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To: R. T. Ferrell

From: J. W. Ware
Date: November 18, 1987

**Interoffice
Communication**

Subject: ABERDEEN MONTHLY PROGRESS REPORT
OCTOBER, 1987

VISTA

There were two first aid injuries recorded during the month of October. As of October 31, 1987, the plant had operated 3,040 days or 3,930,818 manhours without a lost time injury.

PVC resin production for October was a record 40.7MM pounds. This surpasses the previous record set in December, 1986, at 38.8MM pounds. Major downtime in the reactor areas was due to completion of the new module shutdown and agitator seal changes on 700 and 743. The VCM efficiency for October was 1.00706 pounds of VCM per pound of PVC produced versus a 1.00905 standard.

Compound production for October was 7.2MM pounds. Line I and Line III operated thirty-one days and Line V operated sixteen days during the month. Quality performance for flexible compounds was 2.2% off-grade of which 71% was due to mill scrap. "BC" production was 0.43%.

Dry blend production was 5.0MM pounds for October. Quality performance for the month was 98.4% customer grade.

The plasticizer unit operated thirty-one days in October to produce 2.0MM pounds.

Advanced training on SPC charting was completed for compound personnel in October. QMP discussions were held with Intex and Times Fiber during visits by these customers to Aberdeen. Attitude survey feedback meetings continued. One feedback group has evolved to a project team, bringing the involvement team total to twelve.

Total energy consumption for October was 125.053 MMM BTUs. The energy consumption per pound of product was 2278 BTUs, resulting in an adjusted CMA reduction of 56%.

The total plant variable cost variance for October was \$763.3M unfavorable, resulting from an overall unfavorable price variance of \$874.0M and a net favorable efficiency variance of \$110.7M. The total fixed cost variance for October was \$214.8M favorable.

J. W. Ware

J. W. Ware

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	J. J. LANGFORD	X		
	R. E. SWANIKOWSKI		X	
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	K. J. EGGERS		X	
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	T. H. HUFFMAN	X		
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SAFETY - K. L. Fogg, J. V. Uptain

<u>Occupational Injuries</u>	<u>October</u>	<u>Fiscal Y.T.D. 1988</u>	<u>Fiscal Y.T.D 1987</u>
First Aid	2	2	1
OSHA Recordable	0	0	0
Total Injuries	<u>2</u>	<u>2</u>	<u>1</u>
Number of Restricted Workday Cases	0	0	0
Number of Lost Workday Cases	0	0	0

Injuries by Department

Vinyl Operations	0	0	0
Compound Operations	0	0	0
Maintenance	1	1	1
Laboratory	1	1	0
Receiving/Warehouse	0	0	0
Office	0	0	0
Totals	<u>2</u>	<u>2</u>	<u>1</u>

Injuries by Type

Cuts and Abrasions	1	1	1
Eye Injuries	0	0	0
Burns	0	0	0
Bruises	1	1	0
Strains/Sprains	0	0	0
Stings	0	0	0
Other	0	0	0
Totals	<u>2</u>	<u>2</u>	<u>1</u>

Non-Occupational Injuries

Lost Workday Cases	1	1	1
Days Lost	14	14	6

Safety Record

Last lost time injury 7/5/79
 Days since - 3,040
 Manhours since - 3,930,818

On October 31, 1987, the employees of the Aberdeen plant completed 3,040 days with no lost time injury.

Topics for the plant safety meetings during the month included: Maintenance Weekly Safety and Job Reviews, and Annual Fire Training.

The Central Safety Committee met in October.

SAFETY - Continued

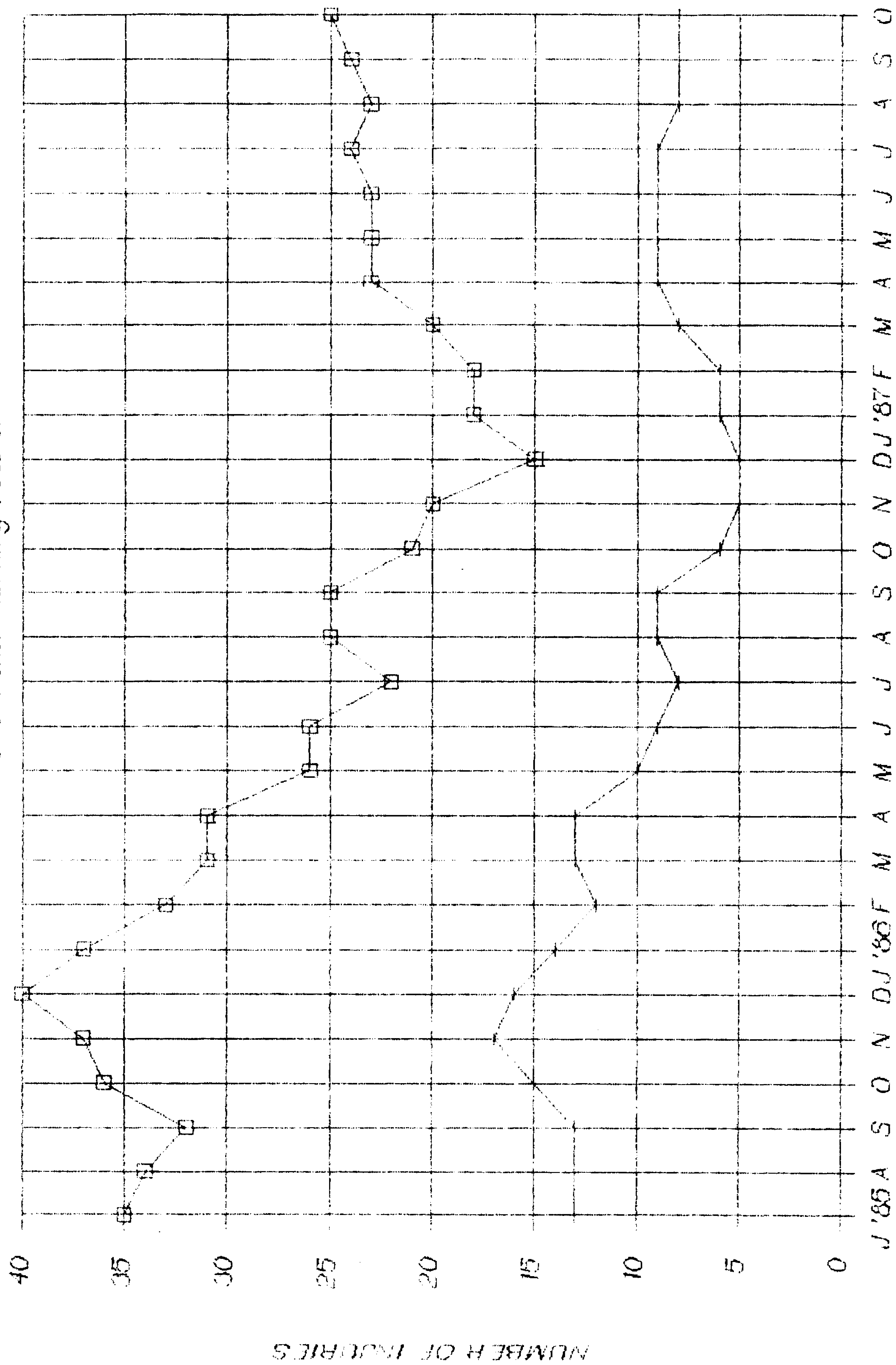
Routine dosimetry results for the month are as follows:

<u>Chemical</u>	<u><</u>		<u>></u>	
	<u>Number</u>	<u>PEL Percent</u>	<u>Number</u>	<u>PEL Percent</u>
VCM	81	98.8	1	1.2
Lead	9	100.0	0	0.0
Total Particulates	1	100.0	0	0.0

The single VCM overexposure was with benefit of respiratory protection.

ABERDEEN CHEMICAL PLANT INJURIES

(Twelve Month Running Totals)



TOTAL INJURIES

† OSHA RECORDABLE

QUALITY MANAGEMENT PROCESS - D. W. Hollis, R. B. Newton

Rendell Newton and Dave Hollis attended an SPC seminar in Baton Rouge, Louisiana. Four companies gave presentations about their quality programs.

Rendell Newton, Bob Miller, John Friend and Dave Hollis attended an "Excellence in Mississippi" seminar in Jackson, Mississippi. Companies from across the State gave presentations. Some of the presentations attended were: Employee Enthusiasm, SPC, Involvement Teams, Measuring Productivity, Gain Sharing, Motivational Techniques.

Paul Kober and Dave Hollis attended the Southwest Region Customer Appreciation Day at Toledo Bend.

Intex Corporation came to Aberdeen and discussed our QMP activities.

A presentation about QMP was given to Times Fiber during their customer visit.

VINYL - P. J. Kober, J. M. EdwardsSafety

The Vinyl and Yard Departments worked without any reported injuries during the month of October.

Shift safety meeting topic for the month was Fire Fighting Training.

Quality Improvement Process

The CVR employee attitude feedback meetings continued in October for the Yard and Vinyl Departments. The meetings are still in the problem identification stage.

The Vinyl and Yard Department Management Natural Team met once in October. This was our first meeting.

The Yard Department presently has one SPC team. This Railcar Team's objective is "to ship the best railcar possible to the customer". The team, which met three times in October, is in the design stage of the problem solving process. A process engineer has joined the team to help with the design.

<u>Production</u>	<u>October</u>	<u>Y.T.D.(Fiscal 88)</u>
1. Production, MM Lbs.	40.7	40.7
2. Daily Production Rate, M Lbs./C.D.	1313	1313
3. Total Charges	962	962
4. Charges, Reactor Batches/C.D.	31.0	31.0
5. Reactor Stream Factor	93.7	93.7
6. Dryer Rate, Average Lbs./Hr.	9749	9749
7. Dryer Stream Factor	70.2	70.2
8. Accounting Days	31	31

Vinyl Department production for October was 40.7MM pounds. This is a monthly production record.

Reactors

The reactor stream factor for October was 93.7%. Downtime in the reactor area occurred as follows:

- 1) Operational Downtime: Accounted for 55.5% of the total downtime and was due to reactor recovery scheduling conflicts, downtime due to rinsing the chem wash tank, waiting on particle size information before charging, lines plugging, reactor manway O-ring failures, inspecting reactors, and the lack of blend tank room to dump a reactor.
- 2) Maintenance Service Downtime: Accounted for no downtime because the cleaning of the reactor AMS injection ports and inert vent lines was accomplished while the reactors were normally down for other reasons.

VINYL - ContinuedReactors - continued

- 3) Maintenance Repair/Revision Downtime: Accounted for 44.5% of the total downtime and a majority of the time was due to the scheduled annual shutdown of the New Module. The agitator seals were changed on D700 and 743 due to O-ring failures. A D700 safety disc was changed after a pressure check failure. The BPA kill line on 745 was enlarged to prevent plugging.

Dryers

The dryer stream factor for October was 70.2%. Downtime in the dryer area occurred as follows:

- 1) Reactor Limited Production: Accounted for 79.8% of the total downtime. Dryers were shut down when possible for energy conservation.
- 2) Operational Downtime: Accounted for 7.0% of the total downtime and was due to centrifuge plugging, burner flameouts, dryer cleaning and transfer activator problems.
- 3) Maintenance Repair/Revision Downtime: Accounted for 13.2% of the total downtime and was due to repairs to star valves, #1 centrifuge belts, new ductwork, burner and screw feeder installation on #5 dryer, centrate manifold modifications and #4 exhaustor motor and bearing repairs. Number six Bird was also changed out.

Product Quality Summary

<u>Resin Type</u>	<u>Prime</u>	<u>"B"</u>	<u>"H"</u>	<u>% of Total Production</u>
5265	3,375,311	-	-	8.3
5305	4,595,520	-	-	11.3
5385	16,808,786	-	-	41.3
5415	14,584,896	-	-	35.8
5465	-	-	-	0.0
Debox	-	1,289,260	-	3.1
Off-Grade	-	0	-	0.0
Sifter Overflow	-	-	27,311	0.1
Pond Resin	-	-	30,140	0.1
Total	39,364,513	1,289,260	57,451	100.0

Quality performance for October was 99.8% customer grade with 0.2% "H" grade production.

VINYL - ContinuedProduct Quality Summary - continued

A total of eight railcars were shipped as "B" grade during the month which represented 5.8% of the 138 total resin hopper cars shipped.

<u>Load Date</u>	<u>Ship Date</u>	<u>Car No.</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
09/27/87	10/02/87	PTLX 41632	Customer Vinyl TX	Debox	Quality
09/18/87	10/06/87	VIPX 45822	Wexford, CA	Pond	Quality
10/04/87	10/12/87	PLCX 42670	Wexford, WI	Debox	Quality
10/14/87	10/19/87	RTMX 580102	Western Ag, TX	Debox	Quality
10/13/87	10/20/87	VIPX 45270	Silverline, NC	Debox	Quality
09/23/87	10/23/87	PLCX 43090	Gamma, CA	Pond	Quality
10/22/87	10/30/87	PLCX 43719	Wexford, WI	Debox	Quality
10/19/87	10/30/87	VIPX 45284	Apache Plast. CA	Debox	Quality

Monthly Variable Cost Performance

Variable costs for the month were unfavorable at \$631.0M resulting from an overall unfavorable price variance of \$704.6M and a favorable efficiency variance of \$73.7M. Resin variable cost for the month was 23.705 cents/lb. versus the budgeted 22.102 cents/lb.

The \$704.6M unfavorable price variance was primarily attributed to higher than budgeted pricing for VCM, \$756.8M, offset by favorable natural gas pricing of \$15.3M and favorable freight pricing of \$15.3M.

The \$73.7M favorable efficiency variance can be attributed mainly to a favorable variance due to VCM, \$14.6M; Isonox \$27.1M; and Polyvic, \$15.6M; offset by an unfavorable L223 initiator, \$11.2M; and Methocel, \$11.6M.

VCM efficiency for the month was 1.00706 lbs. VCM/lb. PVC versus the budgeted 1.00905 lbs. VCM/lb. PVC.

Energy Performance/Progress

1. Plant energy performance for October was 2278 BTU/lb.

General

1. Resin raw material in the 0744 account totaled \$289.9M.
2. The New Module turnaround was completed on schedule at the beginning of the month. The startup proceeded without major problems.

COMPOUND - C. W. Turner, J. E. Nickerson

Safety

The Compound Department worked without injury in October. No near misses were reported.

All shifts attended the annual fire school training.

Quality Improvement

Second round SPC training for all operators was completed in October. Operators are now developing control strategies for responding to out-of-control points in the charts they are keeping. A new control chart was started by the plasticizer operators to monitor oxygen concentration in the inert gas stream. Too much oxygen in the inert gas causes plasticizer color problems.

<u>Compound Production</u>	<u>Operating Days</u>	<u>Production (M Pounds)</u>		
		<u>Month</u>	<u>Average Operating Day Rate</u>	<u>Fiscal Y.T.D.</u>
Line I	31	2256	73	2256
Line III	31	4106	132	4106
Line V	16	807	50	807
Total		7166		7166

Line I operated thirty-one days in October at an average rate of 73M pounds per day. Major items affecting production efficiency were: product changes, 103 hours; quality problems, 17 hours; dicing system problems and maintenance, 15 hours; housekeeping, 8 hours; and plasticizer delivery system maintenance, 6 hours.

Line III operated thirty-one days in October at an average rate of 132M pounds per day. Major items affecting production were: product changes, 23 hours; mill and hydrotherm system maintenance, 14 hours; dicing system problems and maintenance, 13 hours; quality problems, 10 hours; and maintenance to the FCM control panel, 4 hours.

Line V operated sixteen days in October at an average rate of 50M pounds per day. Major items affecting production efficiency were: product changes and startup, 46 hours; and quality problems and rework, 13 hours.

Quality performance for flexible compounds was 1.7% off-grade of which 100% was due to mill scrap. "BC" production was 0.09%.

The raw material requirement for flexible compounds was 1.00387 pounds of raw material per pound of compound versus a 1.01213 standard (YTD is 1.00387).

The variable cost variance for compound was \$55.1M unfavorable with \$80.5M unfavorable due to price and \$25.4M favorable due to efficiency. The efficiency variance due to product mix was \$4.5M unfavorable. The only significant raw material efficiency variance was for TOTM at \$11.4M unfavorable.

Total compound inventory rose .6MM pounds in October to 4.8MM pounds.

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All shifts attended the annual fire school training.

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Quality performance for flexible compounds was 1.7% off-grade of which 100% was due to mill scrap. "BC" production was 0.09%.

The raw material requirement for flexible compounds was 1.00387 pounds of raw material per pound of compound versus a 1.01213 standard (YTD is 1.00387).

The variable cost variance for compound was \$55.1M unfavorable with \$80.5M unfavorable due to price and \$25.4M favorable due to efficiency. The efficiency variance due to product mix was \$4.5M unfavorable. The only significant major raw material efficiency variance was for TOTM at \$11.4M unfavorable.

Total compound inventory rose .6MM pounds in October to 4.8MM pounds.

COMPOUND - Continued

<u>Dry Blend</u>	<u>Month</u>	<u>Average Operating-Day Rate</u>	<u>Fiscal Y.T.D.</u>
Production, M Pounds	5024	162	5024
Operating Days	31	-	31

Dry blend operated thirty days in October at an average rate of 162M pounds per day. Production included 80172C, 80273G, 90172D, RP-100, RP-203, RP-421, 186-139, 186-180, 245-53, 269-69, 269-151, 196-172, 269-192, 290-61, 317-104, 317-55, 317-91, A10-001, and RP-201T.

Dry Blend production was hindered by: product changes, 67 hours; quality and lab problems and normal Q.C., 45 hours; Welex maintenance, 19 hours; transfer system problems, 13 hours; Orbitran problems and maintenance, 8 hours; filler system maintenance, 8 hours; and cooling blender maintenance, 8 hours.

Quality performance for the month of October was 98.4% customer grade.

The raw material requirement for dry blend was 1.00276 pounds of raw material per pound of dry blend versus a standard of 1.00443 (YTD is 1.00276).

The variable cost variance for dry blend was \$79.0M unfavorable with \$88.6M unfavorable due to price and \$9.6M favorable due to efficiency. The efficiency variance due to product mix was \$2.0M unfavorable. There were no major dry blend raw material efficiency variances.

<u>Plasticizer</u>	<u>Month</u>	<u>Average Operating-Day Rate</u>	<u>Fiscal Y.T.D.</u>
Production, M Pounds	2018	65	2018
Operating Days	31	-	31

Plasticizer operated thirty-one days in October at an average rate of 65M pounds per day. Production included 610P and 108P.

VRP production totaled 164M pounds (8.1%).

The raw material requirement for plasticizer was 1.08227 pounds of raw materials per pound of plasticizer versus a 1.10162 standard (Y.T.D. is 1.108227).

The variable cost variance for plasticizer was \$1.7M favorable with \$.3M unfavorable due to price and \$2.0M favorable due to efficiency. There were no major plasticizer raw material efficiency variances.

The efficiency variance due to product mix was \$7.0M favorable.

COMPOUND - ContinuedEnergy

	<u>Usage (BTU/Lb.)</u>	
	<u>Actual</u>	<u>Standard</u>
Compound	1687.7	1758.00
Dry Blend	700.1	720.0
Plasticizer	1574.6	1550.6

MECHANICAL DEPARTMENT - T. F. Lyon

MAINTENANCE - D. A. Miller

Safety

There were no injuries to Maintenance Department personnel during the month.

The topic for the monthly safety meeting was a review of 1987 fiscal year injuries.

Vinyl

Two reactor agitator mechanical seals were changed. The 700 seal was changed following a sixteen-month run and the 743 seal failed after a three-month run.

The following major valves were replaced during the month:

- Manual block valve - old unit chem wash system
- 743 rinse water supply
- New unit chem wash supply
- Spare 700/745 catalyst ram valve
- 745 chem wash return valve

The annual safety disc change was completed on 400 reactor.

A reactor shell safety disc was changed on 700 following a failure during a pressure test.

Run indication was provided in the Vinyl control room for the recovery system vacuum pumps and compressors.

Additional emergency lights were installed in the Vinyl control room.

Assisted with the software installation and startup of the new unit automated chem wash system.

The old module normal kill pump was replaced.

The following pump seals were replaced in the Vinyl unit:

- Old unit "B" compressor outboard seal
- Old unit "A" compressor inboard seal
- 501 slurry pump seal
- Old unit north chem wash pump seal
- Old unit south chem wash pump seal
- New unit Alcotex transfer pump seal

The following major work was completed in the Vinyl dryer area:

- The #6 dryer centrifuge rotating element and gearbox were replaced. Both were rebuilt and stored as spares.

MECHANICAL DEPARTMENT - ContinuedVinyl - Continued

- The #1 dryer centrifuge Trunion bushings were replaced.
- The north fluid bed dryer Kason screener feeder valve was replaced with a rebuilt spare.
- The #4 dryer exhauster was removed due to a driveshaft failure. A rebuilt spare was installed.
- The fluid bed dryer pick heater was rebuilt.
- The fluid bed dryer east hot water circulation pump case was replaced.
- Assisted in startup and checkout of #5 dryer following installation of the new air filter, ductwork, screwfeeder and seals.
- New Maxon gas valves were installed on #5 dryer.

The 1987 winterization work began in October. Most of the wind break shelters have been installed. Insulation and steam leak repairs are in progress.

Compound, Dry Blend, Plasticizer

Only minor maintenance was performed on Lines I, III and V during the month.

The following work was done in the Dry Blend unit during the month:

- Drive belts were replaced on the #1 Welex mixer and intensive cooler.
- Number two Welex mixer sheave was repaired. The sheave and drive shaft will be replaced in November.
- Repaired A and B blender diverter valve.
- Overhauled the north Gump screener gearbox.
- Changed out "B" blender star valve.
- Replaced "A" blender drive chain.
- Calibrated all dry blend scales.

Leaking tubes were plugged in the R-1 condenser in the plasticizer unit.

A cracked nozzle was repaired in the R-1 plasticizer reactor.

MECHANICAL DEPARTMENT - ContinuedUtilities

The shaft, impellers, bearings and packing were replaced in #1 boiler feedwater pump.

The drive motor was replaced for #1 boiler feedwater pump.

The level controls and magnetrols were recalibrated on #1 and #2 boilers.

Completed checkout of the propane vaporizers.

The Pall air dryer dessicant was replaced and switching valves overhauled.

The #3 catalyst freezer compressor was replaced.

The new unit west chest freezer compressor was replaced.

The Yard tractor was retrofitted from a tandem axle design to a single axle design.

The annual crane certification was completed.

MECHANICAL ENGINEERING - R. E. PolkAFE F537 - Dry Blend Transfer Lines

Installation is complete except for punchlist items. These are scheduled for completion by 11/20. The project will be closed to field charges during the month of December.

AFE F786/F557 - Resin Quality Improvement

Design at Litwin is 69% complete and in progress. The concrete basis of bids is scheduled for issue in early December. The mechanical basis of bids is scheduled for issue prior to Christmas. Installation of the screw feeder on dryer #5 was completed. The feeder for #4 dryer is scheduled for the week of 11/2. Installation of the feeder on #8 dryer will be coordinated with dryer shell repairs to minimize downtime.

AFE D756 - Reactor Expansion Joints

Installation of joints on all reactors has been completed. Painting is scheduled for completion by the end of November. The project will be closed to field charges in December.

AFE A567 - Rotary Dryer Duct Upgrade

Installation of ductwork for #5 dryer has been completed. The ductwork for #4 dryer is scheduled for the week of 11/2. Installation of #8 dryer is being coordinated with dryer shell repairs to minimize downtime. This is tentatively scheduled for late December.

AFE A657 - Roof Upgrade Phase II

Membrane installation is 70% complete and in progress. Completion is planned for 12/1.

AFE F596 - Chem Wash Automation

Construction is complete and the systems are operational in both modules. Punchlist and safety audit items are in progress and planned for completion in November.

AFE F587 - Laboratory Addition

Approval drawings were reviewed with Laboratory personnel and Process Engineering. Basis of bids will be issued by 11/20. Construction is planned to commence in early December.

PCB Transformer Replacement

Two pad-mounted transformers have been retrofilled. Nine of thirty-two pole mounted units have been replaced. Three were sampled and found to be non-PCB. An additional ten samples have been taken. These results are due in early November.

PROCESS ENGINEERING - V. E. MessickResin Quality Improvement Project

Design work on the Polyvic system for D745 is in full swing. Information on the instrumentation and electrical scopes of work was given to GED. Review of piping/structural/civil packages was completed. On-going review of all Litwin design work on Phases III and IV of the Resin Quality Improvement Project continues.

Reactor Condenser Revisions

The AFE for this project was prepared for submittal. This project will provide two-foot extensions to the condensers on reactors D400, D500 and D600.

Water Management

A hydrologist was selected to evaluate the groundwater situation in Aberdeen. The Coker aquifer and the Gordo aquifer are being evaluated for possible alternate aquifers for plant water supply.

Dry Calcium Stearate Addition

A revised Class "A" design was issued and a review meeting held. This project will add dry calcium stearate to the rotary and fluid bed dryers.

Lines I and III Resin Supply Valves

A revised Class "A" design was issued and a review meeting held for this project to replace the supply valves below the resin silos for compound.

Lines I and III Preblend Magnets

A Class "A" design was issued and a review meeting held for a project to improve magnet systems downstream of the blenders for Compound Lines I and III. This design is part of an overall plan to reduce metal contamination in compound product.

New Module Chem Wash Automation

Operating procedures were issued for the new module chem wash automation system. Assistance was given on startup of the system.

In-depth PVC Training

An in-depth PVC training session was taught in Aberdeen by Richard Quy of R&D. Plant process and mechanical engineering, safety, and maintenance personnel were in attendance.

Section 312/313 Reporting

A review of all hazardous chemicals for toxic components was completed. Calculations for VCM fugitive emissions were made. Information for the March SARA report is nearing completion.

PERSONNEL - R. A. Miller

EMPLOYMENT

None

PROMOTIONS/TRANSFERS

John Ray Hamilton, promoted from Instrument Technician "A" to
Maintenance Supervisor

Kerry Lewis, promoted from General Helper to Vinyl "A" Operator

RETIREMENTS

None

TERMINATIONS

None

TO/FROM LEAVE OF ABSENCE

None

Aberdeen, Mississippi

OCTOBER, 1987
MONTHLY PERSONNEL REPORT

Salaried Employees	<u>72*</u>	Minority Employees				#	%			
Hourly Employees	<u>167</u>	Salaried				<u>8</u>	<u>11%</u>			
Total Employees	<u>239</u>	Hourly				<u>66</u>	<u>40%</u>			
Employees (Hourly)		Total				<u>74</u>	<u>31%</u>			
New Employees	<u>0</u>	Hourly Min. Hired				<u>0</u>				
Terminations	<u>0</u>	% Min. Hired				<u>0</u>				
		Hourly Min. Term.				<u>0</u>				
		% Min. Term.				<u>0</u>				
DEPARTMENTS	PAR	# EMPLOYEES	MIN. EMP.	% MIN.	NEW HIRES	YTD	TERM.	YTD	TURNOVER	YTD
Warehouse	<u>16</u>	<u>16</u>	<u>7</u>	<u>44</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Gen. Plant	<u>13</u>	<u>12</u>	<u>7</u>	<u>54</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Maintenance	<u>40</u>	<u>38</u>	<u>9</u>	<u>23</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Laboratory	<u>24</u>	<u>24</u>	<u>5</u>	<u>21</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Compound	<u>40</u>	<u>40</u>	<u>28</u>	<u>70</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Vinyl	<u>32</u>	<u>32</u>	<u>8</u>	<u>26</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Plasticizer	<u>5</u>	<u>5</u>	<u>2</u>	<u>40</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Number of Applicants:

Month 0 Year to Date 23

Hires (Hourly) :

Month 0 Year to Date 9

APPLICANT BREAKDOWN:

Minority 0 % Minority 0# Female 0 % Female 0

Terminations (Hourly) :

Month 0 Year to Date 2Overall Turnover 0Projected Annual Turnover 1.4%

* Includes 1 temporary employee and one Co-op Engineer.

OVERTIME AND ABSENTEEISM

Department	Straight Time Hours Worked	Overtime Hours Worked		Overtime as a % Of Straight Time	Absence Hours Lost	Absence as a % of Straight Time	
		Controllable(1)	Non-Controllable(2)			Sickness	Other
WAREHOUSE	2546.00	194.50	-----	7.64	108	3.61	.63
MAINTENANCE	5026.00	549.50	-----	10.93	30	.00	.60
LAB	3669.50	243.75	-----	6.64	34	.33	.60
COMPOUND	6947.00	575.75	-----	8.29	140	1.38	.63
VINYL	5137.75	1005.25	-----	19.56	334	5.37	1.12
PLASTICIZER	721.75	110.00	-----	15.24	95	6.23	6.93
UTILITY BOILER	672.00	32.00	-----	4.76	00	.00	.00
GENERAL PLANT	744.00	25.00	-----	3.36	00	.00	.00
TOTAL	25464.00	2735.75	-----	10.74	741	2.05	.86

(1) Controllable Overtime - all overtime excluding overtime due to working regular hours on a holiday and working the sixth day in operations.

(2) Non-Controllable Overtime - that overtime due to working regular hours on a holiday and working regular hours on the sixth day in operations.

ENERGY CONSERVATION - F. G. Jeanson

I. Plant Operations

Total energy consumption for October was 125.053 MMM BTUs. Energy consumption increased to 2278 BTU/lb. from 2267 BTU/lb. in September. An adjusted CMA reduction of 56.0% was obtained for the month.

II. Plant Energy Conservation Program

Maintenance

There were eighteen energy related items completed in October. All of these items were steam leak repairs.

III. Boiler Operation

<u>Boilers</u>	<u>Combustion Efficiency %</u>	
	<u>Oct., 1987</u>	<u>Oct., 1986</u>
No. 1	83.7 ⁽²⁾	83.9
No. 2	83.6 ⁽³⁾	(1)
No. 3	83.3	83.3

- Note: (1) Boiler number two was not used during the month.
- (2) Boiler number one was operated thirteen days during the month.
- (3) Boiler number two was operated eighteen days during the month.

ENERGY CONSERVATION DATA

<u>Month</u>	<u>1987</u>	<u>1986</u>
	<u>October</u>	<u>October</u>
<u>Production, MM Lbs.</u>		
Resin	40.7	31.8
Dry Blend	5.0	4.4
Compound	7.2	6.6
Plasticizer	2.0	2.0
TOTAL	54.9	44.8
<u>Natural Gas</u>		
Consumption, MSCF	63680	47196
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	64.329	48.140
Energy Consumption, BTU/lb.	1172	1075
<u>Electricity</u>		
Consumption, MM KWH	6.0724	5.4480
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	60.724	54.480
Energy Consumption, BTU/lb.	1106	1216
<u>Propane</u>		
Consumption, M Gal.	0	0
Conversion, BTU/Gal.	92000	92000
Energy Consumption, MMM BTU	0	0
Energy Consumption, BTU/lb.	0	0
<u>Total</u>		
Energy Consumption, BTU/lb.	2278	2291
Energy Consumption, MMM BTU		
Actual Unadjusted	125.053	102.620
Actual Adjusted	102.595	83.358
1972 Base Period	232.999	189.076
<u>CMA Reduction (%)</u>		
Adjusted	56.0	55.9
Unadjusted	46.3	45.9
Fiscal 1988 Year-to-Date	56.0% Adjusted	
Performance	46.3% Unadjusted	

ENVIRONMENTAL - R. A. FrohreichWater

All wastewater discharge parameters were within NPDES limits in October. Two wastewater bypasses did occur.

Two chronic bioassay tests were conducted in October. Test organisms were the fat head minnow and the water flea. No toxicity was detected in either test.

General

On truckload of building ventilation dust was purchased by Surplus Chemicals Marketing, Inc.

Arrangements were made for the sale of surplus BHT which is no longer used in the plant.

TABLE I
WATER COMPLIANCE WITH
NPDES PERMIT PARAMETERS

		Flow	BOD		COD		Sus. Solids		Diss.	NH ₃	pH
		GPM	PPM	LB./DY.	PPM	LB./DY.	PPM	LB./DY.	O ₂	LB./DY.	
Oct.	Ave.	1229	5	77	28	433	10	147	8.4	1.8	7.5
	Max.	1264	7	100	39	553	15	215	8.6	2.9	7.9
Nov.	Ave.										
	Max.										
Dec.	Ave.										
	Max.										
Jan.	Ave.										
	Max.										
Feb.	Ave.										
	Max.										
Mar.	Ave.										
	Max.										
Apr.	Ave.										
	Max.										
May	Ave.										
	Max.										
June	Ave.										
	Max.										
July	Ave.										
	Max.										
Aug.	Ave.										
	Max.										
Sept.	Ave.										
	Max.										

NPDES Permit Limits - December 1 through April 30

Ave.	-	32	431	-	1462	-	674	> 6.0	13	6.0 - 9.0
Max.	-	43	800	-	2713	-	1396		28	

NPDES Permit Limits - May 1 through November 30

Ave.	-	26	357	-	1212	-	674	> 6.0	13	6.0 - 9.0
Max.	-	40	744	-	2523	-	1396		28	

LABORATORY - H. G. ColemanSafetyA. Safety

There was one first aid case in October. A technician suffered a small laceration to the forehead when he bumped his head on a temperature recorder.

The safety topic for the month was a film on AIDS, a question and answer program conducted by the Surgeon General. Of concern was the possibility of contracting AIDS when administering first aid.

B. Customer RelationsCustomer Contacts

ITW Meritex - Julius Acker of Meritex visited Aberdeen on 10/19 to review our production facilities and quality control techniques. Harold Coleman gave the standard Laboratory presentation.

General Plastics - Brian Harrison, along with C. O. Yoder and Pat Haugen, visited this dry blend customer on 10/5. Color requirements were discussed and color swatches were provided.

Chrysler - Brian Harrison, along with C. O. Yoder and Pat Haugen, visited Chrysler on 10/6 to discuss color specifications for their white dry blend.

Requests for Corrective Action

<u>Date</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
?	Formtech, Stow, OH	317-91 WHT 110	Inconsistent color (TiO ₂ levels).

Customer Problem Reports

<u>Date</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
10/06	Times Fiber Chatham, VA	38601 Black	Spark failures.
10/08	Royal Electric Pawtucket, RI	34551 Natural	IR failures
10/10	Vinyltherm Bloomington, MN	245-53 WHT 140	Color - too "white".
10/12	Northwire	38601 Black	Calcium carbonate dispersion.
10/28	Dayton Extruded Plast. Springboro, OH	269-151 WHT 145	Calcium stearate lumps.

B. Customer Relations - continuedCustomer Problem Reports - continued

<u>Date</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
10/28	Formtech Stow, OH	317-91 WHT 110	Poor die flow.
10/30	Vinylex Corp. Knoxville, TN	5415 GEM	Lumps on clear tubing.

Product Return Notifications

<u>Date</u>	<u>Customer</u>	<u>Product</u>	<u>Amount</u>	<u>Reason</u>
10/02	General Cable Tampa, FL	46311 WHT	30,000 lbs.	Customer on strike.
10/07	Southwire Carrollton, GA	1201 NAT	10,500 lbs.	Low IR values.
10/13	Formtech Stow, OH	317-91 WHT 110	16,645 lbs.	Inconsistent color.

Waivers Issued

<u>Customer</u>	<u>Product</u>	<u>Reason</u>	<u>No.</u>
Blane Polymers	5305	Static Flow	1 HT
Nibco	5305	Static Flow	1 HT
Uniroyal	5305	Static Flow	1 HT
United Technologies	5415	Mets IR	1 RC
Vulcan Metal	5415	Static Flow	1 HT

Sample ShipmentsResin

<u>Ship Date</u>	<u>Product</u>	<u>Amount</u>	<u>Reason</u>
10/12/87	5415	100 pounds	United Tech./Essex
10/14/87	5415	2250 pounds	Colonial Rubber Works
10/27/87	5415	15 pounds	Zoecon Industries

B. Customer Relations - ContinuedSample Shipments - continued

<u>Compound</u>	<u>Ship Date</u>	<u>Product</u>	<u>Amount</u>	<u>Reason</u>
	10/09/87	271-99A NAT	300 pounds	Celwave Systems, Inc.
		271-99C NAT	300 pounds	
	10/12/87	39031 BLK	1500 pounds	Cablec Corporation
	10/12/87	17462 GRY 545	25 pounds	Lasko Metal Products
		18162 GRY 545	25 pounds	
	10/14/87	186-74 WHT 112	100 pounds	Americhem, Inc.
	10/14/87	150-6A NAT	50 pounds	Wilson Fiberfil
	10/15/87	38631 WHT	2250 pounds	Flexible Technologies
	10/19/87	259-99B BLK	1600 pounds	Comm Scope
	10/20/87	18031 CB 50	50 pounds	All-Wire Inc.
	10/21/87	35852 NAT	50 pounds	Vista (Ponca City)
	10/21/87	34642 NAT	50 pounds	Blane Polymers
	10/22/87	17462 GRY 545	100 pounds	Lasko Metal Products
	10/30/87	18961 GRY 545	100 pounds	Thermoid
	10/30/87	240-105B GRY	1400 pounds	Marine Industrial Cable
<u>Dry Blend</u>				
	10/16/87	90172D	50 pounds	United Plastics (Export)
<u>Other</u>				
	10/28/87	Dythol XL	1/2 gal.	Vista (Ponca City)
	10/29/87	Cyasorb UV 531	5 pounds	Vista (Ponca City)

C. Development Lab SummaryRVCM of In-Process Samples

The following is a summary of residual VCM results on in-process samples. None of the reactor daily averages exceeded 400 ppm during the month of October, 1987.

	Reactor Slurries	Dryer	
		5265	5305
Number of Samples	928	39	67
Average ppm, VCM	237	1.2	0.2

C. Development Lab Summary - continued

RVCM of Shipment Samples

The following is a summary of the residual VCM analysis of shipment samples for the month of October, 1987.

<u>Product</u>	<u>5265</u>	<u>5305</u>	<u>5385</u>	<u>5415</u>	<u>5465</u>	<u>Debox</u>	<u>Dry Blend</u>	<u>Pond</u>
No. of Samples	42	104	34	76	0	28	33	0
Average RVCM, ppm	0.40	0.10	0.20	0.10	-	0.1	0.20	0

D. Resin Process Capabilities

	<u>5265</u>	<u>5305</u>	<u>5385</u>	<u>5415</u>
Bulk Density	0.55	0.40	1.35	0.09
Inherent Viscosity	0.19	0.67	0.46	0.67
"L" Color Value	1.55	4.50	3.78	4.00
"A" Color Value	1.67	4.00	—	—
"B" Color Value	1.22	1.17	3.00	4.00
% on Pan (vs. 2% max.)	0.69	1.33	4.33	4.44 (1.11)
% thru 140M	1.13	0.86	2.94	3.64
Drytime	—	—	0.83	0.56
Mets I.R. (vs. 95% of Control)	—	—	—	0.51 (0.27)
Hard Particles (% > 10)	—	—	6.00	8.10

No 5465 production this month.

E. Compound Quality Summary

	<u>Adjustments</u>		<u>Rejections</u>	
	<u>M Lbs. (%)</u>		<u>M Lbs. (%)</u>	
Hardness	58.5	(0.82)	16.4	(0.23)
Color/Clarity	—	—	4.5	(0.06)
Hard Particles	—	—	58.6	(0.82)
Heat Stability	—	—	6.8	(0.09)
Contamination	—	—	1.5	(0.02)
Dispersion	—	—	4.5	(0.06)
Dicing	—	—	6.5	(0.09)
Cross Contamination	—	—	6.8	(0.09)
Metal Contamination	—	—	14.0	(0.20)
Total	58.5	(0.82)	119.6	(1.67)

F. Dry Blend Quality Summary

	<u>Rejections</u>	
	<u>M Lbs.</u>	<u>(%)</u>
Color Stability	12.5	(0.25)
Color	24.2	(0.48)
High Fusion Torque	3.9	(0.08)
Contamination	8.4	(0.17)
Particle Size	27.6	(0.55)
Total	76.6	(1.52)

G. Quality Development

1. The second REACT meeting was held in Aberdeen on 10/7. SPC data on control resin testing was compared.
2. Primarily through the efforts of Rod Hammons (Ponca City) and Gary Fritch (Aberdeen), significant discoveries were made about the Mets I.R. test:
 - a. Milling two samples consecutively adds significant variability to the results. This was eliminated as of 10/12 by running one sample at a time.
 - b. High levels of dry CaSt on the resin drastically reduce Mets values in the 1201 formula. Differences between two CaSt suppliers were insignificant.
 - c. After fifteen minutes equilibration time in the water bath, Mets values are constant. Up to that point they increase, probably due to temperature.
 - d. Mets I.R. values are very dependent upon the formulation being used. For example, lab batches of our best 5415 resin give values of about 9000 in the SW 1201 formula, but only 2500 in the 34551.

4. 5415 Control Resin (Lot 04169) Testing

	<u>n</u>	<u>X</u>	<u>3</u>
Moisture	60	0.138	0.284
Drytime	62	5.01	0.27
Particle Size - 60 Mesh	31	0.77	0.34
- 100 Mesh	30	33.85	1.13
- 140 Mesh	29	6.60	1.71
Pan	31	1.06	0.55
Bulk Density	61	0.5032	0.0073
Color - L	46	100.400	0.320
A	62	-0.147	0.332
B	62	2.298	0.583
Flow Time	39	8.23	1.19
Hard Particles, 7 Min.	60	7.00	3.68
Inherent Viscosity	28	1.0047	0.0099

H. Miscellaneous

1. Dave Cox, Richard Williams and Billy Paul Sizemore attended Rick Quay's seminar on VCM polymerization technology on 10/14/87.
2. Brian Harrison issued a report rejecting a new TiO_2 from DuPont (WPD-701). It gives a grayer color when substituted for R-101.
3. Brian Harrison prepared beige, ivory and gray color matches for General Plastics and presented them to GP on his 10/5 visit. He also finalized a color match for dry blend purge, 317-115 BLU 170.
4. Dave Cox's revision of Aberdeen's test methods continued this month. Thus far, twelve resin methods have been revised and approved.
5. Brian Harrison investigated complaints from Formtech and Novatech. Causes were identified as variable TiO_2 levels in 317-91 WHT 110, and inconsistency of 80273G toll-blended by Intamix, respectively.
6. Brian Harrison issued a memo on eliminating stabilizer from dry blend colorants. A minor cost savings is involved.
7. Brian Harrison attended the SPE Color and Appearance Division seminar in Atlanta on 10/14-15. He also attended extrusion trials at Ponca City on 10/7-8.
8. Brian Harrison accompanied Virgil Fisher to Alsco on 10/22 to discuss their Q.C. procedures for toll-produced 80273G.

A

SHIPMENTS BY PRODUCT - M LBS.

OCTOBER 1987

FISCAL
YEAR-TO-DATE

RESIN	30,294	30,294
PLASTICIZER	779	779
DRYBLEND	5,237	5,237
COMPOUND	6,619	6,619

TOTAL	42,929	42,929
-------	--------	--------

NUMBER OF SHIPMENTS BY MODE:

	RAILCAR	VISTA BULK	TRUCK VAN	TRAILER ON A FLAT CAR	COMMON CARRIER	CUSTOMER PICK-UP	CONTAINER	TOTAL
RESIN-Bulk	138	52			1	99		290
Package			2	1	6	4		13
Export								
PLAST.-Bulk	4	2						6
Package								
DRYBLEND-Bulk	25	3				8		36
Package			8	1	13	2		24
Export								
COMPOUND-Bulk	15	5						20
Package			45		30	32		107
Export			1		1		1	3
TOTAL	182	62	56	2	51	145	1	499

ENERGY USAGE

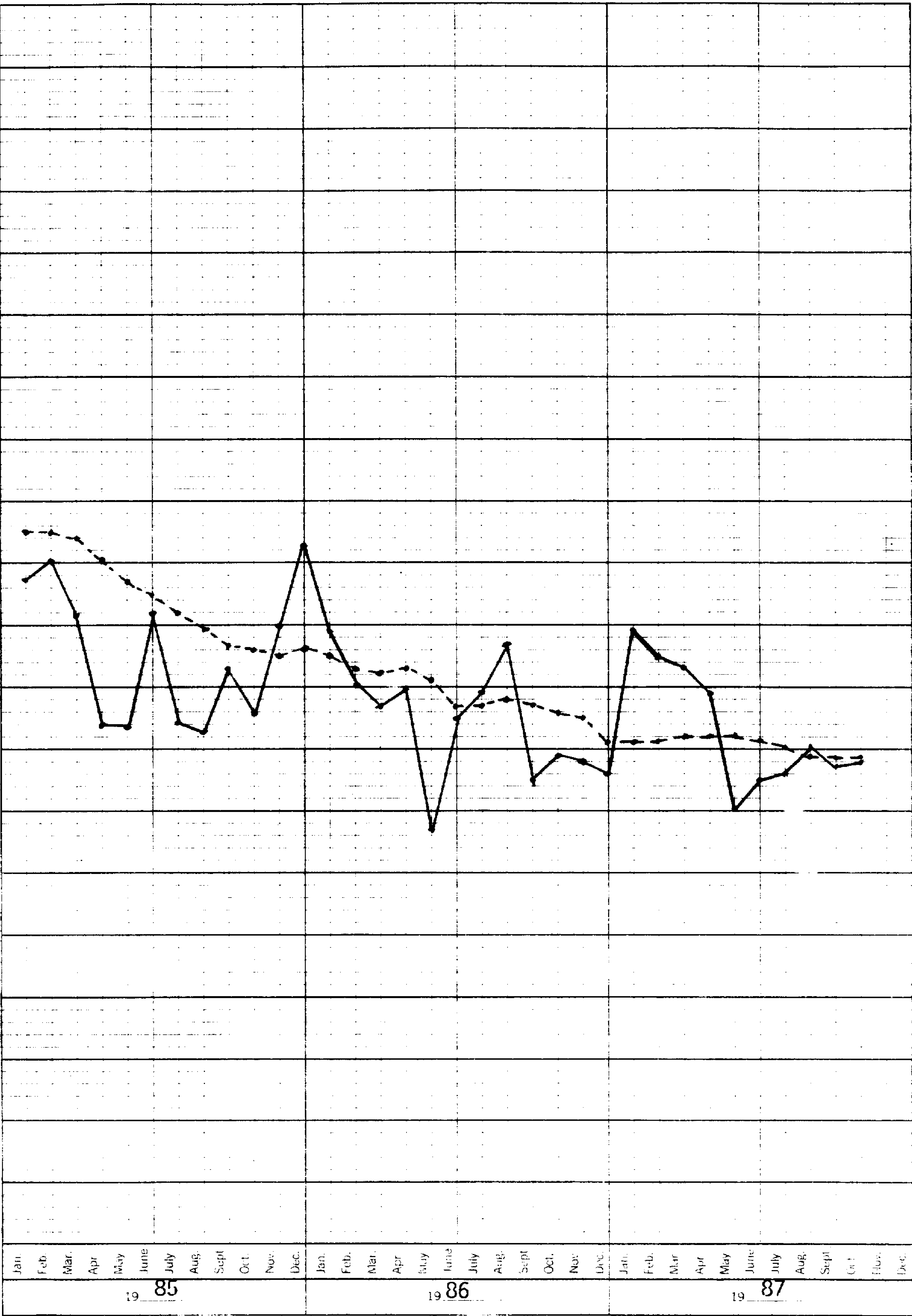
A

46 3290

BTU/LB.

3 YEARS BY MONTHS X 100 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

3500
3000
2500
2000
1500



Monthly

- - - - - 12-Month Moving Avg.

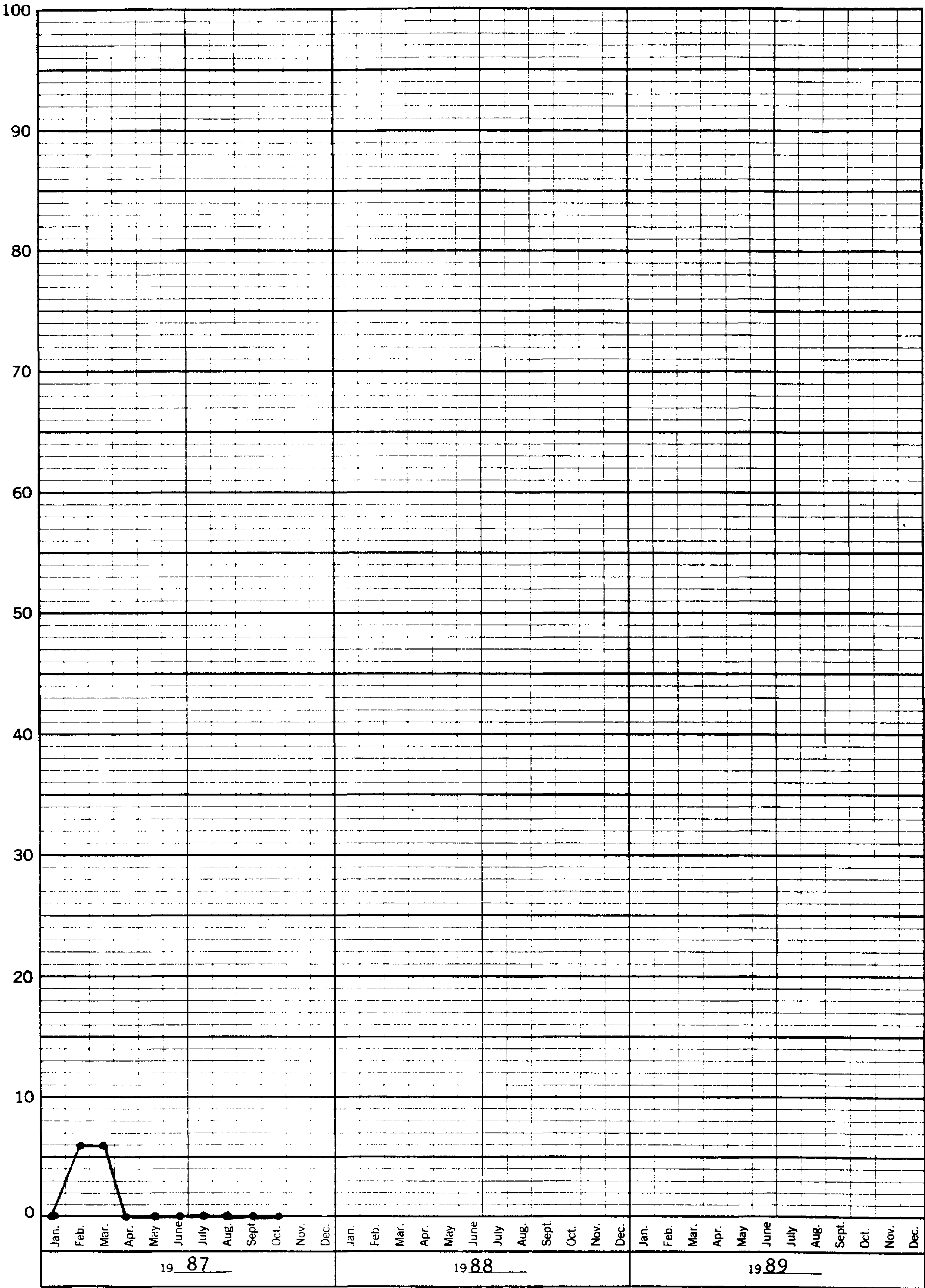
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MONTHLY HOURLY TURNOVER

A

46 3290

3 YEARS BY MONTHS X 100 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

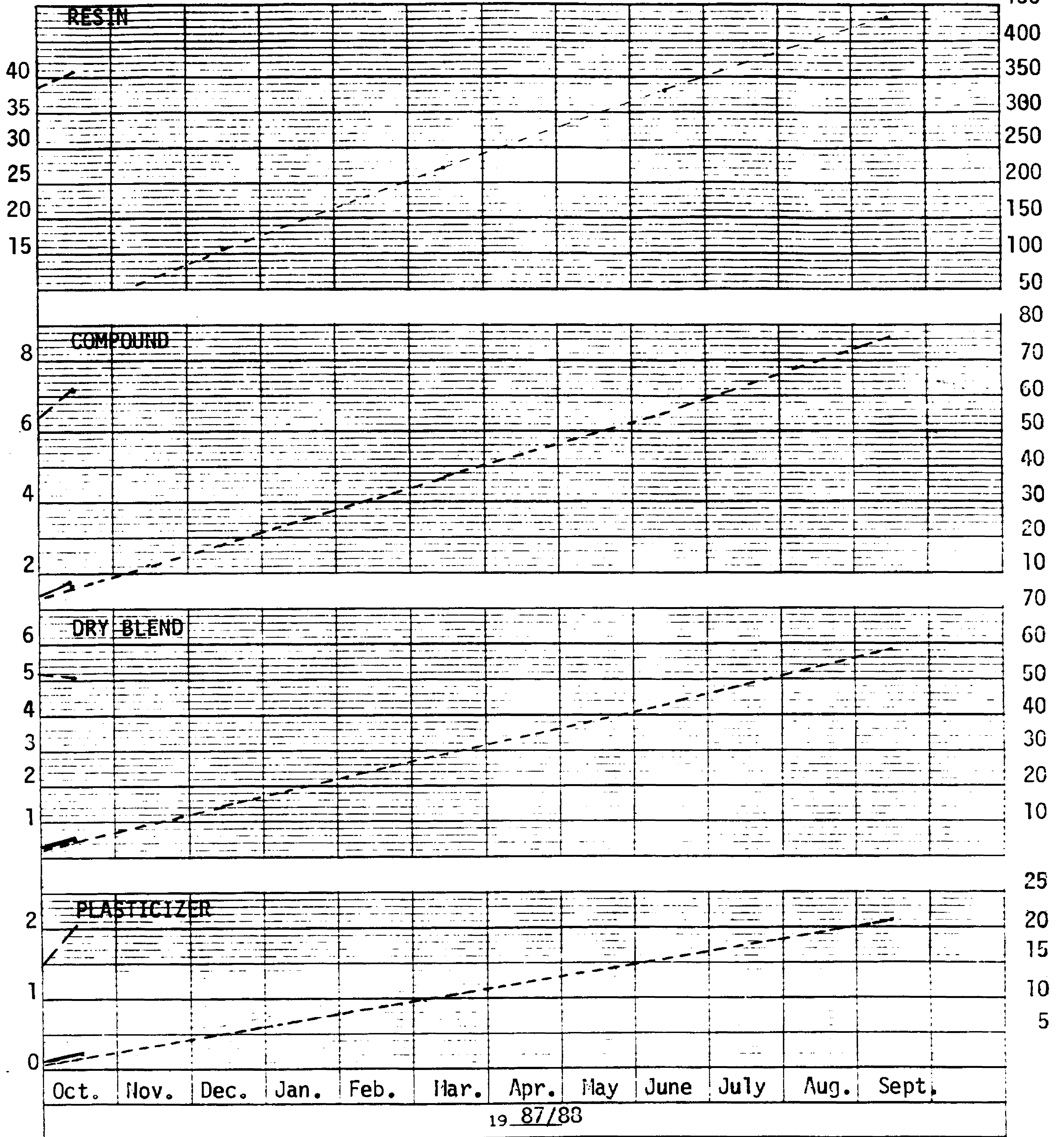


ABERDEEN PLANT PRODUCTION

10/01/87 - 09/30/88

MM POUNDS
MONTHLY

MM POUNDS
CUMULATIVE



----- Budget
..... Actual
———— Cumulative

ABERDEEN PLANT EFFICIENCY

A

10/01/87 - 09/30/88

POUNDS OF RAW MATERIAL/POUNDS OF PRODUCT

1.020

1.015

1.010

1.005

1.000

0.995

VINYL CHLORIDE CONSUMPTION

COMPOUND RAW MATERIAL

1.030

1.025

1.020

1.015

1.010

1.005

1.000

DRY BLEND RAW MATERIAL

1.020

1.010

1.000

.990

PLASTICIZER RAW MATERIAL CONSUMPTION

1.200

1.150

1.100

1.050

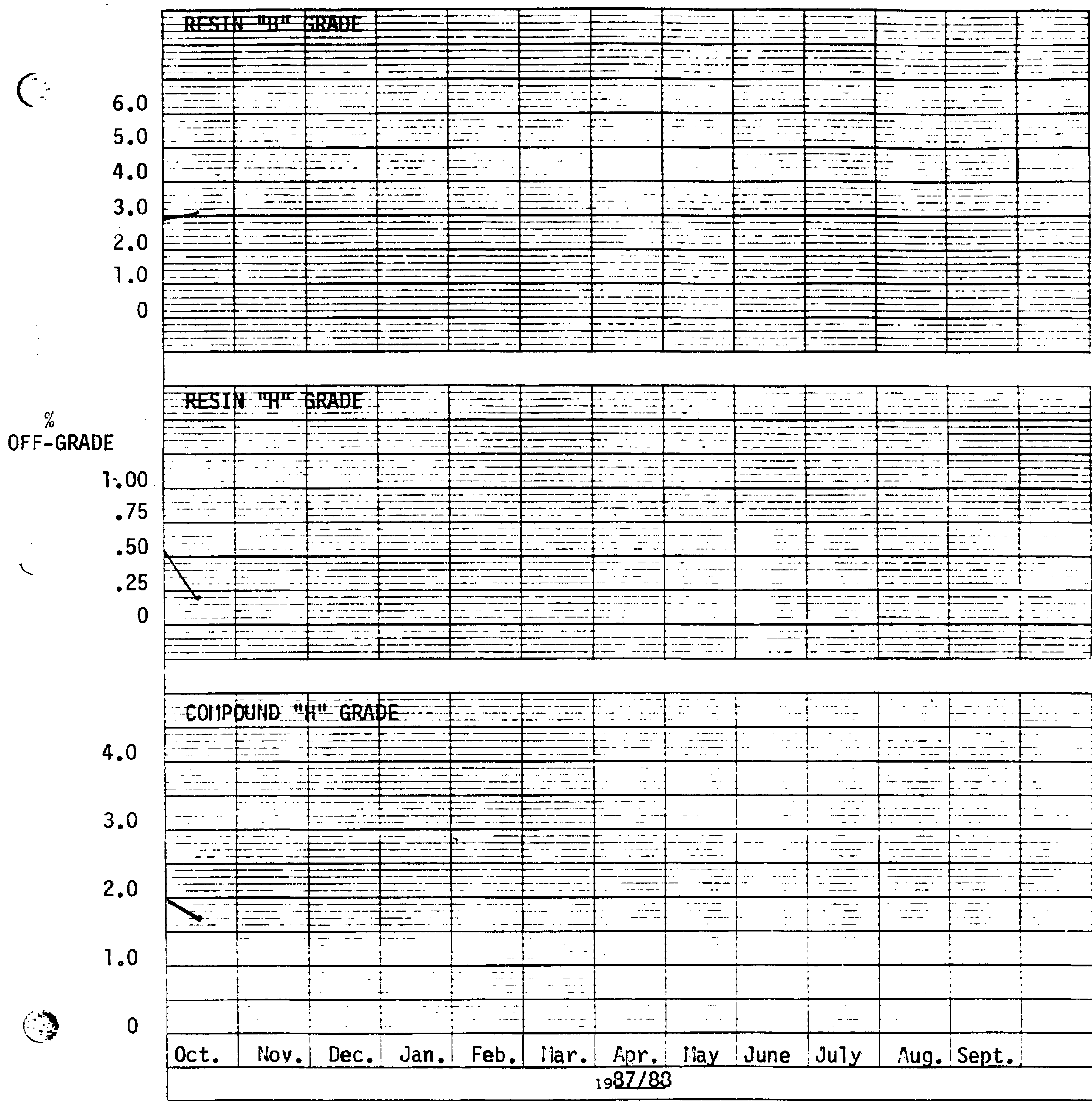
Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.

19 87/88

VAB.0001191194

ABERDEEN PLANT QUALITY PERFORMANCE

10/01/87 - 09/30/88



A

MM
POUNDS
PRIME

