

File Copy A

To: R. T. Ferrell

From: J. W. Ware
Date: September 17, 1987

Subject: ABERDEEN MONTHLY PROGRESS REPORT
AUGUST, 1987

VISTA

**Interoffice
Communication**

There were four first aid cases and one OSHA recordable injury recorded during the month of August. As of August 31, 1987, the plant had operated 2,979 days or 3,843,637 manhours without a lost time injury.

PVC resin production for August was 32.3MM pounds. The major cause of downtime in the reactor areas was the old module shutdown. Major work completed during this outage included replacement of 300 condenser, installation of reactor jacket expansion joints on 700, RQIP agitator and gear changes for 700, and hydroblasting and inspection of all old module reactors. Resin production year-to-date totaled 389.8MM pounds. The VCM efficiency for August was 1.04174 pounds of VCM per pound of PVC produced versus a 1.00208 standard. A portion of this unfavorable efficiency is due to a correction for a July accounting error. Investigation is continuing into other sources of the yield problem. Year-to-date VCM efficiency is 1.01039.

Compound production for August was 5.6MM pounds. Line I and Line III operated thirty-one days and twenty-seven days, respectively, during the month. Line V operated four days. Downtime was taken on Line III and Line V to control inventory. Year-to-date compound production was 75.1MM pounds. Quality performance for flexible compounds was 3.4% off-grade of which 71.8% was due to mill scrap. "BC" production was 0.60%.

Dry blend production was 4.7MM pounds for August and 50.9MM pounds fiscal year-to-date. Production was limited primarily by product changes. Quality performance for the month was 99.3% customer grade.

The plasticizer unit operated twenty-nine days in August to produce 1.6MM pounds. Year-to-date plasticizer production is 20.4MM pounds.

The Maintenance Department valve team presented their project to management during August. An improved design for valve-to-actuator mounting brackets was developed and spare assemblies are now being built for inventory. The warehouse team working on product transfer efficiency has eliminated shipments to Prairie warehouses as a test to determine whether in-plant storage can accommodate routine inventory requirements. A plant-wide attitude survey was conducted in August. Feedback meetings will begin in September.

VAB.0001191232

A

R. T. Ferrell
09/17/87
Aberdeen Monthly Progress Report
Page 2

Total energy consumption for August was 102.104 MMM BTUs. The energy consumption per pound of product was 2304 BTUs, resulting in an adjusted CMA reduction of 55.9%. The adjusted CMA reduction for fiscal 1987 year-to-date is 54.8%.

The total plant variable cost variance for August was \$1508.8M unfavorable, resulting from an overall unfavorable price variance of \$1366.1M and a net unfavorable efficiency variance of \$142.7M. The total fixed cost variance for August was \$1.9M unfavorable.



J. W. Ware

rah

<u>DISTRIBUTION</u>		<u>COVER LETTER</u>	<u>ENTIRE REPORT</u>	<u>COVER LETTER AND QIP</u>
<u>HOUSTON:</u>	J. D. BURNS	X		
	R. E. LEHMKUHL		X	
	R. T. FERRELL		X	
	R. D. GAMBLIN			X
	J. J. LANGFORD	X		
	R. E. SWANIKOWSKI		X	
	D. F. HARMAN	X		
	H. R. FLAMMER		X	
	R. R. SMITH		X	
	S. K. SABORSKY		X	
	K. J. EGGERS		X	
	D. H. SANDERS		X	
<u>PONCA CITY:</u>	S. E. MCGUIRE		X	
	R. L. POE	X		
	H. J. HALL		X	
	C. M. STARKS		X	
<u>OKLAHOMA CITY:</u>	HARRY GARRISON		X	
<u>LAKE CHARLES VCM PLANT:</u>	DICK CONRAD		X	
<u>LAKE CHARLES CHEMICAL PLANT:</u>	J. A. DEBERNARDI		Safety Section and	X
	T. H. HUFFMAN	X		
<u>LAKE CHARLES LAB PLANT:</u>	L. R. BAUER	X		
<u>BALTIMORE:</u>	R. W. SEYMOUR	X		
<u>HAMMOND:</u>	J. B. MAHER	X		
<u>ELANE POLYMERS:</u>	E. L. KIESCHNICK		X	
<u>PREMIERE POLYMERS:</u>	P. L. FOOTE		X	
<u>ABERDEEN:</u>	JF, JWW, DWH, PJK, TFL, RAF, KLF, RAM, VEM, HGC, CWT, REP, VLT, JEL, REN			

SAFETY - K. L. Fogg, J. V. Uptain

<u>Occupational Injuries</u>	<u>August</u>	<u>Fiscal Y.T.D. 1987</u>	<u>Fiscal Y.T.D 1986</u>
First Aid	3	15	16
OSHA Recordable	<u>1</u>	<u>8</u>	<u>9</u>
Total Injuries	4	23	25
Number of Restricted Workday Cases	0	2	4
Number of Lost Workday Cases	0	0	0

Injuries by Department

Vinyl Operations	0	4	5
Compound Operations	0	1	4
Maintenance	4	13	11
Laboratory	0	2	0
Receiving/Warehouse	0	2	1
Office	<u>0</u>	<u>1</u>	<u>4</u>
Totals	4	23	25

Injuries by Type

Cuts and Abrasions	0	10	6
Eye Injuries	0	3	5
Burns	4	6	4
Bruises	0	1	0
Strains/Sprains	0	3	5
Stings	0	0	1
Other	<u>0</u>	<u>0</u>	<u>4</u>
Totals	4	23	25

Non-Occupational Injuries

Lost Workday Cases	3	7	12
Days Lost	25	54	142

Safety Record

Last lost time injury 7/5/79
Days since - 2,979
Manhours since - 3,843,637

On August 31, 1987, the employees of the Aberdeen plant completed 2979 days with no lost time injury.

Topics for the plant safety meetings during the month included: Plant Power Failure Procedures, Safety Procedures for Clearing Bird Centrifuges, Chemical Hazards, Reviews of Recent Injuries, Eye and Face Safety, and Maintenance Weekly Safety and Job Reviews.

SAFETY - Continued

The Central Safety Committee met in August.

K. L. Fogg met with the Mayor, Police Chief, and Fire Chief of Aberdeen to discuss community emergency preparedness.

K. L. Fogg met with the Monroe County Board of Supervisors to discuss implementation of the community right-to-know provisions of the SUPERFUND amendment.

Two plant evacuation drills were conducted.

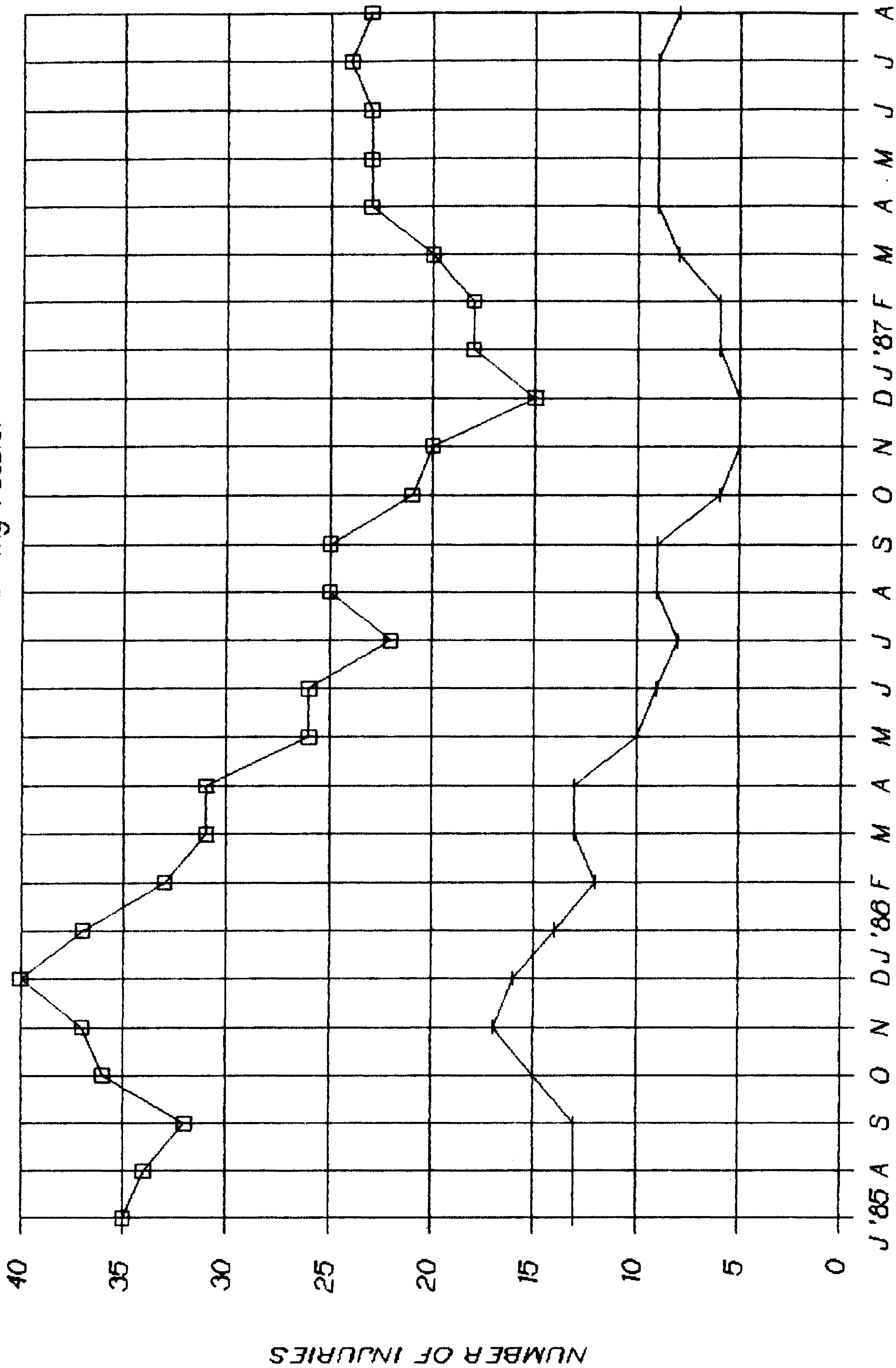
Routine dosimetry results for the month are as follows:

<u>Chemical</u>	<		>	
	<u>Number</u>	<u>PEL Percent</u>	<u>Number</u>	<u>PEL Percent</u>
VCM	82	100.0	0	0.0
Lead	16	94.1	1	5.9
Total Particulates	2	100.0	0	0.0

The single lead overexposure was with benefit of respiratory protection.

ABERDEEN CHEMICAL PLANT INJURIES

(Twelve Month Running Totals)



□ TOTAL INJURIES

+ OSHA RECORDABLE

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

The valve team made their presentation to Management this month. They identified the ten most often replaced valves in the plant and are making completed and tested spare assemblies for inventory. This is projected to save 117 hours of vinyl reactor downtime per year. Cost of the project is approximately \$12,000.

The warehouse team working on reducing product transfer costs stopped all shipments to the Prairie warehouse. This is a test being used to determine our ability to store all products at the plant warehouse.

A two-day SPC class was held for new employees.

The CVR employee attitude survey was given to Aberdeen plant personnel. The employee feedback meetings began in September.

The week of August 17 was Customer Visit Week. The plant hosted three customer visits during the week.

An initial meeting of the Lead Stabilizer Team was held August 12. The goals of the team were established at this meeting.

A meeting was held in Houston with Vista Purchasing and representatives of Schenectady Chemicals to discuss long term supply of Isonox 132.

Work was started to define a computer system that will allow the Aberdeen Plant to respond to customer requests for SPC analysis of lab data.

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

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

Shift safety meeting topics for the month were a review of the most recent accidents in the Vinyl Department and Emergency Procedures during power outages.

<u>Production</u>	<u>August</u>	<u>Y.T.D.(Fiscal 87)</u>
1. Production, MM Lbs.	32.3	389.8
2. Daily Production Rate, M Lbs./C.D.	1041	1164
3. Total Charges	785	9718
4. Charges, Reactor Batches/C.D.	25.3	29.0
5. Reactor Stream Factor	81.1	89.9
6. Dryer Rate, Average Lbs./Hr.	8781	9776
7. Dryer Stream Factor	61.8	62.4
8. Accounting Days	31	335

Vinyl Department production for August was 32.3MM pounds.

Reactors

The reactor stream factor for August was 81.1%. Downtime in the reactor area occurred as follows:

- 1) Operational Downtime: Accounted for 24.4% 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, power failures, bad weather, 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.
- 3) Maintenance Repair/Revision Downtime: Accounted for 75.6% of the total downtime and a majority of the time was due to the scheduled annual shutdown of the Old Module. The following major jobs were accomplished during the shutdown: Reactor 300 condenser was changed, reactor 700 jacket expansion joints added, Modicon manual mode was added, the north recovered VCM receiver condenser tube leaks were repaired, the agitation was changed in reactor 700 to match that of reactor 745, all Old Module reactors were hydroblasted and inspected, and the automatic chem wash system was installed. The safety discs were changed on reactor 744 and incinerator instrumentation problems caused some downtime during the month.

VINYL - Continued

Dryers

The dryer stream factor for August was 61.8%. Downtime in the dryer area occurred as follows:

- 1) Reactor Limited Production: Accounted for 91.1% of the total downtime. Dryers were shut down when possible for energy conservation.
- 2) Operational Downtime: Accounted for 3.6% of the total downtime and was due to centrifuge plugging, burner flameouts, dryer cleaning and transfer activator problems, and power failures.
- 3) Maintenance Repair/Revision Downtime: Accounted for 5.3% of the total downtime and was due to repairs to #6 dryer drive, repairs to #1 dryer air sweep, replacement of #5 dryer gas valves, and replacement of #8 centrifuge sparge pipe. The fluid bed dryer was shut down in conjunction with the Old Module shutdown during which time the outlet hot water manifold was replaced, the scrubber was cleaned and inspected, the backmix and plugflow sections were inspected and the centrifuges were serviced. Number six activator had a new inspection port installed.

Product Quality Summary

<u>Resin Type</u>	<u>Prime</u>	<u>"B"</u>	<u>"H"</u>	<u>% of Total Production</u>
5265	1,627,752	-	-	5.0
5305	3,032,600	-	-	9.4
5385	15,968,651	-	-	49.5
5415	9,787,970	-	-	30.3
5425	-	-	-	0.0
5465	(7,180)	-	-	0.0
Debox	-	1,128,150	-	3.5
Off-Grade	-	511,620	-	1.6
Sifter Overflow	-	-	117,886	0.4
Pond Resin	-	-	108,700	0.3
Total	30,409,793	1,639,770	226,586	100.0

Quality performance for August was 99.3% customer grade with 0.7% "H" grade production.

A total of eleven railcars were shipped as "B" grade during the month which represented 8.9% of the 123 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>
07/20/87	08/10/87	PLCX 43701	Con. Plast., CO	Debox	Quality
08/01/87	08/11/87	PLWX 44275	Wexford, WI	Debox	Quality
08/07/87	08/13/87	ACFX 36024	H&W, MS	Debox	Quality
08/02/87	08/13/87	PTLX 41603	Silverline, NC	Debox	Quality

VINYL - ContinuedProduct Quality Summary - continued

<u>Load Date</u>	<u>Ship Date</u>	<u>Car No.</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
07/31/87	08/14/87	VIPX 45273	Apache Plast., CA	Debox	Quality
08/01/87	08/18/87	ACFX 52553	Wexford, CA	5385	Derailed
08/03/87	08/18/87	PTLX 41649	Western Ag., TX	Debox	Quality
07/13/87	08/24/87	PTLX 41645	Vulcan Plast., AL	Debox	Quality
06/16/87	08/25/87	PLWX 44279	Gamma Mfg., CA	Pond Resin	Quality
08/12/87	08/26/87	PLCX 43738	Apache Plast., CA	Debox	Quality
09/19/87	08/26/87	VIPX 45711	Capco Pipe, IN	Debox	Quality

Monthly Variable Cost Performance

Variable costs for the month were unfavorable at \$1497M resulting from an overall unfavorable price variance of \$1296M and an unfavorable efficiency variance of \$200.5M. Resin variable cost for the month was 23.041 cents/lb. versus the budgeted 18.119 cents/lb.

The \$1296M unfavorable price variance was primarily attributed to higher than budgeted pricing for VCM, \$1345M, offset by favorable natural gas pricing of \$22.6M, and favorable electricity pricing of \$10.4M.

The \$200.5M unfavorable efficiency variance can be attributed mainly to an unfavorable variance due to VCM, \$194.8M; and Alcotex, \$24.5M; offset by a favorable electricity variance of \$42.6M.

VCM efficiency for the month was 1.04174 lbs. VCM/lb. PVC versus the budgeted 1.00208 lbs. VCM/lb. PVC.

YTD variable cost efficiency variances in the Vinyl Department totaled \$654.1M unfavorable.

Energy Performance/Progress

1. Plant energy performance for August was 2304 BTU/lb.

General

1. Resin raw material in the 0744 account totaled \$248.5M.
2. The Old Module turnaround performance by maintenance, engineering, and operations was notable. All jobs were executed safely without accidents or exposures.

VINYL - Continued

General - continued

3. The plant conducted its second production run of Klockner Pentaplast recipe 5305 successfully with PED's assistance.
4. Ten operators attended a two-day in-house SPC training session which was taught by our Quality Department.

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

<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	30	1898	63	25275
Line V	4	218	55	8198
Line III	27	3472	129	41633
Total		5588		75136

Line I operated thirty days in August at an average rate of 63M pounds per day. Major items affecting production efficiency were: product changes, 89 hours; quality problems, 21 hours; power outages, 13 hours; housekeeping, 11 hours; pig conveyor maintenance, 10 hours; dicer problems and maintenance, 8 hours; and Banbury maintenance, 5 hours. Line I was down one day for inventory control. The downtime was used to re-screen some material to check for metal contamination.

Line V operated only four days in August due to inventory control and averaged 55M pounds per day. Major items affecting production efficiency were: product changes and startup time, 13 hours; and power outages, 2 hours.

Line III operated twenty-seven days in August at an average rate of 129M pounds per day. Major items affecting production were: product changes, 62 hours; mill and hydrotherm system maintenance, 17 hours; power outages, 11 hours; and cooling water system maintenance, 9 hours. Line III was down four days for inventory control. The downtime was used to rescreen and/or repackage material with potential metal contamination.

Quality performance for flexible compounds was 3.4% off-grade of which 71.8% was due to mill scrap. "BC" production was .60%.

The raw material requirement for flexible compounds was .98198 pounds of raw material per pound of compound versus a 1.01173 standard (YTD is 1.00753).

The variable cost variance for compound was \$27.8M unfavorable with \$51.3M unfavorable due to price and \$23.4M favorable due to efficiency. The efficiency variance due to product mix was \$24.2M unfavorable. The efficiency variance for DIDP was \$16.6M favorable due to correction of a previous accounting error.

Total compound inventory fell .7MM pounds in August to 7.2MM 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	4717	152	50930
Operating Days	31	-	336

Dry blend operated thirty-one days in August at an average rate of 152M pounds per day. Production included 80172C, 80273G, 90172D, RP-200, RP-421, 186-74, 186-139, 168-180, 269-69, RP-100, 269-185, 269-151, 269-192, A10-006, 290-60, 290-61, 317-30, 371-58 and 317-71.

Dry Blend production was hindered by: product changes, 68 hours; delays associated with quality and lab problems and normal Q.C., 33 hours; transfer system problems and maintenance, 15 hours; Welex maintenance, 13 hours; and Orbitran weigh-computer maintenance, 5 hours.

Quality performance for the month of August was 99.3% customer grade.

The raw material requirement for dry blend was 1.00131 pounds of raw material per pound of dry blend versus a standard of 1.00492 (YTD is 1.00772).

The variable cost variance for dry blend was \$43.5M favorable with \$6.2M favorable due to price and \$37.3M favorable due to efficiency. The efficiency variance due to product mix was \$33.9M favorable. Several raw materials, including weatherable impact modifiers and T-137 stabilizer, had unfavorable efficiency variances due to correction of an accounting error which overstated production in July. The efficiency variance for titanium dioxide was \$43.9M favorable. This variance is currently unexplained as investigation continues.

<u>Plasticizer</u>	<u>Month</u>	<u>Average Operating-Day Rate</u>	<u>Fiscal Y.T.D.</u>
Production, M Pounds	1636	56	20357
Operating Days	29	-	331

Plasticizer operated twenty-nine days in August at an average rate of 56M pounds per day. Production included 610P and 108P.

VRP production totaled 88.8M pounds (5.7%).

The raw material requirement for plasticizer was 1.12278 pounds of raw materials per pound of plasticizer versus a 1.09971 standard (Y.T.D. is 1.10227).

The variable cost variance for plasticizer was \$27.6M unfavorable with \$24.8M unfavorable due to price and \$2.9M unfavorable due to efficiency. There were no major plasticizer raw material efficiency variances.

COMPOUND - Continued

Quality Improvement

The product-change team is continuing to function. Some recommendations from the team have been implemented. The team is currently specifying tools (brushes, scrapers, etc.) to be ordered or built to improve the blender cleaning process. Second-round SPC training for all operators, originally scheduled for August, has been rescheduled for late September and early October.

Energy

	Usage (BTU/Lb.)	
	<u>Actual</u>	<u>Standard</u>
Compound	1444.4	1783.0
Dry Blend	558.1	730.0
Plasticizer	1614.7	1833.5

MECHANICAL DEPARTMENT - T. F. Lyon

MAINTENANCE - D. A. Miller, G. A. Morgan

Safety

There were four injuries during the month; three requiring first aid and one requiring medical treatment. The three first aid injuries were first degree thermal burns. The first occurred when a boiler "flashed back" during startup and the Utility Technician received minor facial burns and the second and third first aid cases involved burns to the forearm while working on a boiler level control and a reactor PVA valve.

The medical treatment case involved a second degree burn to an Instrument Technician's forearm while working on a boiler level controller. An accident investigation will be completed in early September.

Vinyl

The annual Old Reactor Unit turnaround was completed during the month. Major work items included the following:

- All reactors were hydroblasted and die-penetrant inspected. No problems were found.
- The condenser on 300 reactor was replaced with a spare. This required extensive reactor mounting nozzle modifications. A new style gasket is being tested on the 300 condenser lid. Preliminary results are promising.
- A new flush mounted manway was installed in the 300 reactor bottom head.
- The 700 reactor agitator blades and gearbox ratio were modified to allow for 5305 production.
- Two leaking tubes were plugged in the north recovered VCM receiver overhead condenser.
- Reactor cooling jacket expansion joints were installed on 700.
- The following vessels were opened and inspected:
 - South batch water stripper
 - Fresh VCM receiver
 - South recovered VCM receiver
 - Hot water charge tank
 - Recovery system knockout pots
- The following major valves were replaced during the month:
 - 745 auto AMS kill valve
 - 741 recovery/evacuation valve
 - 400 atmosphere vent valve
 - Old unit chem wash recycle valve

MECHANICAL DEPARTMENT - ContinuedVinyl - Continued

The following mechanical seals were replaced during the month:

- 705 compressor outboard seal
- North chem wash pump seal in the old unit

The safety discs were changed in D-744 reactor.

Control room work was completed for the remote operated valves project and chem wash automation project.

The #1 Bird centrifuge, used in pond resin service, was overhauled. A rebuilt, hard surfaced, scroll was installed.

Compound, Dry Blend, Plasticizer

The Line I pellet classifiers were modified for removal of fines from finished product.

A magnet was installed on the outlet of the Line I resin bin and boxing hopper.

Number 6 dicer was removed from service and shipped to Henion Brothers to be overhauled. A rental dicer was installed in its place.

Sightglasses were installed in the dry blend stabilizer bins.

Sixty feet of cooling water piping for the inert gas generator was replaced.

The laboratory hard particle mill was replaced with a rebuilt spare.

Utilities

The east pond #5 aerator was changed out due to gearbox damage.

Assisted in startup of the catalyst freezer compressors following relocation for RQIP.

Two fork truck engines were overhauled during the month.

AFE F537 - Dry Blend Transfer Lines

Installation is 50% complete and in progress. Completion is scheduled for 11/1.

AFE F786 - Resin Quality Improvement

Design at Litwin is 39% complete and in progress. Procurement of in-line instrumentation is complete. Drawing packages for site preparation, pipe rack structural steel, and piping plans for off-sites and the first floor of the SA module have been received and are being reviewed.

AFE D756 - Reactor Expansion Joints

Installation of joints on reactors 700, 742, 743 and 744 has been completed. The joints for 745 will be installed during the New Module outage late in September.

AFE A567 - Rotary Dryer Duct Upgrade Phase II

Design is complete and the ductwork placed on order. Delivery is scheduled for 9/15. Installation is planned for completion by 11/15.

AFE F587 - Laboratory Addition

All major equipment has been placed on order. Engineering is 5% complete and in progress with completion scheduled for 11/1. Construction is planned for completion by 1/1.

AFE A657 - Roof Upgrade Phase II

All mechanical pre-work has been completed. Membrane installation is 5% complete and in progress. Completion is planned for 11/1.

AFE F596 - Chem Wash Automation

Installation in the Old Module was completed during the module outage in August. Startup and de-bugging of the control system is in progress. Installation for the New Module is in progress and will be completed during the module outage in September.

AFE D606 - Propane Tank Farm Electrical Revisions

Electrical construction is complete and the system operational. An operational check will be completed in September as a part of normal winter preparation.

PCB Transformer Replacement

Two pad-mounted transformers have been retrofilled. Nine of the thirty-two pole mounted units have been replaced. All work is scheduled for completion by 12/31/87.

Construction - C. A. Clark

A total of two construction contracts, four general service contracts and thirty-eight register tickets were issued during the month of August.

Resin Quality Improvement Project

A. Rigid Resin Permanent Facilities - Phases I and II

A critique of the project was held in Aberdeen with plant, PED, GED and construction participation. A list of ideas was generated to be used on Phases III and IV.

B. Resin Permanent Facilities - Phases III and IV

Field trips by Litwin's piping and instrument groups were made to the plant. Operator training on the new Modicon programming was completed during August. Equipment inquiries were completed with review of vendor data in progress. Review of the one-line piping plans for the chiller area and kill solution make-up and storage area was completed. Instrument selection is still underway. Information on work to be completed during the upcoming New Module shutdown was provided to the construction group.

Reactor Heat-Up Loop

The class "A" design for the Reactor Heat-Up Loop Project was completed and reviewed in the plant during the month. This project will provide increased productivity to the four smaller reactors in the New Module.

First Fiscal Quarter 1988 Capital Budget

The First Fiscal Quarter 1988 Capital Budget was completed during the month and submitted to Houston for approval.

Annual VCM Leak Survey

The Annual VCM Leak Survey was completed. A report will be issued in September.

Rigid Calendering Resin Team Activities

The second production run of the Klockner and Hoechst trial resin was completed. Response from Klockner of their trial of the July-produced resin has been favorable.

SARA - Right-to-Know Regulations

Regulations were reviewed to determine plant hazardous chemicals that will be included with the Hazardous Chemicals Inventory Form and the Toxic Release Form.

Fixed and Variable Costs Budget Preparation

Steve Hillman assisted in preparation of the Manufacturing Fixed and Variable Cost Budget in Houston.

Distributed Control System

The budget estimate, which was prepared jointly by the plant and GED, was completed. This project was moved from the First Fiscal Quarter to the Third Fiscal Quarter of the 1988 Capital Budget due to manpower limitations.

PERSONNEL - R. A. Miller

EMPLOYMENT

None

PROMOTIONS/TRANSFERS

Jonathan G. Cole, promoted to Process Superintendent
and transferred to LCVCM Plant

Donald F. Johnson, promoted from Vinyl Shift Supervisor
to Vinyl Operations Supervisor

Bobby Jenkins, from Lead Technician to Development Technician

Artis B. Jones, from Lab Technician "A" to Lead Technician

RETIREMENTS

None

TERMINATIONS

Catherine M. Bonsanti, summer student returned to school

Allison H. Russell, summer student returned to school

TO/FROM LEAVE OF ABSENCE

None

Aberdeen, Mississippi

AUGUST, 1987
MONTHLY PERSONNEL REPORT

Salaried Employees 73 *
 Hourly Employees 170
 Total Employees 243
Employees (Hourly)

Minority Employees # %
 Salaried 8 10%
 Hourly 66 39%
 Total 74 30%

New Employees 0
 Terminations 0

Hourly Min. Hired 0
 % Min. Hired 0
 Hourly Min. Term. 0
 % Min. Term. 0

DEPARTMENTS	PAR	# EMPLOYEES	MIN. EMP.	% MIN.	NEW HIRES	YTD	TERM.	YTD	TURNOVER	YTD
Warehouse	<u>14</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>16</u>	<u>15</u>	<u>7</u>	<u>47</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Maintenance	<u>39</u>	<u>38</u>	<u>8</u>	<u>21</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Laboratory	<u>22</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>33</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>9</u>	<u>28</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Plasticizer	<u>4</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

APPLICANT BREAKDOWN:

Minority 0 % Minority 0

Female 0 % Female 0

Hires (Hourly) :

Month 0 Year to Date 9

Terminations (Hourly) :

Month 0 Year to Date 2

Overall Turnover 0

Projected Annual Turnover 1.8%

* 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	Total F.Y.I.D.
WAREHOUSE	2336.00	212.50	----	9.10	354	15.07	.08	15.15 2.21
MAINTENANCE	4930.75	781.25	----	15.84	79	.65	.95	1.60 1.85
LAB	3455.00	219.25	----	6.35	106	2.43	.64	3.07 2.25
COMPOUND	6559.25	171.75	----	2.62	91	1.22	.17	1.39 2.52
VINYL	5707.50	754.00	----	13.21	193	2.94	.44	3.38 1.92
PLASTICIZER	715.00	25.25	----	3.53	0	.00	.00	.00 3.15
UTILITY BOILER	624.00	62.50	----	10.02	0	.00	.00	.00 .00
GENERAL PLANT	699.00	29.00	----	4.15	165	22.89	.71	23.60 25.99
TOTAL	25026.50	2255.50	----	9.01	988	3.50	.45	3.95 2.71

(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 August was 102.104 MMM BTUs. Energy consumption increased to 2304 BTU/lb. from 2263 BTU/lb. in July. An adjusted CMA reduction of 55.9% was obtained for the month. The adjusted CMA reduction for fiscal 1987 is 54.8%.

Note: The total energy consumption for August, 102.104 MMM BTUs, is an estimate due to a problem with the electric meter. This problem will likely be resolved with the Aberdeen Electric Department in September and the energy numbers will be adjusted.

II. Plant Energy Conservation Program

Maintenance

There were thirteen energy related items completed in August. Twelve of these items were steam leak repairs. The remaining one was a steam trap repair.

III. Boiler Operation

<u>Boilers</u>	<u>Combustion Efficiency %</u>	
	<u>August, 1987</u>	<u>August, 1986</u>
No. 1	83.4	83.7
No. 2	(1)	(1)
No. 3	83.3	83.3

Note: (1) Boiler number two was not used during the month.

ENERGY CONSERVATION DATA

<u>Month</u>	<u>1987</u>	<u>1986</u>
	<u>August</u>	<u>August</u>
<u>Production, MM Lbs.</u>		
Resin	32.3	27.3
Dry Blend	4.7	4.9
Compound	5.6	5.7
Plasticizer	1.7	1.6
TOTAL	44.3	39.5
<u>Natural Gas</u>		
Consumption, MSCF	50271	44136
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	51.276	45.019
Energy Consumption, BTU/lb.	1157	1140
<u>Electricity</u>		
Consumption, MM KWH	5.0828	5.2492
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	50.828	52.492
Energy Consumption, BTU/lb.	1147	1329
<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.	2304	2469
Energy Consumption, MMM BTU		
Actual Unadjusted	102.104	97.511
Actual Adjusted	81.933	77.542
1972 Base Period	185.916	163.687
<u>CMA Reduction (%)</u>		
Adjusted	55.9	52.6
Unadjusted	45.0	40.4
Fiscal 1987 Year-to-Date	54.8% Adjusted	
Performance	45.0% Unadjusted	

ENVIRONMENTAL - R. A. FrohreichWater

Wastewater discharge parameters were within NPDES limits in August. One wastewater bypass did occur.

The Bureau of Pollution Control has asked us to continue the chronic bioassay testing on a monthly basis for the next six months. They have opted to continue testing rather than to issue a compliance order at this time.

Waste Management

One tanker load of waste oil was shipped to Stauffer Chemical Company.

General

A truckload of building vacuum dust was sold to Surplus Chemicals Marketing.

A truckload of reactor culls was sold to Sun Polymers.

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.	1010	6	77	26	311	14	165	7.4	2.7	7.6
	Max.	1207	10	120	33	404	23	281	8.0	7.3	8.0
Nov. -	Ave.	1031	15	183	33	406	23	281	8.2	0.1	7.6
	Max.	1075	17	213	42	527	37	464	9.1	0.1	7.8
Dec. -	Ave.	987	23	268	71	846	13	179	7.6	2.0	7.3
	Max.	1350	46	373	110	1284	24	302	8.6	4.7	7.8
Jan. -	Ave.	1062	15	194	53	662	18	231	9.6	2.1	7.7
	Max.	1300	20	310	57	775	28	434	10.3	4.6	7.8
Feb. -	Ave.	858	14	142	42	431	10	99	10.0	4.9	7.7
	Max.	900	26	266	75	766	13	140	10.6	9.3	8.0
Mar. -	Ave.	903	11	119	38	409	19	206	8.8	4.0	7.8
	Max.	970	21	217	50	541	35	362	10.5	7.6	8.3
Apr. -	Ave.	990	8	93	42	505	33	407	9.1	2.5	8.0
	Max.	1177	10	121	56	680	78	986	11.0	6.1	8.3
May -	Ave.	1049	8	104	31	384	8	101	7.7	8.8	8.0
	Max.	1243	11	116	40	515	11	142	7.8	17.8	8.6
June -	Ave.	979	6	71	27	350	14	167	7.0	6.9	7.7
	Max.	1021	8	98	40	480	21	257	7.3	14.2	7.9
July -	Ave.	1150	4	55	45	618	14	194	7.1	1.4	7.9
	Max.	1300	5	66	60	797	26	344	7.4	1.6	8.1
Aug. -	Ave.	965	5	61	39	474	10	145	7.2	1.7	7.3
	Max.	1230	8	118	50	744	12	168	8.0	2.2	7.8
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	

SafetyA. Safety

There were no injuries during August. This month's safety meeting included a film, "Health Hazards of Chemical Exposure". Procedures for introducing new chemicals into the plant and MSDS's were discussed.

B. Customer RelationsCustomer Contacts

The following customers were hosted during Customer Visit Week, August 17-21:

- Sanderson Plumbing
- United Thermal Plastics
- Alsco

Standard laboratory presentations and tours were given.

Dayton Extruded Plastics - B. J. Harrison visited this customer on 8/13; topics discussed were colorimeter correlation, color standard, PVC flammability and an off-color railcar.

Requests for Corrective Action

There were no RCA's received this month.

Customer Problem Reports

<u>Date</u>	<u>Customer</u>	<u>Product</u>	<u>Reason</u>
8/21	Formtech	317-58 WHT 110	Powder flow (dry blend).
8/21	Southwire	SW1201 NAT	Metal contamination.
8/25	Mid-American	80172C	Poor flow, varying wall thickness.
8/27	Flexible Technologies	17121 CB50	"Blue streaks" on finished product.

Product Return Notifications

<u>Date</u>	<u>Customer</u>	<u>Product</u>	<u>Amount</u>	<u>Reason</u>
8/24-25	Southwire	SW1201 NAT	12,000 lbs.	Metal contamination.

LABORATORY - Continued

B. Customer Relations - continued

Waivers Issued

<u>Customer</u>	<u>Product</u>	<u>Reason</u>	<u>No.</u>
Nibco	5305	Static Flow	5 HT
Nibco	5305	Particle Size	1 HT
Uniroyal	5305	Static Flow	1 HT

C. Development Lab Summary

RVCM 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 August, 1987.

	<u>Reactor Slurries</u>	<u>Dryer</u>		<u>Blend Tanks</u>	
		<u>5265</u>	<u>5305</u>	<u>5265</u>	<u>5305</u>
Number of Samples	781	21	59	38	62
Average ppm, VCM	234	4.32	2.34	63.4	35.6

RVCM of Shipment Samples

The following is a summary of the residual VCM analysis of shipment samples for the month of August, 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	29	65	41	40	0	28	31	2
Average RVCM, ppm	0.50	0.19	0.13	0.11	-	0.26	0.12	0.1

D. Resin Process Capabilities

	<u>5265</u>	<u>5305</u>	<u>5385</u>	<u>5415</u>
Bulk Density	0.80	0.46	1.33	0.15*
Inherent Viscosity	0.73	0.60	0.44	0.56
"L" Color Value	1.30	2.33	4.00	4.11
"A" Color Value	1.33	2.33	—	—
"B" Color Value	1.11	1.17	1.67	2.17
% on Pan (vs. 2% max)	0.52	4.44	2.92	2.47 (0.47)

LABORATORYD. Resin Process Capabilities - Continued

	<u>5265</u>	<u>5305</u>	<u>5385</u>	<u>5415</u>
% thru 140M	0.79	0.75	0.80	1.74
Drytime	--	--	0.44	0.56
Mets IR (vs. 95% of control)	--	--	--	1.28 (0.83)
Hard Particles (% > 10)	--	--	1.4	2.4

* Effective this month, spec is 0.480 - 0.540.

No 5465 production this month.

E. Compound Quality Summary

	<u>Adjustments</u>		<u>Rejections</u>	
	<u>M Lbs.</u>	<u>(%)</u>	<u>M Lbs.</u>	<u>(%)</u>
Hardness	55.77	(1.02)	22.20	(0.40)
Color/Clarity	--	--	8.00	(0.15)
Hard Particles	--	--	9.95	(0.18)
Heat Stability	--	--	3.65	(0.07)
Contamination	--	--	8.40	(0.15)
Dispersion	--	--	24.75	(0.45)
Cross Contamination	--	--	1.30	(0.02)
Streamers	--	--	1.30	(0.02)
Metal Contamination	--	--	20.25	(0.37)
Total	55.77	(1.02)	99.80	(1.82)

F. Dry Blend Quality Summary

	<u>Rejections</u>	
	<u>M Lbs.</u>	<u>(%)</u>
Long Stability	0.97	(0.02)
Color/Fusion Torque	13.67	(0.29)
Stability	11.40	(0.24)
Total	26.04	(0.55)

G. Quality Development

1. Daniel Loftin and Paul Cogsdale received SPC training; all technicians have now completed this basic training in SPC techniques.
2. A round robin testing program on dry resin RVCM was started this month as a follow-up to the REACT meeting in July.

LABORATORY - ContinuedH. Miscellaneous

1. Confirmation letters for sample requests were started this month. Copies are sent to the customer, product manager and sales/service representative when a sample is shipped. Richard Williams was responsible for instituting this program.
2. TCLP tests were performed by Dave Cox on ground culls. The threshold limit appears to be 10 ppm RVCM.
3. Inconsistencies in Americhem's blue-white colorant strength were discovered. Brian Harrison worked with this supplier to develop new tolerances in a visit on 8/14.
4. A trial run of Americhem's extra strength blue-white colorant, 5405-T1, was very successful. The plant will begin using 5405-T1 exclusively, reducing colorant costs by 65% (approximately \$75M annually). Brian Harrison had project responsibilities.
5. Brian Harrison finalized a color match for 317-55 Beige 323 for Elixir. Color specifications and standards were issued.
6. Brian Harrison investigated "gray streaking" problem experienced by Allied Extrusion on 269-164 WHT 112. Raw material substitution is the suspected cause.

SHIPMENTS BY PRODUCT - M LBS.

AUGUST 1987

FISCAL
YEAR-TO-DATE

RESIN	27,507	301,586
PLASTICIZER	977	8,203
DRYBLEND	4,936	51,667
COMPOUND	6,299	76,502
TOTAL	39,719	437,958

NUMBER OF SHIPMENTS BY MODE:

	RAILCAR	VISTA BULK	TRUCK VAN	TRAILER ON A FLAT CAR	COMMON CARRIER	CUSTOMER PICK-UP	CONTAINER	TOTAL
RESIN-Bulk	120	54				109		283
Package			2	2	14	5		23
Export								
PLAST.-Bulk	5	3						8
Package			1					1
DRYBLEND-Bulk	23	8				4		35
Package			9	1	7			17
Export							1	1
COMPOUND-Bulk	11	3						14
Package			50		25	42		117
Export			1		1		3	5
TOTAL - Aug.	159	68	63	3	47	160	4	504
OCTOBER	116	41	51	2	52	160		422
NOVEMBER	146	64	39	2	64	135		450
DECEMBER	133	46	29	1	48	133		390
JANUARY	193	68	44	3	89	147		544
FEBRUARY	154	50	45	3	56	143		451
MARCH	181	60	56		64	129	3	493
APRIL	150	53	46	4	44	140	1	438
MAY	162	60	44		54	139		459
JUNE	165	60	49	6	41	152		473
JULY	178	60	44	2	45	145	2	476

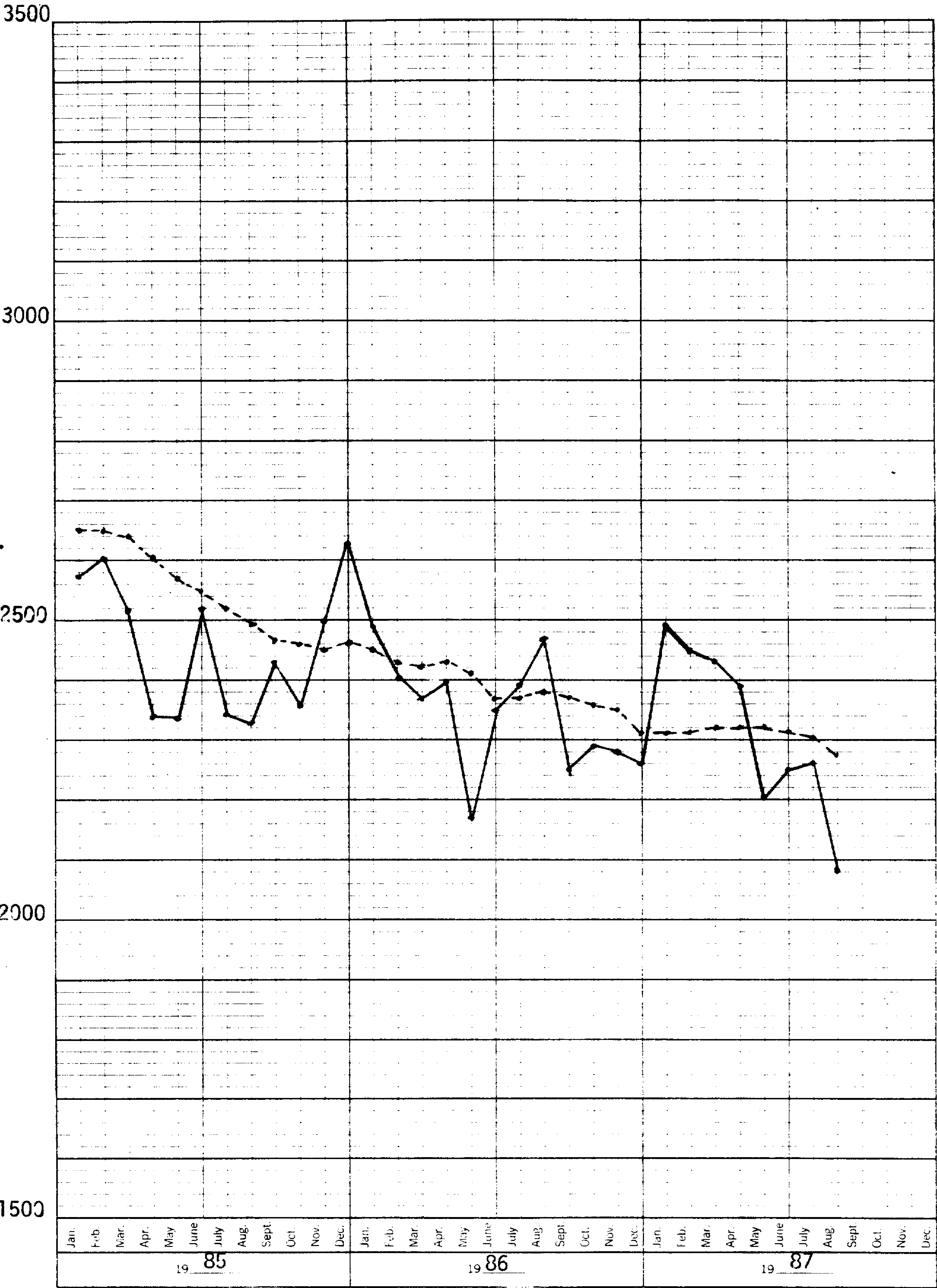
ENERGY USAGE

A

46 3290

BTU/LB.

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



Monthly

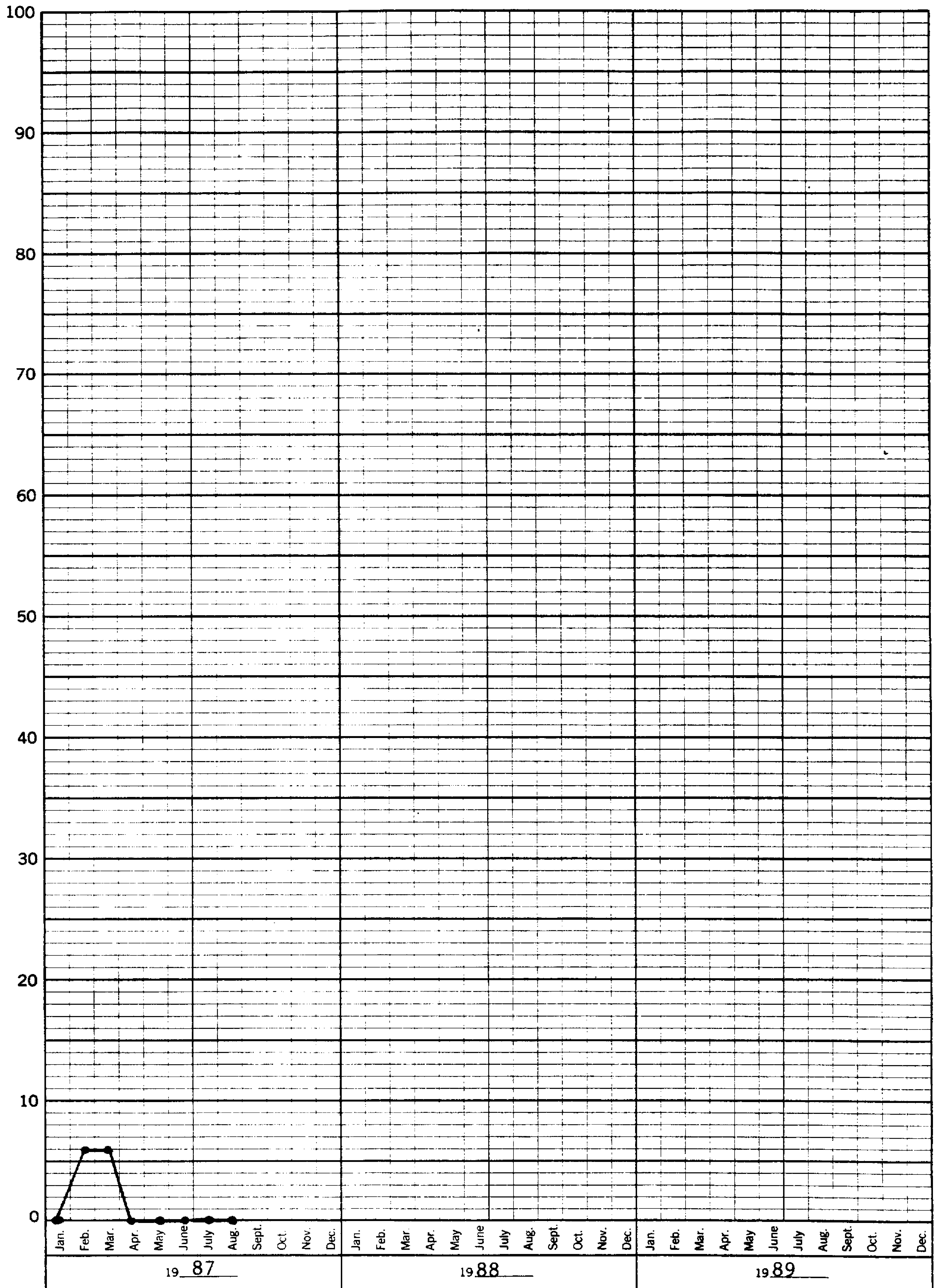
12-Month Moving Avg.

MONTHLY HOURLY TURNOVER

A

46 3290

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

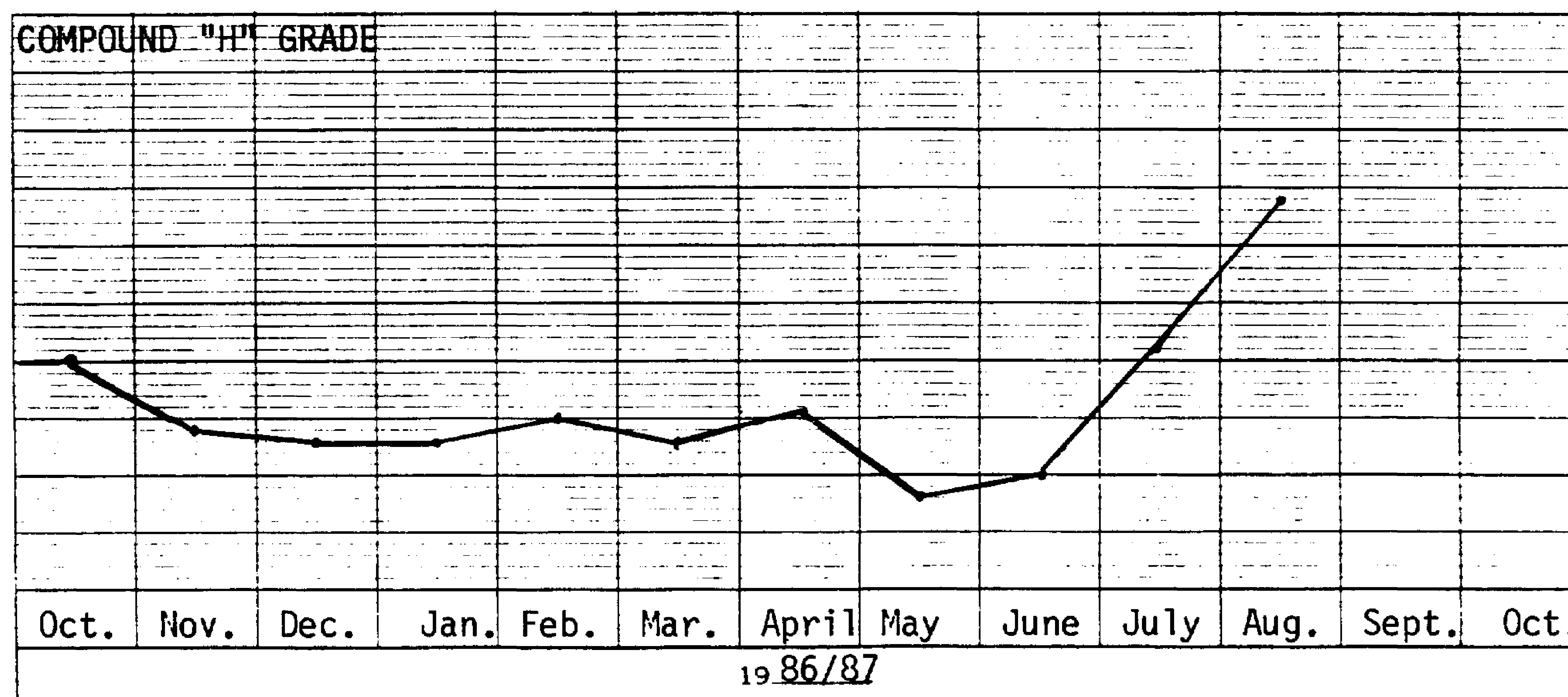
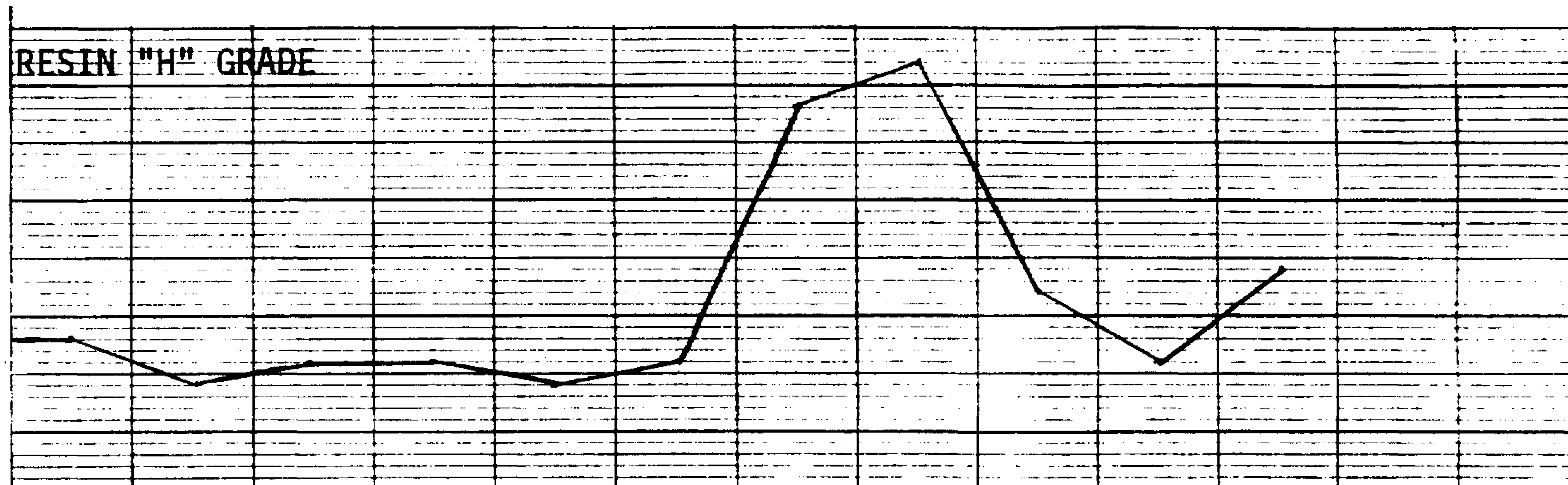
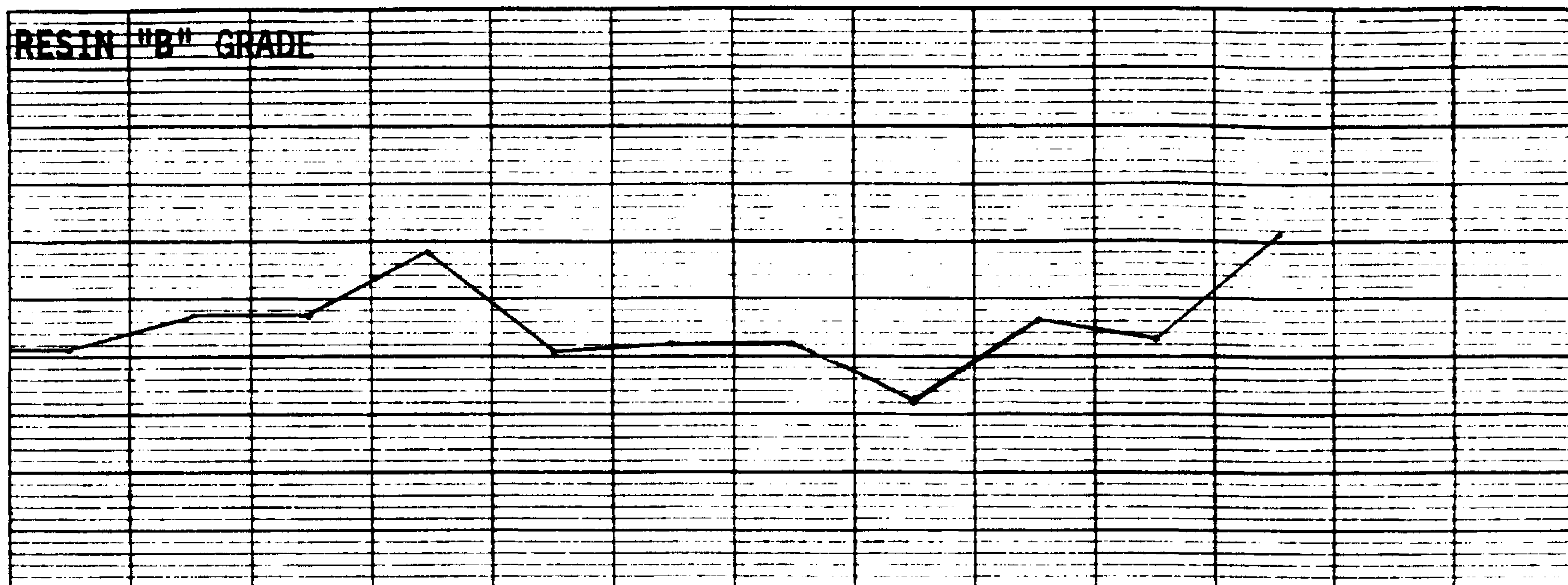


VAB.0001191263

ABERDEEN PLANT QUALITY PERFORMANCE

10/01/86 - 09/30/87

A

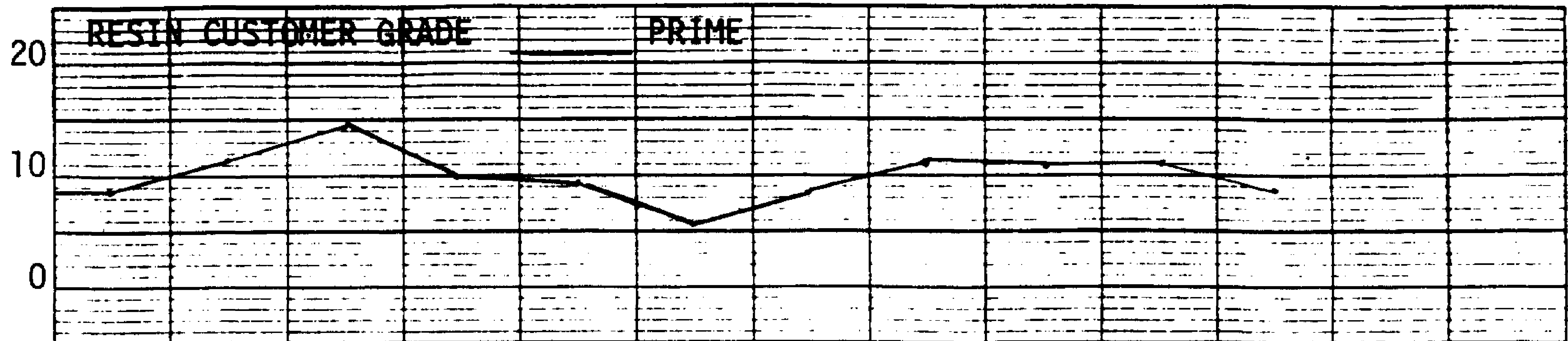


ABERDEEN PLANT INVENTORIES

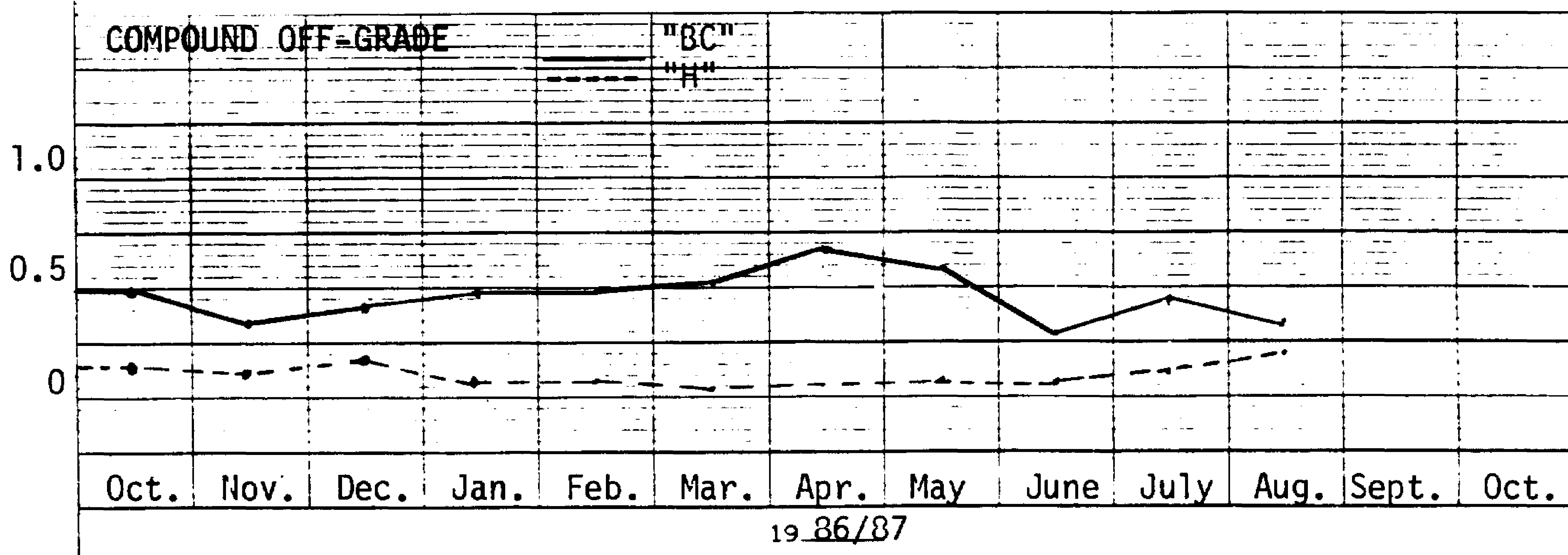
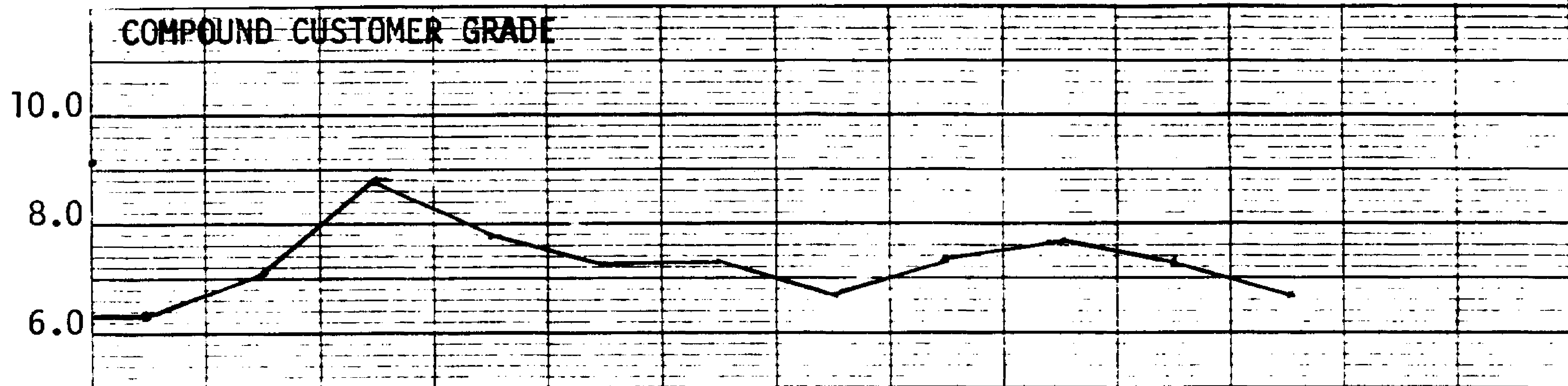
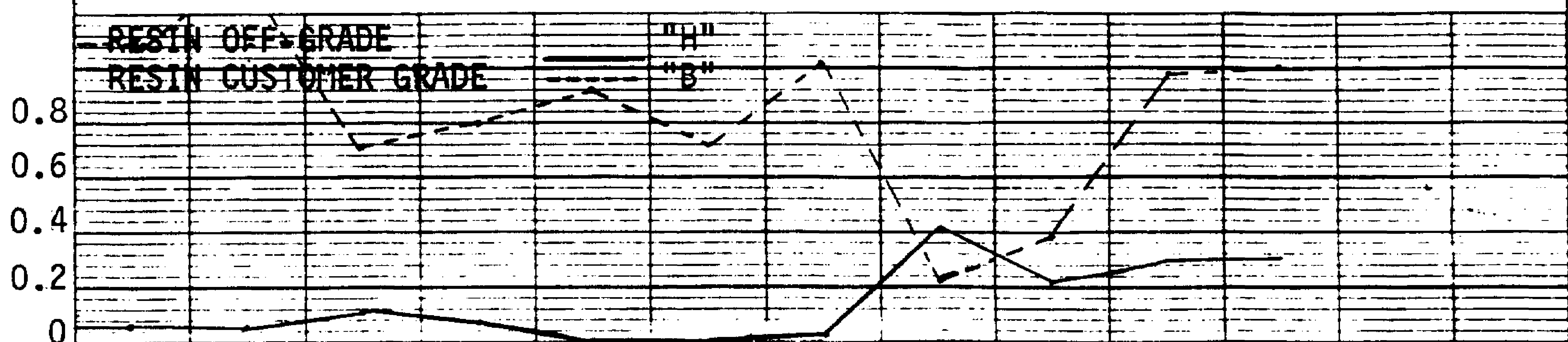
10/01/86 - 09/30/87

A

MM
POUNDS
PRIME



(1.4)



19 86/87

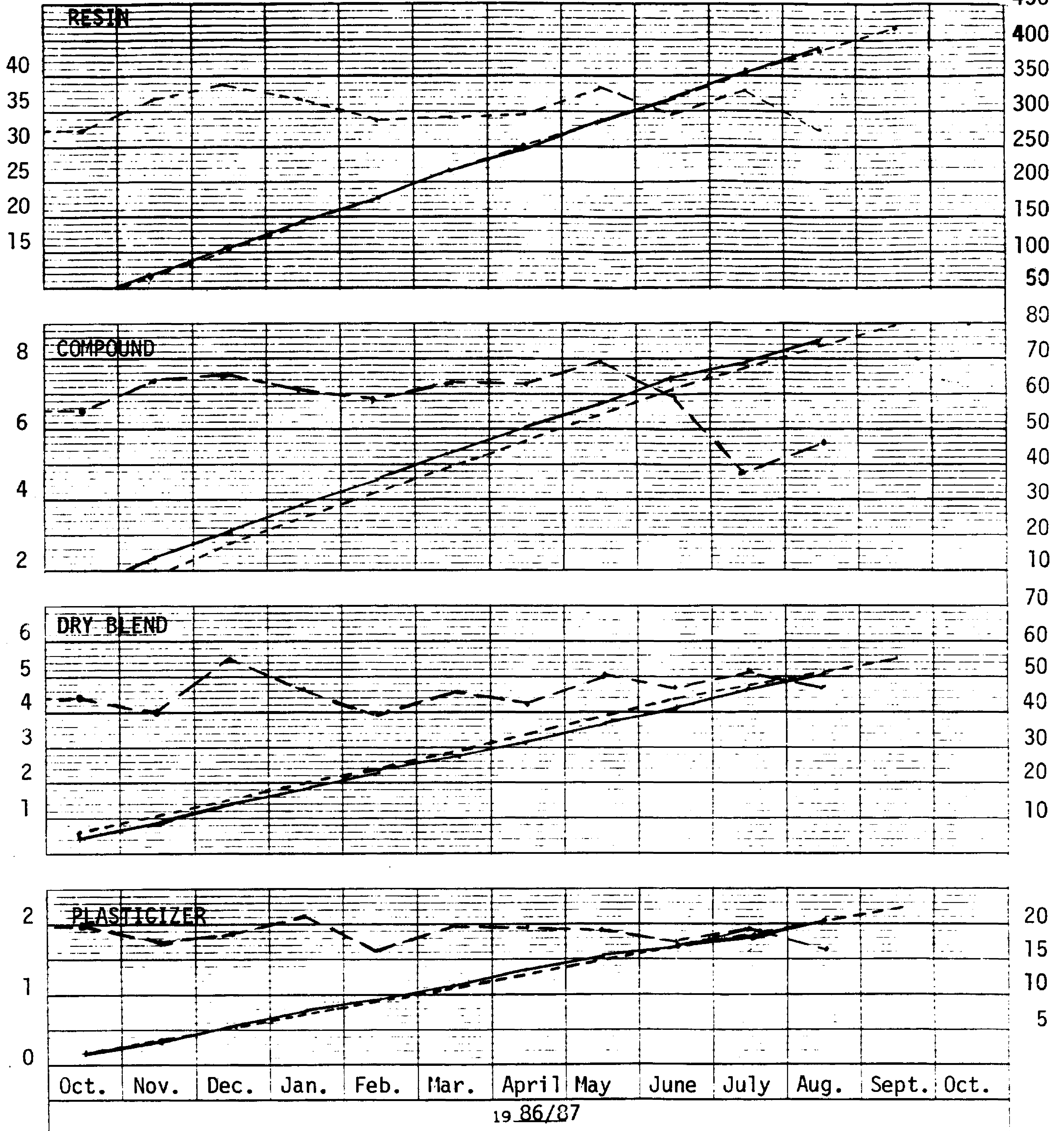
ABERDEEN PLANT PRODUCTION

10/01/86 - 09/30/87

A

MM POUNDS
MONTHLY

MM POUNDS
CUMULATIVE



----- Budget
 Actual
 _____ Cumulative

VAB.0001191266

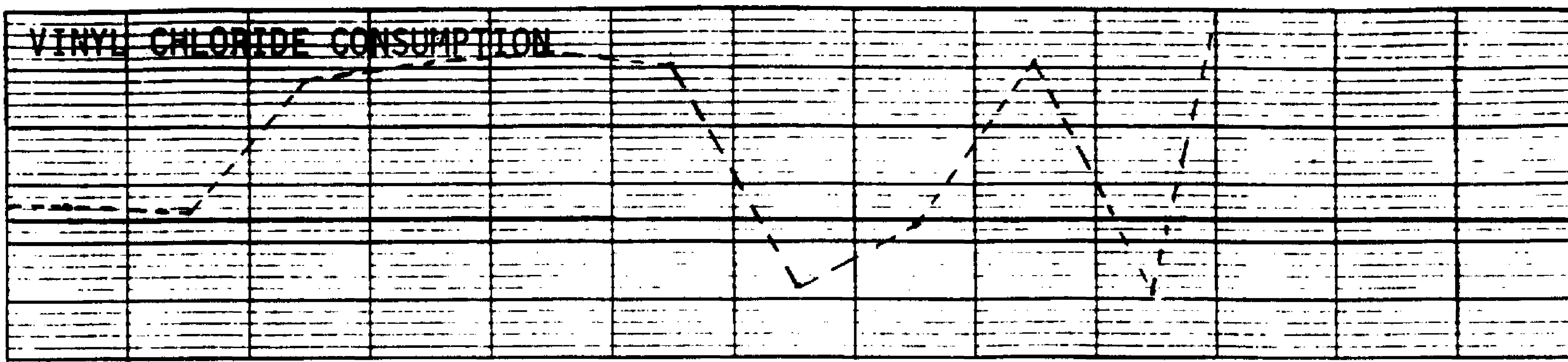
ABERDEEN PLANT EFFICIENCY

10/01/86 - 09/30/87

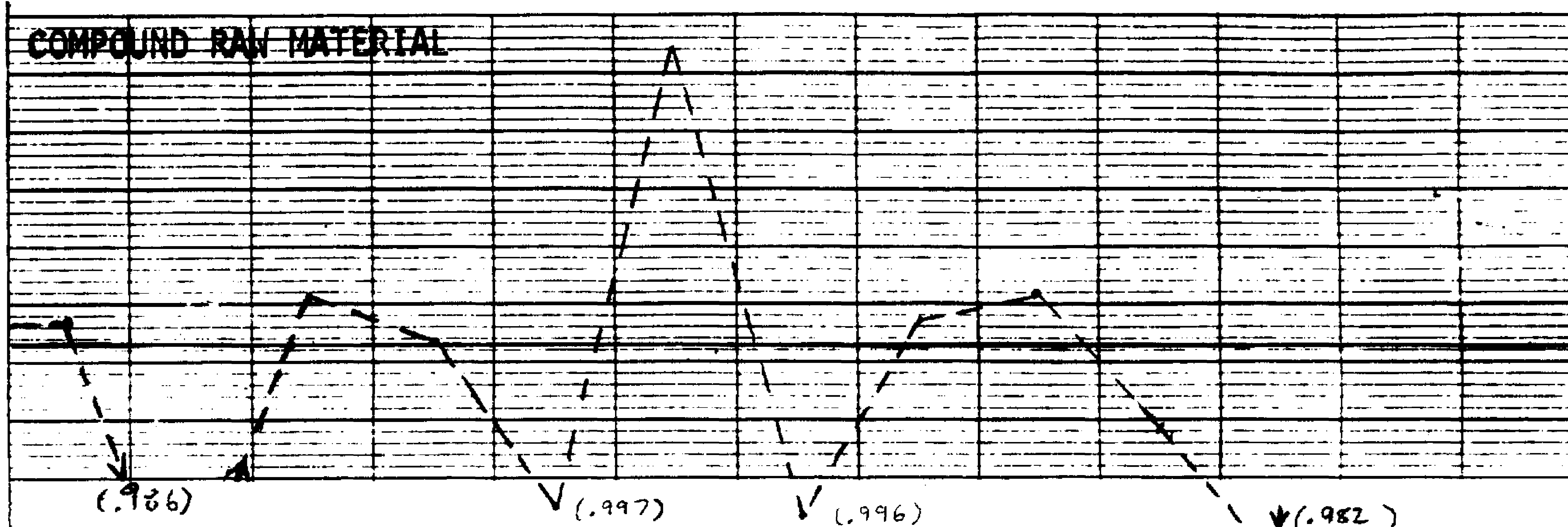
POUNDS OF RAW MATERIAL/POUND OF PRODUCT

1.020
1.015
1.010
1.005
1.000
0.995

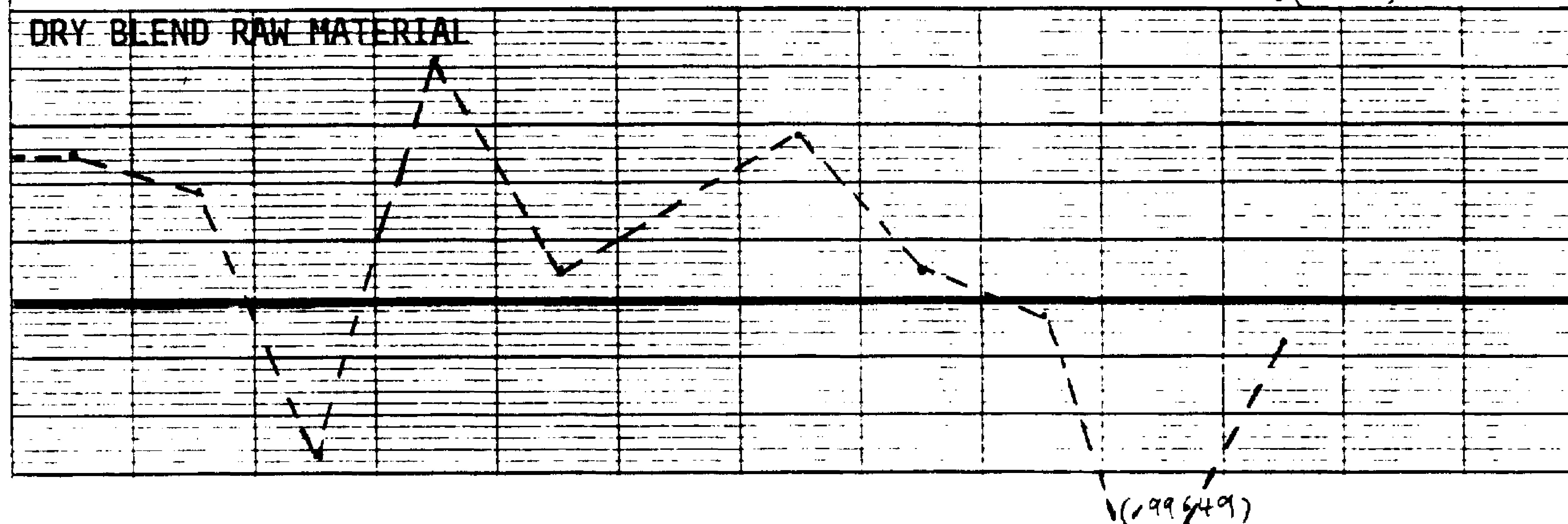
1.042



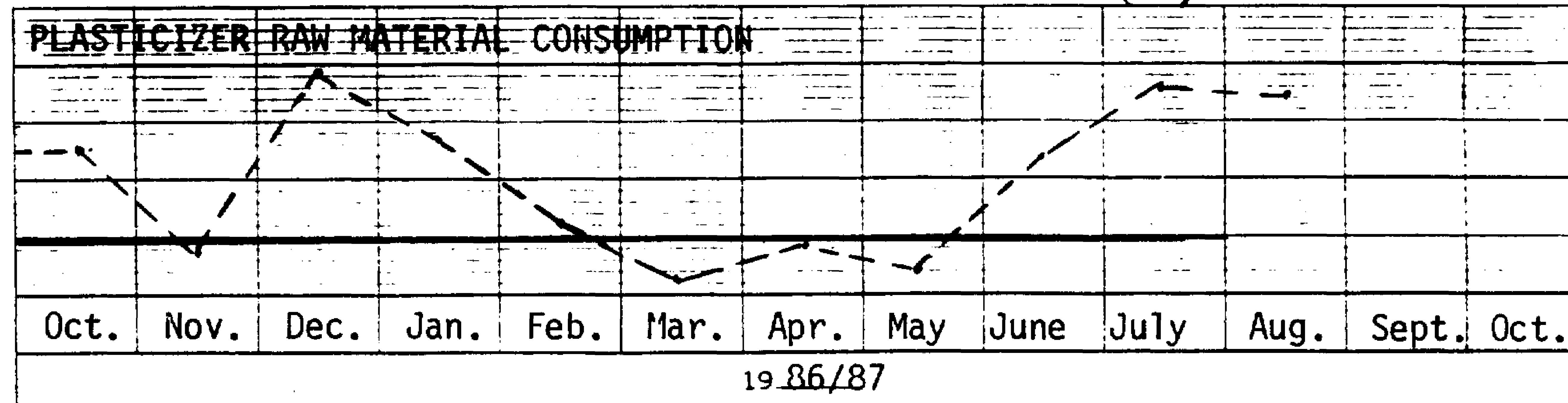
1.030
1.025
1.020
1.015
1.010
1.005
1.000



1.020
1.010
1.000
.990



1.200
1.150
1.100
1.050



19 86/87