.29 | 732.505 | 0.0000 | 98211.19 | 0 |
| | 1436.700 | 45.0 | -.060 | 35.00 | 1372.98 | 732.905 | 0.0000 | 98212.91 | 0 |
| | 1435.900 | 45.0 | 0.300 | 43.72 | 1374.19 | 733.705 | 0.1007 | 98355.90 | 0 |
| | 1435.200 | 45.0 | -.100 | 45.00 | 1375.13 | 734.405 | 0.0000 | 98465.31 | 0 |
| | 1433.200 | 45.0 | 0.310 | 45.00 | 1377.80 | 736.405 | 0.0000 | 98548.22 | 0 |
| | 1432.800 | 35.0 | 0.200 | 35.00 | 1378.38 | 736.805 | -.4000 | 98565.62 | 0 |
| | 1431.700 | 25.0 | 0.310 | 25.00 | 1380.32 | 737.905 | -.4000 | 98653.93 | 0 |
| | 1431.100 | 25.0 | 0.160 | 25.00 | 1381.76 | 738.505 | 0.0000 | 98722.23 | 0 |
| LOMBARD | 1430.000 | 25.0 | 0.660 | 25.00 | 1384.40 | 739.605 | 0.0000 | 98810.27 | 0 |
| | 1429.500 | 40.0 | 0.500 | 25.00 | 1385.60 | 740.105 | 0.0000 | 98906.60 | 0 |
| | 1427.400 | 25.0 | 0.630 | 25.00 | 1389.58 | 742.205 | -.4000 | 99315.36 | 0 |
| | 1425.400 | 25.0 | 0.900 | 25.00 | 1394.38 | 744.205 | 0.0000 | 99687.14 | 0 |
| | 1424.800 | 25.0 | 1.020 | 25.00 | 1395.82 | 744.805 | 0.0000 | 99835.16 | 0 |
| DEER PARK | 1423.500 | 25.0 | 0.680 | 25.00 | 1398.94 | 746.105 | 0.0000 | 100190.99 | 0 |
| | 1422.800 | 25.0 | 1.020 | 25.00 | 1400.62 | 746.805 | 0.0000 | 100328.99 | 0 |
| | 1420.200 | 35.0 | 0.497 | 25.00 | 1406.86 | 749.405 | 0.0000 | 101040.65 | 0 |
| | 1418.200 | 30.0 | 0.534 | 30.00 | 1410.64 | 751.405 | -.4000 | 101440.74 | 0 |

MOORE BUSINESS FORMS, INC.
FORM 1
PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQUARED MINUTES |
|---|---|---|---|---|---|---|---|---|---|
| | 1415,200 | 30,0 | 1,010 | 30,00 | 1416,64 | 754,405 | 0,0000 | 101945.92 | 0 |
| | 1414,000 | 25,0 | 1,010 | 25,00 | 1419,21 | 755,605 | -,4000 | 102236,23 | 0 |
| | 1412,200 | 30,0 | 1,010 | 25,00 | 1423,53 | 757,405 | 0,0000 | 102724,87 | 0 |
| | 1410,800 | 25,0 | 1,030 | 25,00 | 1426,81 | 758,805 | -,4000 | 103107,50 | 0 |
| | 1406,900 | 25,0 | 0,800 | 25,00 | 1436,17 | 762,705 | 0,0000 | 104183,78 | 0 |
| | 1406,100 | 25,0 | 1,020 | 25,00 | 1438,09 | 763,505 | 0,0000 | 104363,12 | 0 |
| | 1405,400 | 55,0 | 0,130 | 25,00 | 1439,77 | 764,205 | 0,0000 | 104554,72 | 0 |
| | 1404,700 | 55,0 | 0,950 | 35,75 | 1441,13 | 764,905 | 0,0995 | 104711,90 | 0 |
| | 1404,200 | 55,0 | 0,370 | 32,79 | 1442,00 | 765,404 | -,0484 | 104813,04 | 0 |
| | 1403,100 | 55,0 | 0,860 | 38,49 | 1443,84 | 766,504 | 0,0388 | 105027,50 | 0 |
| | 1401,900 | 55,0 | 0,230 | 33,02 | 1445,87 | 767,703 | -,0317 | 105262,99 | 0 |
| | 1400,900 | 25,0 | 0,800 | 25,00 | 1447,60 | 768,703 | -,4000 | 105400,43 | 0 |
| FANALULU | 1399,900 | 25,0 | 1,000 | 25,00 | 1450,00 | 769,703 | 0,0000 | 105624,60 | 0 |
| | 1399,200 | 30,0 | 1,000 | 25,00 | 1451,68 | 770,403 | 0,0000 | 105813,05 | 0 |
| | 1397,500 | 30,0 | 0,250 | 26,08 | 1455,64 | 772,103 | 0,0006 | 106280,25 | 0 |
| | 1397,000 | 45,0 | 0,120 | 30,00 | 1456,68 | 772,603 | 0,0000 | 106366,50 | 0 |
| MOYNE | 1396,200 | 45,0 | 0,860 | 38,92 | 1458,06 | 773,403 | 0,0868 | 106526,62 | 0 |
| | 1395,200 | 45,0 | 0,430 | 34,06 | 1459,71 | 774,403 | -,0377 | 106719,21 | 0 |
| | 1394,200 | 55,0 | 0,450 | 37,89 | 1461,37 | 775,403 | 0,0296 | 106913,24 | 0 |
| | 1390,900 | 55,0 | 0,290 | 42,08 | 1466,28 | 778,702 | 0,0062 | 107494,08 | 0 |
| | 1389,800 | 35,0 | 0,980 | 35,00 | 1467,83 | 779,802 | -,4000 | 107632,70 | 0 |
| | 1388,800 | 30,0 | 0,980 | 29,47 | 1469,70 | 780,801 | -,0326 | 107847,48 | 0 |
| | 1386,500 | 35,0 | 0,980 | 26,50 | 1474,74 | 783,101 | 0,0000 | 108434,89 | 0 |
| | 1382,600 | 30,0 | 1,020 | 26,50 | 1483,57 | 787,001 | 0,0000 | 109472,06 | 0 |
| | 1381,500 | 30,0 | 0,000 | 25,85 | 1486,09 | 788,100 | -,0009 | 109768,75 | 0 |
| LOWETH | 1381,000 | 30,0 | -,320 | 30,00 | 1487,12 | 788,600 | 0,0000 | 109828,78 | 0 |
| | 1380,300 | 30,0 | -1,740 | 30,00 | 1488,52 | 789,300 | 0,0000 | 109832,28 | 0 |
| | 1378,600 | 30,0 | -1,200 | 30,00 | 1491,92 | 791,000 | 0,0000 | 109840,78 | 0 |
| | 1377,900 | 25,0 | -1,200 | 25,00 | 1493,33 | 791,700 | -,4000 | 109844,32 | 0 |
| | 1375,600 | 25,0 | -,825 | 25,00 | 1498,85 | 794,000 | 0,0000 | 109858,12 | 0 |
| | 1375,100 | 30,0 | -,825 | 25,00 | 1500,05 | 794,500 | 0,0000 | 109861,12 | 0 |
| | 1373,300 | 25,0 | -,825 | 25,00 | 1503,69 | 796,300 | -,4000 | 109897,35 | 0 |
| | 1371,600 | 55,0 | -,800 | 25,00 | 1507,77 | 798,000 | 0,0000 | 109907,55 | 0 |
| | 1368,900 | 55,0 | -,720 | 55,00 | 1511,19 | 800,700 | 0,0000 | 110133,46 | 0 |
| | 1367,000 | 55,0 | -,450 | 55,00 | 1513,26 | 802,600 | 0,0000 | 110138,65 | 0 |
| | 1366,700 | 50,0 | -,450 | 50,00 | 1513,60 | 802,900 | -,4000 | 110139,49 | 0 |
| | 1365,200 | 55,0 | 0,360 | 50,00 | 1515,40 | 804,400 | 0,0000 | 110143,99 | 0 |
| | 1364,600 | 55,0 | -,560 | 49,66 | 1516,12 | 805,000 | -,0072 | 110229,49 | 0 |
| | 1363,900 | 55,0 | -,750 | 55,00 | 1516,91 | 805,700 | 0,0000 | 110293,15 | 0 |
| | 1362,700 | 55,0 | -,970 | 55,00 | 1518,22 | 806,900 | 0,0000 | 110296,43 | 0 |
| | 1361,000 | 55,0 | -,690 | 55,00 | 1520,07 | 808,600 | 0,0000 | 110301,06 | 0 |

MOORE BUSINESS FORMS, INC. FORM 116 PRINTED IN U.S.A.

| STATION NAME | MILE POST | SPEED LIMIT | GRADE | SPEED | TIME MINUTES | DISTANCE MILES | ACCEL MPHPS | KWHS AT RAIL | AMP-SQ MINUTES | RED |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1358.300 | 50.0 | -.690 | 50.00 | 1523.03 | 811.300 | -.4000 | 110308.45 | | 0 |
| | 1357.400 | 55.0 | -.810 | 50.00 | 1524.11 | 812.200 | 0.0000 | 110311.15 | | 0 |
| | 1355.600 | 55.0 | -.410 | 55.00 | 1526.09 | 814.000 | 0.0000 | 110360.63 | | 0 |
| | 1353.500 | 50.0 | -.920 | 50.00 | 1528.39 | 816.100 | -.4000 | 110366.38 | | 0 |
| | 1352.300 | 50.0 | -.370 | 50.00 | 1529.83 | 817.300 | 0.0000 | 110369.98 | | 0 |
| | 1351.100 | 55.0 | -.370 | 50.00 | 1531.27 | 818.500 | 0.0000 | 110373.58 | | 0 |
| | 1350.500 | 55.0 | -.780 | 55.00 | 1531.95 | 819.100 | 0.0000 | 110450.53 | | 0 |
| | 1349.700 | 55.0 | -.510 | 55.00 | 1532.83 | 819.900 | 0.0000 | 110452.71 | | 0 |
| TWO DOT | 1347.700 | 55.0 | -.400 | 55.00 | 1535.01 | 821.900 | 0.0000 | 110458.16 | | 0 |
| | 1347.400 | 55.0 | -.400 | 55.00 | 1535.33 | 822.200 | 0.0000 | 110458.98 | | 0 |
| | 1346.100 | 50.0 | -.400 | 50.00 | 1536.76 | 823.500 | -.4000 | 110462.55 | | 0 |
| | 1345.200 | 40.0 | -.430 | 40.00 | 1537.88 | 824.400 | -.4000 | 110465.35 | | 0 |
| | 1344.500 | 55.0 | -.430 | 40.00 | 1538.93 | 825.100 | 0.0000 | 110467.98 | | 0 |
| VALENCIA | 1341.500 | 55.0 | -.300 | 55.00 | 1542.41 | 828.100 | 0.0000 | 110659.87 | | 0 |
| | 1339.900 | 55.0 | -.500 | 55.00 | 1544.15 | 829.700 | 0.0000 | 110675.66 | | 0 |
| | 1339.300 | 55.0 | 0.000 | 55.00 | 1544.81 | 830.300 | 0.0000 | 110677.29 | | 0 |
| | 1338.800 | 55.0 | -.600 | 55.00 | 1545.35 | 830.800 | 0.0000 | 110716.01 | | 0 |
| | 1337.600 | 55.0 | -.375 | 55.00 | 1546.66 | 832.000 | 0.0000 | 110719.28 | | 0 |
| HARLOWTON | 1335.600 | 0.0 | -.375 | 0.00 | 1549.99 | 834.000 | -.4000 | 110727.60 | | 0 |

TOT TIME 25:49.99 TIME BRAKING 0:45.14 MINIMUM TIME 23: 8.95

MOORE BUSINESS FORMS, INC. 1694 PRINTED IN U.S.A. 17"