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GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

Date: 11/1/78

Project Title: Technical Assistance for Miami Laces Corp.

Project No: A-2260

Project Director: J. C. Muller

Sponsor: Bickman, Libby, Thomas & Braxton

Agreement Period: From 9/7/78 Until 11/30/78

Type Agreement: Ltrs. dtd. 9/7/78 & 9/27/78

Amount: $1,365

Reports Required: Final Report

Sponsor Contact Person (s):

Technical Matters

Ms. Diane C. Blunt
Bickman, Libby, Thomas & Braxton
235 Peachtree Str.
Atlanta, GA 30303

Contractual Matters
(thru OCA)

Defense Priority Rating:

Assigned to: Technology & Development (School/Laboratory)

COPIES TO:

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- Division Chief (EES)
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- Project Code (GTRI)
- Other

CA-3 (3/76)

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

SPONSORED PROJECT TERMINATION

Date: 1/19/79

Project Title: Technical Assistance for Miami Laces Corp.

Project No: A-2260

Project Director: J. C. Muller

Sponsor: Bickman, Libby, Thomas & Braxton

TERMINATED

Effective Termination Date: 11/15/78

Clearance of Accounting Charges: 12/31/78

Grant/Contract Closeout Actions Remaining:

- X Final Invoice XXXXXXXXXXXXXXXXXXX
- _ Final Fiscal Report
- _ Final Report of Inventions
- _ Govt. Property Inventory & Related Certificate
- _ Classified Material Certificate
- _ Other ______________________

Assigned to: Technology & Development (School/Laboratory)

COPIES TO:

Project Director
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Other ______________________

CA—4 (3/76)

Georgia Tech Project A-2260
SBA-7(i)-MA-77-13-ATL-78

Production and Profitability Analysis of Miami Laces Corporation

by

James C. Muller
Research Engineer

November 1978

Preface

I spent three days plus working directly with the client at his factory as requested by the SBA sponsor. During this time I became thoroughly knowledgeable on every phase of the client's business. I instructed the client on numerous aspects of manufacturing and business in general. To construct the figures in the body of this report, I had to perform a thorough analysis on every piece of equipment in the plant; review specifications of proposed equipment; weigh and measure product and raw material; review every pertinent record, bill, and invoice; and question the client incessantly.

A great deal of credit goes to the client in this case. It was because of his complete openness and excellent records that this analysis could be made in the depth that it was.

BACKGROUND

Miami Laces Corporation started in business eighteen months ago as a small manufacturer of shoe laces. The owner and operator, Mr. Enrique Collazo, began on a part-time basis and has since gone into the business full time. The business is as yet too small to justify the hiring of any employees; so, Mr. Collazo performs all the functions of selling, manufacturing, maintaining, and even delivering the product.

At present the firm is selling all its production to one Miami shoe manufacturer. Indications are that this customer would buy more product, if it could be produced, and that another larger Miami shoe manufacturer would like to buy shoe laces from the firm. On this basis, Mr. Collazo has ordered some additional equipment to expand his capacity by an estimated 75%. At this juncture, Mr. Collazo requested that the Small Business Administration provide management and technical assistance.

The specific needs of the client were cited as:

1. Study present production system and determine per unit cost of items. Assist client in establishing correct pricing formula.

2. Review client's plans for proposed expansion:

    a. determine probable production output;

    b. determine increase in costs and revise pricing as necessary;

    c. provide client with methods of recording, scheduling, and controlling production; and

    d. make other major corrections apparent in review of present and proposed operations.

DISCUSSION

My first impression of Miami Laces Corporation was that it was amazingly neat and orderly. The machines were obviously secondhand but they were neatly installed and well maintained. The layout was efficient and compact. The only objectionable aspect was the rather loud chatter of the dozen braiding machines. I found Mr. Collazo to be cheerful, energetic, and enthusiastic, and he remained that way during my entire visit.

My first order of business was to establish rates, selects, and uptimes for his present machines and make knowledgeable estimates for the machines on order. I observed the machines in operation, making measurements as appropriate, and I questioned Mr. Collazo on certain aspects which I knew would require assumptions and/or estimates.

I roughly calculated the capacity of each operation, finding that braiding capacity was the limiting factor of plant capacity. Mr. Collazo tries to keep the braiders running continuously, 24 hours a day, every day. The braiders run unattended; they are down during periods when they are being loaded with yarn bobbins, when the machine shuts down after detecting a yarn breakout or an empty bobbin, and during maintenance and breakdown periods. This situation provided me with the opportunity to calculate a very accurate effectiveness factor for the braiding operation, because I definitely knew the running period, could get the actual production from the invoices, and could calculate a theoretical production using cycle rate. I selected a 91-day period from July 1, 1978, to September 30, 1978, for the analysis. I extracted the information from invoices prepared during the period. The lace length mix is the key ingredient in the analysis. Please refer to braiding machine uptime determination in Exhibit 1. Note that the effectiveness factor is calculated by objective means. This factor is used in the production analysis of both the old and new braiders. (See Exhibit 2 and 3, respectively.)

Unfortunately, the client does not record the running times of either the tipping or the bobbin machines, so rigorous determination of an effectiveness factor could not be made on these machines. The author relied on observation, measurement over short sample times, and past experience in constructing the production analysis of both of these machines. (Exhibits 4 and 5). A production analysis of the new tipping machines (Exhibit 6) was made from specifications supplied by the manufacturer.

The machine analysis is summarized in Exhibit 7. The production summary is for the expanded plant, i.e., the braiding figures are for the combined twelve old machines and the six new machines, and the tipping machine figures are for the new machine. Note that the plant suffers from a severe shortage of braiding capacity, even after expansion. The braiding machines operate on a continuous basis, whereas the tipping machine and bobbin machine are on 40-hour-week schedule, so this closes the gap somewhat. This shortage in braiding capacity as compared with tipping capacity grows progressively worse as the lace length increases, but remains relatively unchanged as compared with bobbin machine capacity.

The select rates are implicit in the production summary, and the broadload rates will come into play in determining raw material costs and scheduling. Relatively speaking, shrinkage plays an unimportant role in the cost of the plant because the select rates are high. It is possible that the shrinkage rates are understated; if shrinkage is actually this low, the overall productivity of the plant might be suffering as Mr. Collazo strives to rework a few pounds of yarn.

After the production model was completed, I questioned Mr. Collazo regarding a sales forecast. He insisted that he would have no trouble selling everything he could produce. Certainly this might be the case in the short run. I advised Mr. Collazo of the risks of serving only one customer and counseled him to seek at least one new customer. He seemed to share my concern and related that he had several prospective customers if he could only make production.

Based on the above market situation, I proposed a sales forecast based on the product mix he had experienced in the quarter from July through September, which I had previously analyzed. I calculated the maximum amount of product the braiding department (limiting capacity) could produce running continually during the year, using the production rates generated by the production model, and at the determined length mix. The analysis is shown in Exhibit 8.

I again processed the invoices for the 91-day period, this time extracting the quantities of the different products. (See Exhibit 9.) Then I applied this mix to the new capacity (Exhibit 10). I conservatively used the current average sales prices (A.S.P.) for the products in computing the sales revenue.

Next, the cost model was constructed. The most significant component of cost in the shoe lace product is the cost of raw materials. In order of importance,the three basic materials are yarn, acetate film, and acetone.

The yarns are either cotton or polyester; either 16 gage/2 ply or 20 gage/2 ply; they can be either natural, bleached, or dyed. While there could have been a reasonably large number of combinations possible, fortunately there were not. Mr. Collazo standardized on an 8 mil, inch-wide acetate film for the tips, and acetone is always the welding solvent. Essentially, what we have is a variable cost component, which depends on length and type of yarn, and a constant cost component, the plastic tip. Exhibit 11 is a sample calculation for determining the raw material cost of one product. Exhibit 12 is a complete schedule of raw material costs for each product. For convenience, the raw material costs were computed on a 1,000 gross basis. Current prices were used in all cases.

Next I prepared a pro forma Income Statement. Mr. Collazo's accountant provided a Balance Sheet and an Income Statement (Exhibit 13 and 14). I first annualized the fixures from Exhibit 14, after finding out what period the statement covered. I also attempted to substantiate and/or adjust the figures by reviewing Mr. Collazo's records. Exhibit 15 is the Annualized Income Statement of the plant as it is before expansion. Then I prepared a pro forma Income Statement for the plant after expansion (Exhibit 16). Comparing the two exhibits suggests that the capacity has doubled. This is an overstatement, however; apparently the productivity of the plant prior to July was somewhat lower than it was subsequent to July. The actual increase in capacity is 59%, as can be verified by referring to the new and old braider production analysis. Note the substantial increase in profitability made possible by the expansion.

In allocating General Factory Overhead (GFO) to the different products, I divided the cost equally to the three departments: bobbin rewind, braiding, and tipping. This is perhaps as good a method as any. To do the allocation by a rigorous method would require a tremendous amount of record keeping and probably would not be worth the trouble. The next step is to calculate the annual broadload in gross in each department (Exhibit 17). Using the broadload figures and the standard machine rates calculated previously, I calculated the machine-hours necessary to make the production in each department (Exhibit 18). By dividing the one-third GFO amount by the total machine hours in each department, one can get the GFO cost per machine-hour in each department. This is the standard cost allocation we need to complete the analysis. Finally a table of GFO costs per M gross is computed in Exhibit 19.

All previous analyses and calculations are summarized in the Production Budget, Exhibit 20. This schedule contains significant information and should be examined carefully. The most obvious and noteworthy conclusion is that the 620 P white product line is apparently underpriced. Exhibit 21 is a suggestion for repricing the 620 P product, showing the impact of repricing on profitability. Exhibit 22 is a break-even chart of the operation as budgeted. The breakeven point is 18,851 gross, and this is only 63% of plant capacity.

CONCLUSIONS

By Observation

Positive

- The plant is well laid out.
- The equipment is professionally installed.
- There is enough room in the existing plant for the additional equipment, but it is going to be tight.
- Mr. Collazo is energetic and enthusiastic and appears to have all necessary entrepreneurial instincts to succeed in this business.
- Record keeping is much better than average.

Negative

- Plant is too noisy.
- The mezzanine level is precariously reached by a stepladder and there is no railing.
- A drum of acetone is in the confines of the plant (vapors are harmful and flammable).
- There are exposed pinch points on the machines.

By Anaylsis

Positive

- Mr. Collazo has made a good decision by purchasing an automatic tipping machine. The present machine, although innovative, is inconsistent and unreliable.

- Mr. Collazo has made a good decision by adding 6 braiding machines. He needs the additional braiding capacity. In fact, he could use an additional dozen or so fast braiders, but he does not have room for them.

- The business is growing to the point where Mr. Collazo can finally get a reasonable return on his efforts.

- I feel that additional expansion could be warranted after the market base is expanded.

Negative

- It appears that the 620 P product is underpriced. The profit margin on this product is significantly out of line with the other products.

RECOMMENDATIONS

Facility

- Install acoustic tile on ceiling and walls to reduce noise level. Also try to buy quieter braiders in the future.

- Put a railing on the mezzanine level.

- Install a vertical ladder permanently against the wall for climbing to the mezzanine level. There is no space for a staircase, but the present situation is extremely dangerous.

- Exchange the weighing scale to one that reads in pounds and tens/hundreds of pounds. The scale reading in pounds and ounces greatly enhances the likelihood of making mistakes.

- Check with the fire marshal about the acetone. He may know of a way to reduce the hazard and possibly lower your insurance premium at the same time.

- Look for a larger facility. You cannot expand anymore in the one you have, and you will soon want to expand if you continue to grow.

- Use the old tipping machine as an emergency backup for the new machine. The old machine degrades the product by producing inconsistent lengths and soiling the braid. This condition might prove to be an annoyance to your new customers.

Business

- You should not attempt to use the outdated pricing table you showed me during my visit to somehow compute your product costs. The table in no way models your costs and is intended to be used only as a pricing guideline. The standard costs of products computed in this report are much more accurate, and costs for any new products can be computed by the same method.

- Your pricing policies depend for the most part on current market practices. I cannot stress enough that you have to keep abreast of whatever is going in the market--and that is easier said than done.

- Raise the price of 620 P product if possible. Suggestions as to price and analysis of impact of overall profitability are in the body of this report.

- You can sell off the excess capacity on your tipping machine by jobbing for other lace makers, but remember that the margains may be small and this really does not get you any new customers.

- Continue your practice of not building inventories. In your market situation it is possible to do this and thereby keep your requirement for working capital at a low level.

- Continue to seek business. I can foresee that your next move would be a really large and profitable one when you increase the braiding capacity to the point where you can add another operating shift for the bobbin and tipping machine.

Exhibit 1

BRAIDING UPTIME DETERMINATION

During the 91 day sample period the braiding machines were in continuous operation;

so: $$91 \text{ days} \times 24 \ \frac{\text{hrs}}{\text{day}} = 2184 \text{ hours}$$

The normal production rate of a braiding machine is 120 ft of braid per hour;

so:

Length Inches	Mix* %	Machine rate** Gross/hr		No. of Mach.		Total Braiding Rate Gross/hr
24	5.9	0.416	x	12	=	4.992
30	26.3	0.333	x	12	=	3.996
36	25.3	0.277	x	12	=	3.324
40	39.1	0.250	x	12	=	3.000
45	3.4	0.222	x	12	=	2.664

24"	30"	36"	40"	45"

$$\frac{0.059}{4.992}P + \frac{0.263}{3.996}P + \frac{0.253}{3.324}P + \frac{0.391}{3.000}P + \frac{0.034}{2.664}P = 2184$$

$$0.012\,P + 0.066\,P + 0.076\,P + 0.130\,P + 0.013\,P = 2184$$

$$0.297\,P = 2184$$
$$P = 7353$$

$$\text{Effectiveness factor} = \frac{\text{actual production}}{\text{possible production}} = \frac{4740}{7353} = 0.645$$

*From mix analysis of laces produced during the 91 day period.

$$^{**}\frac{120 \text{ ft/mach - hr.} \times 12 \text{ in/ft}}{144\text{/gross} \times (\quad) \text{ in lace length}} = \frac{\text{gross}}{\text{mach-hr}}$$

Exhibit 2

OLD BRAIDING MACHINES PRODUCTION ANALYSIS

It was calculated previously that the braiding operation is 64.5% effective. We will assume that the operation runs 99% select and has an uptime of 64.8%. By observation it was determined that the machines run at a rate of 120 ft/mach-hr.;

Consequently:

Lace Length	Gross* / Mach-hr		Machine Number		Gross / Dept-hr
24	0.269	x	12	=	3.225
27	0.239	x	12	=	2.867
30	0.215	x	12	=	2.580
33	0.195	x	12	=	2.345
36	0.179	x	12	=	2.150
40	0.161	x	12	=	1.935
45	0.143	x	12	=	1.720
54	0.119	x	12	=	1.433

$$* \; \frac{120 \text{ ft/mach-hr} \times 12 \text{ in/ft} \times 0.645}{144/\text{gross} \times (\;\;) \text{ in lace length}} = \frac{\text{gross}}{\text{Mach-hr}}$$

$$\frac{6.450 \text{ gross-in/mach-hr}}{(\;) \text{ in lace length}} = \frac{\text{gross}}{\text{Mach-hr}}$$

Exhibit 3

NEW BRAIDING MACHINE PRODUCTION ANALYSIS

New braiders are reported to run at 235 rpm whereas, the old braiders run at 198 rpm. So the new braiders run 235/198 = 118.7% the speed of the old braiders. Assume that the same 64.5% effectiveness applies;

so:

Lace Length	Gross* Mach-hr		Machine Number		Gross Dept-hr
24"	0.319	x	6	=	1.914
27	0.283	x	6	=	1.701
30	0.255	x	6	=	1.531
33	0.232	x	6	=	1.392
36	0.212	x	6	=	1.276
40	0.191	x	6	=	1.148
45	0.170	x	6	=	1.021
54	0.142	x	6	=	.851

$$^{*}\frac{120\ \text{ft/mach-hr} \times 1.187 \times 12\ \text{in/ft} \times 0.645}{144/\text{gross} \times (\ )\ \text{in lace length}} = \frac{\text{gross}}{\text{mach-hr}}$$

$$\frac{7.656\ \text{gross-in/mach-hr}}{(\ )\ \text{in lace length}} = \frac{\text{gross}}{\text{mach-hr}}$$

Exhibit 4

BOBBIN MACHINE PRODUCTION ANALYSIS

By observing the machine it was determined that the machine winds 4 each 3.5-inch bobbins every two minutes. These bobbins were weighed and it was determined that an average of 3.3 ounces of yarn was wound on the bobbins. (analysis for 16 ga.,2-ply polyester yarn);

therefore:

$$\frac{\text{4 bobbins}}{\text{2 min.}} \times \frac{\text{3.3 oz.}}{\text{bobbin}} \times \frac{\text{lb.}}{\text{16 oz.}} \times \frac{\text{60 min.}}{\text{hr.}} = 25.75\ \frac{\text{lbs}}{\text{hr}}$$

By observing the machine and from information obtained by questioning the principal,the select rate was estimated at 99% and the machine uptime estimated at 65%. Consequently, the effectiveness factor is 0.99 x 0.65 = 0.643.

Lace Length	Net lbs* / Gross	Gross** / Mach-hr
24	.652	25.395
27	.733	22.588
30	.815	20.316
33	.896	18.479
36	.977	16.947
40	1.086	15.246
45	1.222	13.549
54	1.466	11.294

*These figures were obtained by weighing samples of finished laces and taking an average weight; the weight of the plastic tips were netted out so only the weight of the braid remains in these net weight figures. Also the effect of the broadload rate of 103% was taken into account. The full schedule was arrived by proportion.

$$^{**}\frac{\text{25.75 lbs/hr x 0.643}}{\text{( ) net lbs/hr}} = \frac{\text{Gross}}{\text{mach-hr}}$$

Exhibit 5

OLD TIPPING MACHINE PRODUCTION ANALYSIS

By observing the machine it was determined that it runs at the rate of 16.4 each 40 inch laces per minute. The rates at other lace lengths are estimates. Again by observation and information obtained by questioning the principal the select rate was estimated at 98% and the machine uptime estimated at 55%. Consequently, the effectiveness factor is 0.98 x 0.55 or o.539.

Lace Length	Cycle Min	Gross* Mach-hr
24	18.4	4.140
27	18.0	4.050
30	17.6	3.960
33	17.2	3.870
36	16.8	3.780
40	16.4	3.690
45	16.0	3.600

$$* \; (\;)\; \frac{\text{Cycle}}{\text{Mach-min}} \times \frac{\text{Gross}}{\text{144 Cycles}} \times \frac{\text{60 min}}{\text{mach-hr}} \times 0.539 = \frac{\text{Gross}}{\text{Mach-hr}}$$

$$(\;)\; \frac{\text{Cycle}}{\text{Mach-min}} \times 0.225 \; \frac{\text{Gross-min}}{\text{Cycle-mach-hr}} = \frac{\text{Gross}}{\text{Mach-hr}}$$

Exhibit 6

NEW TIPPING MACHINE PRODUCTION ANALYSIS

The following schedule of cycle times was determined from examining the specifications of the new machine and talking with the supplier. The select rate is estimated to be 99% and the uptime is estimated at 68%. Consequently, the effectiveness factor is 0.99 x 0.68 = 0.673.

Lace Length	Cycle / Min.	Gross* / Mach-hr
24	98	27.440
27	96	26.880
30	95	26.600
33	93	26.040
36	91	25.480
40	89	24.920
45	86	24.080
54	81	22.680

$$* \ \frac{\text{Cycle}}{\text{Mach-min}} \times \frac{\text{Gross}}{\text{144 cycles}} \times \frac{\text{60 min}}{\text{Mach-hr}} \times 0.673 = \frac{\text{Gross}}{\text{Mach-hr}}$$

$$\frac{\text{Cycle}}{\text{Mach-Min}} \times 0.280 \ \frac{\text{Gross-Min}}{\text{Cycle-Mach-hr}} = \frac{\text{Gross}}{\text{Mach-hr}}$$

Exhibit 7

PRODUCTION SUMMARY

Lace Length	1 ea. Bobbin Machine (gross/hr)	18 ea. Braiding Machine (gross/hr)	1 ea. Tipping Machine (gross/hr)
24	25.395	5.139	27.440
27	22.588	4.568	26.880
30	20.316	4.111	26.600
33	18.479	3.737	26.040
36	16.947	3.426	25.480
40	15.246	3.083	24.920
45	13.549	2.741	24.080
54	11.294	2.284	22.680

Broadload Percentages

	Select	Broadload
Raw yarn	0.99*	1.04
Bobbin operation	0.99	1.03
Braiding operation	0.99	1.02
Tipping operation	0.99	1.01
Finished lace	1.00	1.00

*Warehousing loss

Exhibit 8

PLANT CAPACITY ANALYSIS

From the Production Summary, it appears that the braiding operation is going to be the limiting factor in the plant's capacity. Assuming that the product mix will be the same as that of the three month sample previously analyzed, the following can be calculated:

24"	30"	36"	40"	45"

$$\frac{0.059P}{5.139} + \frac{0.263P}{4.111} + \frac{0.253P}{3.426} + \frac{0.391P}{3.083} + \frac{0.034P}{2.741} = 8760 \text{ hrs.}$$

$$0.011P + 0.064P + 0.074P + 0.127P + 0.012P = 8760 \text{ hrs.}$$

$$0.2885P = 8760 \text{ hrs.}$$

$$P = 30{,}361 \text{ gross}$$

But broadload factor is 1.02 so:

$$\text{Annual capacity} = \frac{30{,}361 \text{ gross}}{1.02} = 29{,}766 \text{ gross}$$

Exhibit 9

PRODUCT MIX DETERMINATION
FROM INVOICES 7-1-78 thru 9-30-78 (#204 thru #238)

	Units Gross	Mix %
416P White		
30"	630	13.3
36	815	17.2
40	1120	23.6
416K Brown		
30"	100	2.1
36	190	4.1
40	200	4.2
420K Dyed		
36"	85	1.8
40	100	2.1
420 Natural		
36"	110	2.3
40	50	1.1
45	30	.6
620P White		
24"	280	5.9
30	515	10.9
40	385	8.1
45	130	2.7
Total	4740	100.0

Exhibit 10

SALES BUDGET

	Units Gross	A.S.P. ($)	Revenue ($)
416P White			
30	3,959	2.51	9,937
36	5,120	2.80	14,336
40	7,025	3.14	22,059
416K Brown			
30	625	3.62	2,263
36	1,221	4.04	4,929
40	1,250	4.52	5,650
420K White			
36	1,221	3.12	3,806
40	952	3.45	3,284
45	179	3.50	627
620P White			
24	1,756	1.55	2,722
30	3,245	1.85	6,003
40	2,411	2.31	5,569
45	804	2.57	2,066
Total	29,766		83,251

Exhibit 11

RAW MATERIAL COST SAMPLE CALCULATION
FOR 416P WHITE 40" LACE

Procedure

Weigh a 40 in. x 144 = 5,760 in. or 480 ft. length of 416P braid to determine yarn weight per gross.

Weigh a spool of acetate film then tip ten gross laces and reweigh. The difference in the weights/10 is the acetate film weight per gross.

An estimation was made that a 55 gallon drum of acetone will last for 8,000 tipping operations.

Calculation

Component	Measure Per Mgross		Broadload Factor		Price Per Unit		Cost Per Mgross
Yarn	1086 lb	x	1.04	x	$1.22/lb.	=	$1,377.92
Acetate film	31 lb	x	1.01	x	$1.84/lb	=	57.61
Acetone	6.875 gal	x	1.01	x	$1.60/gal	=	11.11
Total							$1,446.64

Exhibit 12

RAW MATERIAL COSTS
ALL FIGURES PER 1,000 GROSS

416P White	30 inch	$1,102.16
	36	1,308.85
	40	1,446.64
416K Brown	30	1,840.26
	36	2,194.56
	40	2,430.77
420K White*	36	1,418.56
	40	1,568.54
	45	1,756.02
620P White	24	727.66
	30	892.40
	40	1,057.14
	45	1,304.24

*Replaces 420K natural and colors

Exhibit 13

Miami Laces Corporation
Statement of Financial Position
For The Period Ending
September 30, 1978

ASSETS

Current Assets:		
Popular Bank of Hialeah	(112.57)	
Intercontinental Bank	113.43	
Cash On Hand	210.99	
Accounts Recievables	3,195.20	
Inventory	3,074.04	
Prepaid Expenses	383.75	
Total Current Assets		6,864.84
Fixed Assets:		
Furniture & Fixtures	1,970.65	
Machinery & Equipment	18,604.45	
Truck	385.00	
Less: Accumulated Depreciation	(853.00)	
Total Fixed Assets		20,107.10
Intangible Assets:		
Organization Cost	1,330.35	
Less: Accumulated Amortization	(266.05)	
Total Intangible Assets		1,064.30
Other Assets:		
Security Deposit-Rent	160.00	
Security Deposit-Phone	100.00	
Security Deposit-Light	150.00	
Total Other Assets		410.00
TOTAL ASSETS		$28,446.24

LIABILITIES & CAPITAL

Current Liabilities:		
Accounts Payable	1,087.40	
Stockholders Loan	2,056.27	
Total Current Liabilities		3,143.67
Long Term Liabilities:		
Loan Small Business Administration		8,235.50
Capital:		
Common Stock (Authorized & issued 40 shares @ no par value)	10,000.00	
Retain Earnings	7,067.07	
Total Capital		17,067.07
TOTAL LIABILITIES & CAPITAL		$28,446.24

what interest/terms

what interest

UnAudited

Exhibit 14

Miami Laces Corporation
Statement of Profit & Loss
For The Period Ending
September 30, 1978

From 3-1-78 to 9-30-78
7 months

Net Sales		$24,796.58
Cost of Sales		
Begining Inventory	900.46	
Purchases	15,811.38	
Ending Inventory	(3,074.04)	
Cost of Sales		(13,637.80)
Gross Profit..............................		$11,158.78
General Expenses		
Rent	998.40	
Accounting & Legal	101.25	
Utilities	597.11	
Phone	520.52	
Advertising	62.50	
Insurance	959.32	
Supply	46.28	
License & Taxes	72.00	
Repair & Maintance	95.04	
Truck	240.44	
Travel & Entertaiment	91.05	
Doantion	15.00	
Interest	251.55	
Bank Charges	44.75	
Total General Expenses		(4,095.21)
Net Income		$7,063.57

UnAudited

Exhibit 15

ANNUALIZED INCOME STATEMENT
(BEFORE EXPANSION)

Sales Revenue		$42,508
Materials		19,129
Gross Profit		$23,379
General Factory Overhead		
Salary @ $210/week	10,920	
Rent	1,997	
Professional Services	600	
Electricity	1,024	
Telephone	892	
Insurance	2,290	
Office Supplies	100	
License & Taxes	150	
Maintenance	200	
Truck Expenses	720	
Travel	300	
Interest & Loan Repayment	2,000	
Bank Charges	80	
		21,273
Net Profit		$ 2,106

Exhibit 16

PRO FORMA INCOME STATEMENT
(AFTER EXPANSION)

Sales Revenue		$83,251
Materials		39,400
Gross Profit		$43,851
General Factory Overhead		
Salary @ $210/week	$10,920	
Rent	1,997	
Professional Services	600	
Electricity	1,600	
Telephone	1,290	
Insurance	3,000	
Office Supplies	200	
License & Taxes	150	
Maintenance	500	
Truck Expenses	1,072	
Travel	300	
Interest & Loan Repayment	6,060	
Bank Charges	80	
		27,769
Net Profit		$16,082

Exhibit 17

BROADLOAD

Lace Length	Bobbin gross	Braiding gross	Tipping gross	Total gross
24	1,809	1,791	1,774	1,756
30	8,066	7,986	7,907	7,829
36	7,789	7,712	7,636	7,560
40	11,991	11,872	11,754	11,638
45	1,013	1,003	993	983
				29,766

Exhibit 18

PRODUCTION SCHEDULE

Lace Length	Bobbin Mach-hr	Braiding Mach-hr	Tipping Mach-hr
24	71	349	65
30	397	1,943	297
36	460	2,251	300
40	787	3,850	472
45	75	366	41
Total	1,790	8,759	1,175

Exhibit 19

GENERAL FACTORY OVERHEAD PER MACHINE-HOUR

Bobbin	Braiding	Tipping
$\frac{\$27,769}{3 \times 1,790}$	$\frac{\$27,769}{3 \times 8,759}$	$\frac{\$27,769}{3 \times 1,175}$
$5.171	$1.057	$7.878

$ GFO Per Mgross

Lace Length	Bobbin $	Braiding $	Tipping $	Total $		Mgross		$/Mgross
24	367	369	512	1,248	÷	1.756	=	711
30	2,053	2,053	2,340	6,446	÷	7.829	=	824
36	2,380	2,379	2,363	7,112	÷	7.560	=	941
40	4,070	4,069	3,718	11,857	÷	11.638	=	1,019
45	387	388	323	1,098	÷	0.983	=	1,117
Total				27,769				

Exhibit 20

MIAMI LACES CORP.
PRODUCTION BUDGET

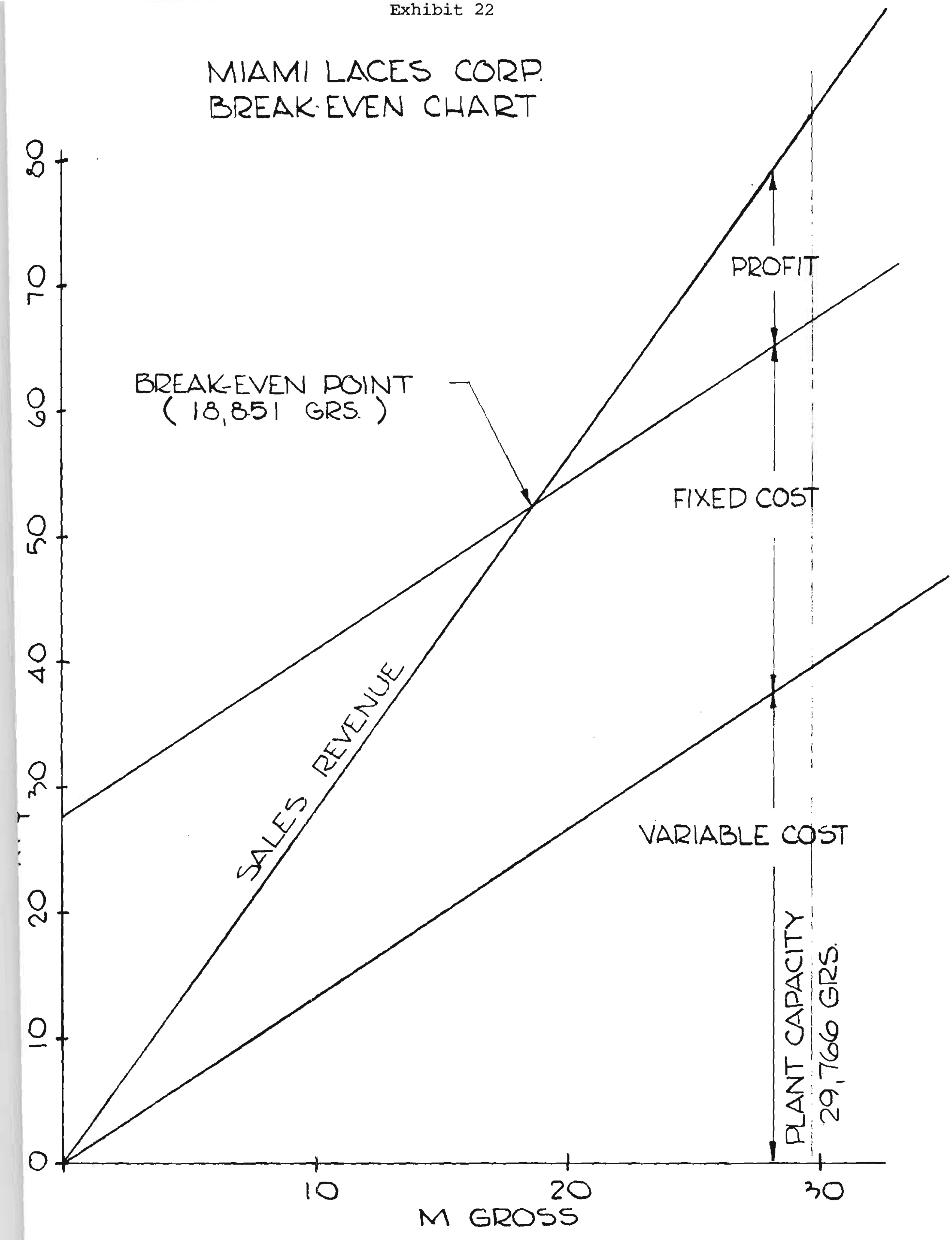
	Units gross	ASP $	Revenue $	Raw Mat. $	Labor	Variable $	Gross Margin $	Gross Margin %	GFO $	Profit $	Profit %
416P White											
30	3,959	2.51	9,937	4,363		4,363	5,574	56.1	3,261	2,313	23.3
36	5,120	2.80	14,336	6,701		6,701	7,635	53.3	4,818	2,817	19.7
40	7,025	3.14	22,059	10,162		10,162	11,897	53.9	7,158	4,739	21.5
416K Brown											
30	625	3.62	2,263	1,150		1,150	1,113	49.2	515	598	26.4
36	1,220	4.04	4,929	2,677		2,677	2,252	45.7	1,148	1,104	22.4
40	1,250	4.52	5,650	3,039		3,039	2,611	46.2	1,274	1,337	23.7
420K White					None at Present						
36	1,220	3.12	3,806	1,731		1,731	2,075	54.5	1,148	927	24.4
40	952	3.45	3,284	1,493		1,493	1,791	54.5	970	821	25.0
45	179	3.50	627	314		314	313	49.9	200	113	18.0
620P White											
24	1,756	1.55	2,722	1,278		1,278	1,444	53.0	1,249	195	7.2
30	3,245	1.85	6,003	2,896		2,896	3,107	51.8	2,674	433	7.2
40	2,411	2.31	5,569	2,548		2,548	3,021	54.2	2,456	565	10.1
45	804	2.57	2,066	1,048		1,048	1,018	49.3	898	120	5.8
TOTAL	29,766		83,251	39,400	-0-	39,400	43,851	52.7	27,769	16,082	19.3

Exhibit 21

REPRICING 620P PRODUCT

To obtain net profit % of 24%

620P White	Recommended ASP	Old ASP	Margin	X	Amount		Added Profit
24"	$1.89	$1.55	$0.34		$1,756	=	$ 597.04
30	2.25	1.85	0.40		3,245	=	1,298.00
40	3.03	2.31	0.72		2,411	=	1,735.92
45	3.18	2.57	0.61		804	=	490.44
TOTAL							$4,121.40


MIAMI LACES CORP.
BREAK-EVEN CHART
BREAK-EVEN POINT
(18,851 GRS.)
PROFIT
FIXED COST
VARIABLE COST
SALES REVENUE
PLANT CAPACITY
29,766 GRS.
0
10
20
30
40
50
60
70
80
M GROSS