

SAFETY - A. H. Sather

OCCUPATIONAL INJURIES

<u>Injuries Treated</u>	<u>June</u>	<u>1980 Year-to-Date</u>	<u>1979 Year-to-Date</u>
First Aid	6	28	16
Medical Cases	2	11	5
Restricted Workday Cases	0	1	2
Restricted Workdays	0	3	29
Lost Time	0	0	0

Injuries

Injuries by Department

Vinyl Operations	4	12	8
Compound Operations	0	9	2
Maintenance	4	17	9
Laboratory	0	2	0
Receiving and Warehouse	0	0	0
Office	0	0	2

Injuries by Type

Cuts and Abrasions	4	19	7
Eye Injuries	0	4	3
Burns	1	3	7
Bruises	3	10	5
Strains and Sprains	0	4	3
Other	2	2	0

As of June 30, 1980, the plant operated 361 days or 463,507 manhours without a disabling injury.

SAFETY MEETINGS

Topics for June safety meetings included the following:

1. Falls - The National Safety Council film "Down and Out" was shown. Follow up discussions included areas where falls could potentially occur in each department.
2. Hot Water Cleaning Cart - The hot water cleaning cart procedure was reviewed. The unit is used to remove slippery material from working surfaces.

NEW EMPLOYEE ORIENTATION

A temporary draftsman, Robert Richert, received new employee orientation.

SAFETY - (continued)

OSHA COMPLIANCE

Items relating to OSHA compliance were as follows:

1. Preliminary results of PVC dust sampling were received. The data indicates that all samples are all well below the 5 Mg/m³ respirable nuisance dust standard. More samples are planned when the plant returns to normal operating rates.
2. The results of VCM and lead dosimetry are shown below.

VCM

<u>Range (ppm)</u>	<u>Number</u>	<u>Percent</u>
0.0-0.5	76	92.68
0.5-1.0	2	2.44
1.0-5.0	4	4.88
5.0+	0	0.0
		<u>100.00</u>

Overexposures

Four (4) overexposures to VCM occurred. One occurred to a Maintenance Mechanic working in the old reactor module. The specific cause is not known and he was not wearing a respirator. The second occurred to another mechanic who worked on a reactor and a recovered VCM receiver in the new module and was wearing a respirator. The third occurred to a Vinyl Supervisor who worked in the new reactor area and did not wear a respirator. The final overexposure occurred to a Mechanical Supervisor who worked on the inerts vent refrigeration system in the old module and did not wear a respirator.

LEAD

	<u>Number</u>
Greater than PEL	3
Less Than PEL	<u>2</u>
	5

Overexposures

The three overexposures occurred to Compounders in the Compound Department. One occurred to the Color Weigh Room Compounder and the remaining two (2) occurred to line III Compounders. The samples were taken during May. Although the overexposures are currently under investigation, individual work habits are suspected. In each case, a respirator was worn.

VINYL - C. R. Miller

<u>Production</u>	<u>Month</u>	<u>Y.T.D.</u>	<u>Budget</u>
1. Total Production, MM Pounds	13.7	130.3	
2. Production Rate, M Pounds/C.D.	456	716	918
3. Charges, Reactor Batches/C.D.	10.6	16.9	
4. Total Charges	317	3060	
5. Reactor Stream Factor, %	52.4	72.7	
6. Drying Rates, Average Pounds/Hr.	5496	5781	
7. Dryers, Stream Factor, %	49.5	73.7	
8. Accounting Days	30	182	

Vinyl Department production for the month was 49.7% of budget at 13.7 MM pounds. Reactor and Dryer stream factors were 52.4% and 49.5%, respectively. The major items affecting the Vinyl Department productivity are as follows:

1. Inventory control programs represented the majority of the reactor and dryer stream factor penalties (41.2% and 45.8%, respectively). The plant underwent a total shutdown of all process units from June 16 to June 23, 1980. The new reactor unit was returned to operation on June 23. The old reactor unit remained down the remainder of June.
2. Three reactors required condenser cleaning in the new reactor module. This accounted for 1.7% of total reactor downtime.
3. Two reactors required seal repairs during June. The reactors were both in the old unit and represent a 1.2% stream factor penalty.
4. The new reactor module startup was hampered by condenser fouling and particle size control. All four reactor condensers required cleaning shortly after attempting startup. Initiator loadings were reduced during this period to counteract the high cooling water temperatures.

Several test runs were started or continued through the month. These included initial testing of a new suspending agent, testing of new lots of initiator for the dual initiator system on 5425, continuation of the agitator test on D-600 reactor, and the installation of the new high power agitator blades in 744 reactor.

Resin Quality Summary

<u>Resin Type</u>	<u>Prime Pounds</u>	<u>"BC" Grade</u>	<u>"H" Grade</u>	<u>% of Total Production</u>
5305	887,301	(650)	63,650	7.0
5385	9,334,142	-	(40,500)	68.0
5425	2,571,957	162,000	(650)	20.0
5465	641,635	-	-	4.7
Sifter Overflow	-	-	52,660	0.3
TOTAL	13,435,035	161,350	75,160	100.0

VINYL - (continued)

Quality performance for the month of June was 98.3% customer grade with 1.2% "BC" grade and 0.5% "H" grade. Of the "H" grade reported, 70% was due to sifter overflow.

The variable cost variance for the vinyl department was \$22.0 M with (\$52.8 M) due to price and \$74.9 M due to efficiency. The variance due to product mix was (\$2.1 M). The only major price variance was (\$50.7 M) for VCM. The major efficiency variances for the month were \$26.2 M for VCM and \$22.3 M for combined initiators. The initiator variance was due to reduced initiator loadings and low inventory level which allowed a more exact end of month count.

The raw material requirement for the month was 1.01000 pounds VCM/pound of PVC versus a 1.01960 standard. (Y.T.D. is 1.01561)

General

Resin packaging continued throughout the month with 1.5 MM pounds packaged.

COMPOUND - J. R. McCrimon

<u>Compound Production</u>	<u>Month</u>	<u>#'s/Day</u>	<u>Y.T.D.</u>
Line I, M Pounds	1,309	57	7,381
Line V, M Pounds	-	-	207
Line III, M Pounds	2,323	101	15,185
Total, M Pounds	3,632		22,773
Accounting Days	30		182

Line I operated 23 days during June at an average rate of 57 M pounds per day. Major items affecting production efficiency were: product changes (40.7 hours), dicers (28.5 hours), bag charging resin (12.0 hours), scales (6.4 hours), and plant shutdown (171 hours).

Line III operated 23 days during June at an average rate of 101 M pounds per day. Major items affecting production efficiency were: product changes (22.1 hours), quality control (7.9 hours), bag charging resin (5.2 hours), and plant shutdown (171 hours).

Quality performance for flexible compounds was 2.3% off-grade of which 80.5% was due to mill scrap. "BC" production was 0.4%.

The raw material requirement for flexible compounds was 1.02019 pounds of raw material per pound of compound versus a 1.01301 standard. (Y.T.D. is 1.01293)

The variable cost variance for compound was (\$6.9 M) with \$31.9 M due to price and (\$38.8 M) due to efficiency. The variance due to product mix was (\$11.3 M). There were no major price or efficiency variances.

<u>Dry Blend</u>	<u>Month</u>	<u>#'s/Day</u>	<u>Y.T.D.</u>
Production, M Pounds	2,214	131	9,745
Accounting Days	30		182

Dry Blend operated 17 days during June at an average rate of 131 M pounds per day. Production included 80172B, 80273G, and 90171. Dry Blend production efficiency was affected by: product changes (5.9 hours), boxing dry blend (6.2 hours), quality control (7.2 hours), out of resin (13.9 hours), and plant shutdown (80 hours).

Quality performance for the month was 99.99% customer grade.

The raw material requirement for dry blend was 1.00329 pounds of raw material per pound of dry blend versus a standard of 1.00320. (Y.T.D. is 1.00744)

The variable cost variance for dry blend was \$44.4 M with \$6.7 M due to price and \$37.7 M due to efficiency. The variance due to mix was \$33.1 M. There were no major price or efficiency variances.

COMPOUND - (continued)

<u>Plasticizer</u>	<u>Month</u>	<u>#'s/Day</u>	<u>Y.T.D.</u>
Production, M Pounds	518	47	4,191
Accounting Days	30		182

Plasticizer operated 11 days during June at an average rate of 47 M pounds per day. Production included: DIDP, 610P, and DOP.

VRP production totaled 60.7 M pounds (11.7%). Production was limited by: inventory control and plant shutdown (120 hours).

The raw material requirement for plasticizer was 1.22144 pounds of raw materials per pound of plasticizer versus a 1.10102 standard. (Y.T.D. is 1.14079).

The variable cost for plasticizer was (\$31.6 M) with (\$22.0 M) due to price and (\$9.6 M) due to efficiency. There were no major price or efficiency variances.

The variance due to product mix was (\$3.7 M).

General

Total customer grade compound inventory increased to 7.0 MM pounds during June.

Tests were conducted in Werner-Pfleiderer's Stuttgart, West Germany lab during the month. Compound was produced on 5, 7, and 12 barrel machines with no success in eliminating hard particles from 17461 compound. A plant program to determine exactly what compounds can be run on Line V will begin in early July.

MECHANICAL - S. J. Vincent

Vinyl

There were three large reactor seal failures in this period. Two of the seal failures were in the old module on the D-300 and D-500 reactors. In the new module the seal failed on the 743 reactor. There were no gearbox failures this month.

The test set agitator blades were installed in the 744 reactor. There were four reactor condensers brushed this month. All of the condensers cleaned were in the new module with the condenser on the 741 and 743 reactors being cleaned twice in this period. The east VCM charge pump motor was repaired in the new module.

The old module was held down most of this period for inventory control. In this down period the double block and bleed system was installed in the VCM charge header. Several steam and water leaks were repaired in the old module. The electrical portion of the double block valves for the VCM charge project was completed.

Reactor system valves repaired this month were the eight inch VCM charge pump suction valve on the east pump, the D-300, D-400 steam stripping check valves were removed and the gasket faces remachined. The south steam stripping valve on the 742 reactor was rebuilt. The old unit Sweco dump valve was rebuilt and the inlet and outlet bypass valves were replaced on the new module RVC filter.

There were six mechanical seal failures to pumps and compressors in the vinyl production area. All of the seal failures were in the old module. The seals repaired were the outboard seal on the 705 emission recovery compressor, the outboard seal on the A vacuum pump, the seals on both RVC transfer pumps, the outboard seal on the 706 emission recovery compressor, and the seal was replaced in the north sphere pump.

There were seven pumps and compressors removed from the units for complete overhauls. Two compressors, the 705 emission recovery and the north recovery compressor in the new module were overhauled. The pumps overhauled were the east RVC charge pump, and the east chem wash pump in the new module. The chem wash pump "B" hot water charge pump, and the rinse pump in the old module were overhauled.

The vinyl incinerator was down for a general inspection. The downcomer and quench nozzles were replaced.

The only major repair to the vinyl dryer equipment was to pull and rebuild the number five Bird unit.

Compound, Dry Blend, Plasticizer and Silo Storage

Repairs to the compounding equipment involved changing the FCM seals, rebuilding the outlet valve on "B" blender and repairing several steam and water leaks. Dicer repairs were also completed.

MECHANICAL - (continued)

In the dry blend unit, the belts were replaced on both Welex units and the boots were replaced on the Kason screeners. The "C" blender motor was repaired. There were six loading chutes replaced on the storage silos. Two lab mills were removed to the shop for complete overhaul. The number two fire pump engine was overhauled and the four fire pumps were repacked.

A new high level instrument was installed in the phthalic anhydride charge tank.

Utilities and Service

There were three repairs to the plant instrument air system. Valves were repaired in the number eight and three air compressors and the heater elements were replaced in the west V-10 air dryer. The three plant boilers were shutdown and opened for the annual insurance inspection. No problems were found and new certificates are expected. New safety valves were installed on the air system drums to increase the relieving capacity of the system. The inboard seal was replaced in the south fresh air system compressor. The north lagoon aerator in pond five was removed and inspected.

Planner

The planner estimated 62 work orders and ordered material for 28 work orders.

There were 16 new invoice registers issued for equipment repair and 15 bills processed for payment.

The equipment history and safety valve records were maintained for this period.

PERSONNEL - J. L. Carter

EMPLOYMENT

Glendale D. Richards, Process Engineer
Robert Rickert, Draftsman (Temporary)

TO/FROM LEAVE OF ABSENCE

None.

TRANSFER/PROMOTION

J. W. Lowe, Maintenance Helper, promoted to General Mechanic "B".

RETIREMENT

None.

TERMINATION

Coleen Williams, Steno Clerk

OTHER

During June there were two casual labor employees on payroll.
Total hours worked were 320.

CONOCO CHEMICALS
Aberdeen, Mississippi

June 1980
MONTHLY PERSONNEL REPORT

Salaried Employees 79*
Hourly Employees 157
Total Employees 236*
Employees (Hourly)
New Employees 0
Terminations 0

Minority Employees # %
Salaried 7 8.9%
Hourly 62 39%
Total 69 29%

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>9</u>	<u>9</u>	<u>2</u>	<u>22%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Gen. Plant	<u>10</u>	<u>11</u>	<u>6</u>	<u>54%</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>11%</u>
Maintenance	<u>46</u>	<u>46</u>	<u>7</u>	<u>15%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Laboratory	<u>22</u>	<u>20</u>	<u>3</u>	<u>15%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Compound	<u>37</u>	<u>35</u>	<u>28</u>	<u>80%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2**</u>	<u>0</u>	<u>2.8%</u>
Vinyl	<u>32</u>	<u>32</u>	<u>13</u>	<u>41%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Plasticizer	<u>5</u>	<u>4</u>	<u>3</u>	<u>75%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Number of Applicants:

Month 2 Year to Date 80

APPLICANT BREAKDOWN:

Minority 1 % Minority 50%
Female 0 % Female 0

Hires (Hourly) :

Month 0 Year to Date 2

Terminations (Hourly) :

Month 0 Year to Date 3**

Overall Turnover 0

Projected Annual Turnover 1.3%

*Includes two (2) temporary employees.

**Includes one retirement and is not counted in turnover rate.

OVERTIME AND ABSENTEEISM

June 1980

Department	Straight Time Hours Worked	Overtime Hours Worked		Overtime as % of Straight Time	Absence Hours Lost	Absence as a % of Straight Time		Year to Date
		Controllable (1)	Non-Controllable (2)			Sickness	Other	
Larehouse	1150.75	43.00	0	3.7%	0	0	0	0
Maintenance	4965.00	129.25	0	2.6%	304	100%	0	6%
Laboratory	2542.75	197.25	0	7.7%	128	100%	0	5%
Compound	3820.25	275.00	143.00	11%	208	96%	4%	5%
Vinyl	4711.00	274.50	0	5.8%	64	100%	0	1%
Plasticizer	339.00	13.75	0	3.8%	168	100%	0	5%
Utility Boiler House	672.00	0	0	0	0	0	0	0
General Plant	751.75	.25	0	.03%	24	100%	0	3.2%
Total	18952.50	933.00	143.00	5.7%	896	99%	1%	5%

Note:

- (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.

DTH 000019189

PROCESS ENGINEERING - R. A. Frohreich

A. 1981 Capital Budget

The majority of the process engineering effort this month was devoted to preparation of the 1981 Capital Budget. A total of 26 process designs were issued. Economics and capital budget write-ups were also prepared.

B. Resin Debugging System

The class "A" design for this project was issued and a review meeting was held.

C. Fixed Point Monitor Data Computer and Warning Lights

A meeting was held with CED to discuss the differences between the Perkin-Elmer System and the Spec Physics-Dec System. Further evaluation will be necessary in order to make a decision.

D. Rupture Disc Survey

A survey of rupture discs in VCM service has been completed. The type of disc, type of holder, and material of construction of the disc and holder has been noted for each disc assembly. As a result of the survey, disc assemblies in critical service will be upgraded.

E. Batch Water Strippers

Tie-in points for the project were determined and shown to the mechanical design group of CED.

F. Expansion Project

A meeting was held with Litwin to discuss relocation of the slurry blend tanks and piping in the slurry storage area. The first civil package was issued by Litwin. Review of control panel layouts and instrument specifications are underway. Review of piping and layout drawings is continuing.

ENVIRONMENTAL - V. E. Messick

I. Particulates

One dryer was tested for particulates and found to be within allowable limits.

II. Water

Effluent BOD and COD concentrations were within NPDES permit limits in June.

The NPDES quarterly report was prepared.

III. HAZARDOUS WASTE MANAGEMENT

The form for notification of hazardous waste activity has been reviewed. Work has begun to gather the necessary information to complete the form.

TABLE I

WATER COMPLIANCE WITH
NPDES PERMIT PARAMETERS

	Flow GPM	BOD		COD		Sus. Solids		Diss. O ₂	ph
		PPM	LB./DY.	PPM	LB./DY.	PPM	LB./DY.		
Jan. - Ave.	810	43	436	86	851	11	103		
Max.	941	131	1342	216	2214	13	143	6.8-8.5	7.7-8.0
Feb. - Ave.	645	6	42	15	116	10	79		
Max.	802	8	56	24	171	13	125	6.7-7.9	7.1-7.8
Mar. - Ave.	595	29	220	66	502	11	74	6.6-8.3	7.1-7.8
Max.	743	36	314	95	828	14	94		
Apr. - Ave.	628	21	147	54	378	12	86	6.4-8.3	7.5-8.4
Max.	877	30	232	67	519	13	129		
May - Ave.	304	16	69	53	197	10	40	6.7-7.3	7.2-7.9
Max.	480	32	184	74	426	14	81		
June - Ave.	670	6	49	40	316	12	98	6.7-7.3	7.5-7.9
Max.	804	11	84	51	367	15	145		
July - Ave.									
Max.									
Aug. - Ave.									
Max.									
Sept. - Ave.									
Max.									
Oct. - Ave.									
Max.									
Nov. - Ave.									
Max.									
Dec. - Ave.									
Max.									
NPDES - Ave.	-	32	387	-	1390	-	605	> 6.0	6.0-8.5
Max.	-	43	520	-	1940	-	909		

ENERGY CONSERVATION - V. L. Thornhill

I. Plant Operations

Total energy consumption for June was 67.97 MMM BTUs. The energy consumption per pound of product decreased from 3918 BTU/lb. to 3365 BTU/lb. in June.

II. Plant Energy Conservation Program

A. Steam Leaks

Fourteen (14) steam leaks were repaired in June.

B. Boilers Economizers

Mechanical design of the project is continuing with purchase of the economizers in May.

ENERGY CONSERVATION DATA

<u>ITEM</u>	<u>1979</u>	<u>1980</u>
	<u>June</u>	<u>June</u>
<u>Production, MM Lbs.</u>		
Resin	27.2	13.8
Dry Blend	3.6	2.2
Compound	3.9	3.6
Plasticizer	<u>1.1</u>	<u>0.6</u>
TOTAL	35.8	20.2
<u>Natural Gas</u>		
Consumption, MSCF	57137	32079
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	58.280	32.721
<u>Electricity</u>		
Consumption, MM KWH	4.9248	3.525
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	49.248	35.250
<u>Propane</u>		
Consumption, M Gal.	0	0
Conversion, BTU/Gal.	92000	92000
Energy Consumption, MMM BTU	0	0
<u>Total</u>		
Energy Consumption, MMM BTU	107.528	67.971
Energy Consumption , BTU/Lb.	3004	3365

Boiler Operating Data

	<u>Avg. Stack Temp.</u>		<u>Avg. % Excess Air</u>	
	<u>1979</u>	<u>1980</u>	<u>1979</u>	<u>1980</u>
No. 1	397	357	22	27
No. 2	419	409	31	24
No. 3	451	412	102	23

MECHANICAL ENGINEERING - J. A. Dixon

AFE's Submitted, Approved, and Closed

The following AFE was submitted and approved during June:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9660	Hot Water Charge Tank Replacement	\$160,000

The following AFE's were closed to field charges during June:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9188	Railcar Resin Heel Clean-Up System	\$ 55,000
9519	Critical Spare Equipment	\$175,000
9659	P. A. System Modifications	\$ 35,000
9520	Replacement P.A. Tanks	\$ 75,000

Completion Reports were issued for the following AFE's during June:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9679	Plant Winterization	\$ 64,000
9089	Vibration Study-Capacity Replacement Reactors	\$ 50,000

Design

Design work is in progress on the following projects:

Automatic Plasticizer-Stabilizer Weigh-up System
Replacement of Hot Water Charge Tank
API Clean Water Bypass
Boiler Economizers
Seal Flush Revisions
Spare Inert Incinerator
Fire Protection Improvements - Phase II
Multigrade Resin Production Facilities
Water Stripping

Contracts were let for the following projects:

Drum Storage Area Shed
Electrical for Fire Protection Improvements - Phase I
Diking of Sphere and Curbing of Drum Storage Area

MECHANICAL ENGINEERING - (continued)

AFE Activity

1. AFE 9158 - Fire Protection Improvements - Phase I - J. P. McKee
Construction is in progress and approximately 95% complete.
2. AFE 9228 - Dry Blend Silo Alarms - J. L. White
Eight of the twelve silo alarms are now operational.
3. AFE 9649 - Double Block Valves for VCM Charge - M. S. Richards
The installation of piping is complete and the project is operational.
4. AFE 9689 - Diking of Sphere and Curbing of Drum Storage Area - J. L. White
The contract was let and construction is in progress.
5. AFE 9707 - Facilities for Multigrade Resin Production - CED
Piping and foundation design is in progress.
6. AFE 9729 - Fire Protection Improvements - Phase II - CED
Piping, architectural and electrical design is in progress.
7. AFE 9570 - Replace T-100 P.A. Tanks - J. P. Windham
Drafting is complete. Material purchasing is in progress.
8. AFE 9580 - Boiler Economizers - J. L. White
Structural and pipe drafting is in progress.
9. AFE 9729 - Fire Protection Improvements - Phase II - CED
Drafting and architectural work will be complete in August.
10. AFE 9709 - Facilities for Multigrade Resin Production - CED
Engineering and design is in progress.
11. AFE 9530 - Spare Inert Incinerator - CED
The incinerator and flame arrester have been placed on order.
12. AFE 9610 - API Clean Water Bypass - M. S. Richards
Drafting is complete and ready for review.

MECHANICAL ENGINEERING - (continued)

13. AFE 9630 - Water Stripping - CED

Concrete, structural design and pipe drafting is in progress.

14. AFE 9660 - Replacement of Hot Water Charge Tank - J. P. McKee

Engineering design and drafting is in progress.

Construction - G. A. Morgan

The piping installation for the VCM Double Block Valves in the old module was completed. The foundations, electrical and mechanical work for the Vapor Emissions System Revisions was completed. Concrete curbing for the two drum storage areas was installed. Structural repairs to second lagoon aerator was completed.

Installation of the Phase I Fire Protection Improvements is in progress. Repairs to the third lagoon aerator is underway.

There were three contracts and twenty-five register tickets issued for contract work during the period.

(1) Thru May, 1980 Actual Accounting
(2) Thru June, 1980

ABERDEEN AUTHORIZATIONS REPORT

<u>AUTH. NO.</u>	<u>CAPITAL DESCRIPTION</u>	<u>DATE APPROVED</u>	<u>AUTH. AFE AMT.</u>	<u>(1) EXPENDED TO DATE</u>	<u>(2) COMMITTED TO DATE</u>	<u>FINAL TOTAL EST. COST COMP.</u>	<u>UNDER (OVER) AUTH. AMT.</u>	<u>EST. COMP. DATE</u>	<u>EST. CLOS. DATE</u>	<u>REMARKS</u>
9237	Heated Plasticizer Addition System	10/11/77	37,000	13,090	13,518	37,000	0	9/80	12/80	Design in progress.
9297	Automatic Plasticizer-Stabilizer Weigh-Up System	12/14/77	60,000	56,293	59,163	60,000	0	9/80	12/80	Design in progress.
9098	New Compound Line	4/17/78	2,050,000	2,089,993	2,089,993	2,089,993	(39,993)	12/79	7/80	Closed to field charges.
9148	Plasticizer Chemical Exposure Abatement	8/21/78	152,000	141,921	147,116	152,000	0	8/80	11/80	Revisions in progress.
9158	Fire Protection Improvements - Phase I	9/19/78	176,000	130,219	173,763	176,000	0	8/80	11/80	Installation in progress.
9188	Railcar Resin Heel Clean-Up System	10/12/78	55,000	42,970	43,311	55,000	11,689	6/80	9/80	Closed to field charges.
9228	Dry Blend Silo Alarms	12/13/78	25,000	4,483	16,449	25,000	0	7/80	10/80	Installation in progress.
9248	Silo Isolation Valves	12/14/78	25,000	21,327	23,444	25,000	0	8/80	11/80	Eighteen of twenty-one valves installed.
9258	Dryer Operation Improvements	12/14/78	315,000	274,895	285,450	315,000	0	9/80	12/80	Project operational.
9519	Critical Spare Equipment	2/6/79	175,000	107,249	159,192	175,000	15,808	6/80	9/80	Closed to field charges.
9549	Safety Equipment	3/26/79	15,000	15,094	15,094	15,094	(94)	10/79	6/80	Closed to field charges.
9559	Color Weigh Room Modifications	4/19/79	25,000	16,676	17,301	25,000	0	7/80	10/80	Project operational.
9589	Instrument Air Dryer	5/30/79	110,000	90,085	90,596	110,000	0	9/80	12/80	Hinterization design completed.
9609	Reactor Inert Vent System	6/28/79	90,000	12,329	12,862	90,000	0	10/80	1/81	Engineering in progress.
9619	Waste Water Revisions - Part I	7/3/79	140,000	133,059	136,489	140,000	3,511	5/80	8/80	Closed to field charges.
9629	Air Compressor	7/9/79	340,000	231,645	241,026	340,000	0	8/80	11/80	Project operational.
9639	Revisions to Emission Recovery System	7/12/79	100,000	41,304	55,856	100,000	0	8/80	11/80	Installation in progress.
9649	Double Block Valves for VCM Charge	7/18/79	182,000	89,869	136,800	182,000	0	8/80	11/80	Project operational.
9659	P. A. System Modifications	7/10/79	35,000	27,411	33,419	35,000	1,581	6/80	9/80	Closed to field charges.
9669	New Air Header	8/15/79	25,000	16,957	16,957	25,000	0	9/80	12/80	Project operational.
9689	Diking of Sphere & Curbing of Drum Storage Areas	9/15/79	170,000	1,585	118,314	170,000	0	9/80	12/80	Contract let.
9699	Plant Dryer Debottlenecking	9/15/79	80,000	0	0	80,000	0	12/80	3/81	Engineering in progress CED.
9709	Facilities for Multiple Grade Resin Production	9/20/79	870,000	3,061	197,014	870,000	0	12/80	3/81	Engineering in progress CED.
9719	Aberdeen PVC Resin Expansion (Partial)	9/10/79	850,000	11,421	817,600	850,000	0	9/80	12/80	Equipment on order.
9729	Fire Protection Improvements - Phase II	10/1/79	490,000	9,358	76,987	490,000	0	10/80	1/81	Engineering in progress CED.
9739	Methocel Charge Revision	10/3/79	66,000	857	18,743	66,000	0	8/80	11/80	Engineering in progress.
9759	Aberdeen PVC Resin Expansion	12/10/79	11,150,000	472,000	2,421,900	11,150,000	0	7/81	10/81	Engineering in progress.
9769	Automatic Setback Thermostats	12/31/79	3,000	2,389	2,389	3,000	0	7/80	10/80	Project operational.
9510	Miscellaneous Projects Under \$10,000	1/3/80	150,000	67,488	101,010	150,000	0	12/80	3/81	Forty-Eight projects approved.
9520	Replacement Phthalic Anhydride Tank	1/17/80	75,000	75,072	81,326	81,326	(6,326)	6/80	9/80	Closed to field charges.
9530	Spare Incinerator	1/23/80	650,000	0	0	650,000	0	1/81	4/81	Engineering in progress CED.
9540	Laboratory Equipment	2/6/80	45,000	445	41,604	45,000	0	8/80	11/80	Purchases proceeding.
9550	P. A. Handling Improvement	3/3/80	63,000	18,112	18,797	63,000	0	12/80	3/80	Engineering in progress.
9560	Safety Equipment	3/12/80	25,000	1,711	1,711	25,000	0	9/80	12/80	Purchases proceeding.
9570	Replace T-100 P. A. Tank	3/27/80	119,000	12,906	52,648	119,000	0	9/80	12/80	Engineering in progress.
9580	Boiler Economizers	3/26/80	140,000	0	55,020	140,000	0	10/80	1/81	Economizers on order.

(1) Thru May, 1980 Actual Accounting
(2) Thru June, 1980

ABERDEEN AUTHORIZATIONS REPORT

AUTH. NO.	CAPITAL - (continued) DESCRIPTION	DATE APPROVED	AUTH. AMT. AMT.	(1) EXPENDED TO DATE	(2) COMMITTED TO DATE	FINAL TOTAL EST. COST COMP.	UNDER (OVER) AUTH. AMT.	EST. COMP. DATE	EST. CLOS. DATE	REMARKS
9599	Critical Spare Equipment	3/26/80	59,000	0	0	59,000	0	10/80	1/81	Update quotes requested.
9600	Calcium Stearate Addition System	4/2/80	84,000	0	1,148	84,000	0	11/80	2/81	Engineering scheduled.
9610	API Clean Water Bypass	4/15/80	23,000	0	3,189	23,000	0	8/80	11/80	Engineering in progress.
9620	Cooling Tower Motor Replacement	4/28/80	17,800	16,595	16,595	17,425	375	5/80	8/80	Closed to field charges.
9630	Water Stripping	4/30/80	810,000	0	0	810,000	0	4/81	7/81	Engineering in progress.
9640	Shed for Drum Storage Area	5/8/80	14,000	0	13,486	14,000	0	8/80	11/80	Contract let.
9650	Miscellaneous Projects Under \$10,000	5/30/80	150,000	0	56,178	150,000	0	12/80	3/81	Five projects approved.
9660	Hot Water Charge Tank Replacement	6/4/80	160,000	0	0	160,000	0	12/80	3/81	Engineering in progress.

LABORATORY - R. D. Jackson

CUSTOMER COMPLAINTS

<u>Customer</u>	<u>Product</u>	<u>Complaint</u>	<u>Report By</u>
Natural Vinyl Products	5385	Shipped wrong type resin	CRM
World of Plastics	5385	Contamination - gasket	CRM
Material Control Corp.	18831 C1 B1	Cross contamination	JRM
ITT Royal	5425	Contamination - pink powder	RDJ
Central Plastics	18161 Blk.	Paper contamination	JRM
Alcan Cable	34641 Blk.	Contamination - foreign	JRM
Alcan Cable	34641 Blk.	Cross contamination	JRM
Alcan Cable	34641 Blk.	Fines and streamers	JRM
Natural Vinyl Products	5385	Bag weights	CRM
Columbia Plastics	80273G	Contamination - foreign	RDJ

WAIVERS RECEIVED

None

PRODUCT DEVELOPMENT AND SERVICE

<u>Ship Date</u>	<u>Product</u>	<u>Quantity (lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
6/2	5385-1	100	Fritz Airfreight	JPM
6/2	5385-1	300 grams	Fritz Airfreight	JPM
6/4	80273G	200	Thermo Plastics	-
6/12	18551 Blk.	5	Conoco Inc.	JAP
6/23	38601 Nat.	10	Okonite Wire & Cable	RNG
6/24	5425-1	10	Weymouth Art Leather	NTH
6/24	5385-1	50	Packard Electric Div.	JTW
6/24	26421 Nat.	50	J. V. Components, Inc.	NTH
6/24	17461 Wht.	100	Crane Plastics	JTW
6/24	35441 Nat.	100	Interstate	-
6/25	39032 Blk.	50	Belden Corp.	MAS
6/25	17461 Nat.	100	Polyvinyl Co., Inc.	-
6/25	18161 Nat.	100	Polyvinyl Co., Inc.	-
6/25	18961 Nat.	100	Polyvinyl Co., Inc.	-

Special Testing

15 samples of 17461 material returned from Werner Pfleiderer test run were tested for hard particle count.

Special Compound Testing

Three production lots of compound were tested and found to meet customer specifications. They were:

34861 Gray 546 - Western Electric
36861 Natural - Western Electric
35851 Natural - Phelps-Dodge

LABORATORY - (continued)

Compound Property Verification

Property testing is complete on 20 compounds and is nearly complete on 3 others. Another group of compounds will be tested in July.

Dry Blend Development

Plant formulas and quality control standards were prepared for 3 experimental low cost single screw dry blend compounds. A new quality control standard for 80172B was prepared.

Metrastat Oven

Work has continued toward establishing uniformity of temperature and reproducibility of results in the Metrastat oven. Prospects of success appear good.

Blown Film Tower

A new blown film tower has been received to go with the laboratory extruder, and is ready for a test run. It will then be possible to run the Western Electric blown film test on their compounds, and will be suitable for testing all compounds for dispersion, hard particles, gels, etc.

Resin Volume Resistivity

Six blends of 5425 and 5465 resin were tested for volume resistivity. Five of the samples gave uniform, high values for VR while one blend of 5465 was rated acceptable to good.

QUALITY CONTROL TESTING

Resin

Regular Samples = 237
Bag Blends = 39
Other In-Process Samples = 1167
Bulk Shipments = 109 (Railcars = 51; Trucks = 58)

Dry Blend

Blenders Produced = 243
Blenders Tested = 176
Blenders Adjusted = 5.3%
Other In-Process Samples = 83
Bulk Shipments = 41 (Railcars = 2; Trucks = 39)

LABORATORY - (continued)

Compound

Blenders Produced = 602
Blenders Adjusted = 2.8%
Other In-Process Samples = 107
Bulk Shipments = 18 (Railcars = 10; Trucks = 8)

Resin Heat Stability

Twenty-seven (27) blends of resin were tested for oven heat stability.

<u>Product</u>	<u>No. Tested</u>
5385	12 Blends
5425	8 Blends
5305	4 Blends
5465	3 Blends

All samples met heat stability specifications, and there was a slight improvement for all types of resin.

Raw Material Testing

Thirty-nine (39) lots of raw materials were tested and approved for use.

RVCN of Shipments

A total of 102 shipment samples were tested for residual VCM. Five of the samples (5305) were rejected and not shipped due to high residuals. A summary of RVCN data on resin shipped is below:

<u>Product</u>	<u>5305</u>	<u>5385</u>	<u>5425</u>	<u>5465</u>
Average RVCN ppm	2.3	0.8	0.1	0.1
No. of Samples	44	38	9	6

SPECIAL PROJECTS

RVCN in Slurry

A total of 296 slurry batches were checked for residual VCM in June. None of the daily average exceed 400 ppm. The overall average for the month was 183 ppm.

RVCN of 5305 Regular Drier Samples

A total of 23 samples of 5305 taken from the regular QC sample were tested for residual VCM. The overall average for June was 6.2 ppm VCM.

LABORATORY - (continued)

RVCN of Blowdown Tank Water

A total of 61 water samples drained from the blowdown tanks were tested for VCM. The monthly average was 9.4 ppm VCM.

Viscosity

The inherent viscosity was measured on 128 slurry samples, 201 shipment samples and 51 regular drier samples. The Schott viscosity instrument continues to perform very well.

Instrument Evaluation

D. Cox visited the L & N Plant in Tampa Florida to evaluate an instrument to rapidly measure resin particle size in both wet and dry samples. An AFE has been submitted toward the purchase of this instrument.

TRANSPORTATION - J. E. Stark

Shipment by Product - M/Lbs.

	<u>June</u>	<u>Year to Date</u>
Resin	13,398	96,398
Plasticizer	121	362
Dry Blend	2,501	11,419
Compound	2,872	21,002
TOTAL	18,892	129,181

Number of Shipments by Mode

	<u>R/C</u>	<u>O.T. Bulk</u>	<u>O.T. Van</u>	<u>C.O.T.</u>	<u>C.C.</u>	<u>TOFC</u>	<u>CPU</u>	<u>Total</u>
Resin - Bulk	45	26			4		15	90
- Package			2				6	8
- Export			98					98
Plasticizer							3	3
Dry Blend - Bulk	3	2					37	42
- Package			7					7
- Export			3					3
Compound - Bulk	7	8						15
- Package			19		3		13	35
- Export			7					7
TOTAL	55	36	136	0	7	0	74	308

Back Hauls for June

22

Number of Shipments by Month - Y.T.D.

	<u>R/C</u>	<u>Bulk</u>	<u>Van</u>	<u>C.O.T.</u>	<u>C.C.</u>	<u>TOFC</u>	<u>CPU</u>	<u>Total</u>
January	104	53	72	0	4	2	36	273
February	111	83	66	0	21	4	35	320
March	130	95	64	1	37	0	48	375
April	69	43	84	0	5	0	29	230
May	42	41	75	0	3	0	30	191
June	55	36	136	0	7	0	74	308

Material Handling Report

	<u>M/Lbs.</u>	<u>T/L</u>
Packaged Resin from Production	1,823	45
Packaged Compound, Dry Blend from Production	1,944	48
Transferred from Main to Prairie	1,580	39
Transferred from Prairie to Prairie	0	0
Reverse Transfer Resin to Plant	527	13
Reverse Transfer Compound to Plant	81	2
Shipment from Warehouses	5,924	147
Special Packaging	4,374	108
Transferred from Prairie to Main	1,984	49
TOTAL	18,266	451

TRANSPORTATION - (continued)

CONOCO TRANSPORTATION

ABERDEEN WAREHOUSE

LOCATION	TOTAL M SQ. FT.	CONTENTS	ESTIMATED MM POUNDS		
			ON FLOOR	OPEN	TOTAL
MAIN-East	48	Compounds	4.2		
		Dry Blend	.3		
		Export Resin	.8		
		Conoco Resin	.5	5.8	4.2 10.0
Prairie 12-1	12	Resin	1.1	1.1	.4 1.5
12-2	22	Resin	.8		
		Export Resin	.7	1.5	2.0 3.5
12-3	21	Conoco	1.5		
		Export Resin	.6		
			.	2.1	1.4 3.5
12-4	22	Conoco Resin	4.4		
		Resin O.G.	.	* 4.4	. 3.5
12-5	21	Mill Scraps	.		
		Compd O. G.	.9		
		Dry Blend O. G.	.1		
		Sifter Overflow	.		
		Resin O. G.	.8	1.8	.7 2.5
12-6	21	Compound	.1		
		Resin	3.0		
		Raw Material	.2	3.3	.2 3.5
12-7	21	Resin O. G.	4.0	* 4.0	. 3.5
12-8	21	Conoco	4.5	* 4.5	. 3.5
12-9	21	Conoco Resin	2.4	2.4	1.1 3.5
		Sub-Total			32.5
		(Plug-Aisles)		*	2.4
Total	209	Total Conoco	30.9	10.0	40.9

TRANSPORTATION - (continued)

Off-Grade In Storage

<u>Material</u>	<u>M/Lbs.</u>	<u>T/L</u>
Sifter Overflow	72	2
Resin "BC"	4,988	123
Resin "H"	1,785	44
Mill Scrap	10	0
Compound "B"	799	20
Compound "H"	82	2
Dry Blend "O.G."	90	2
TOTAL	<u>7,826</u>	<u>193</u>

D.F. Operation

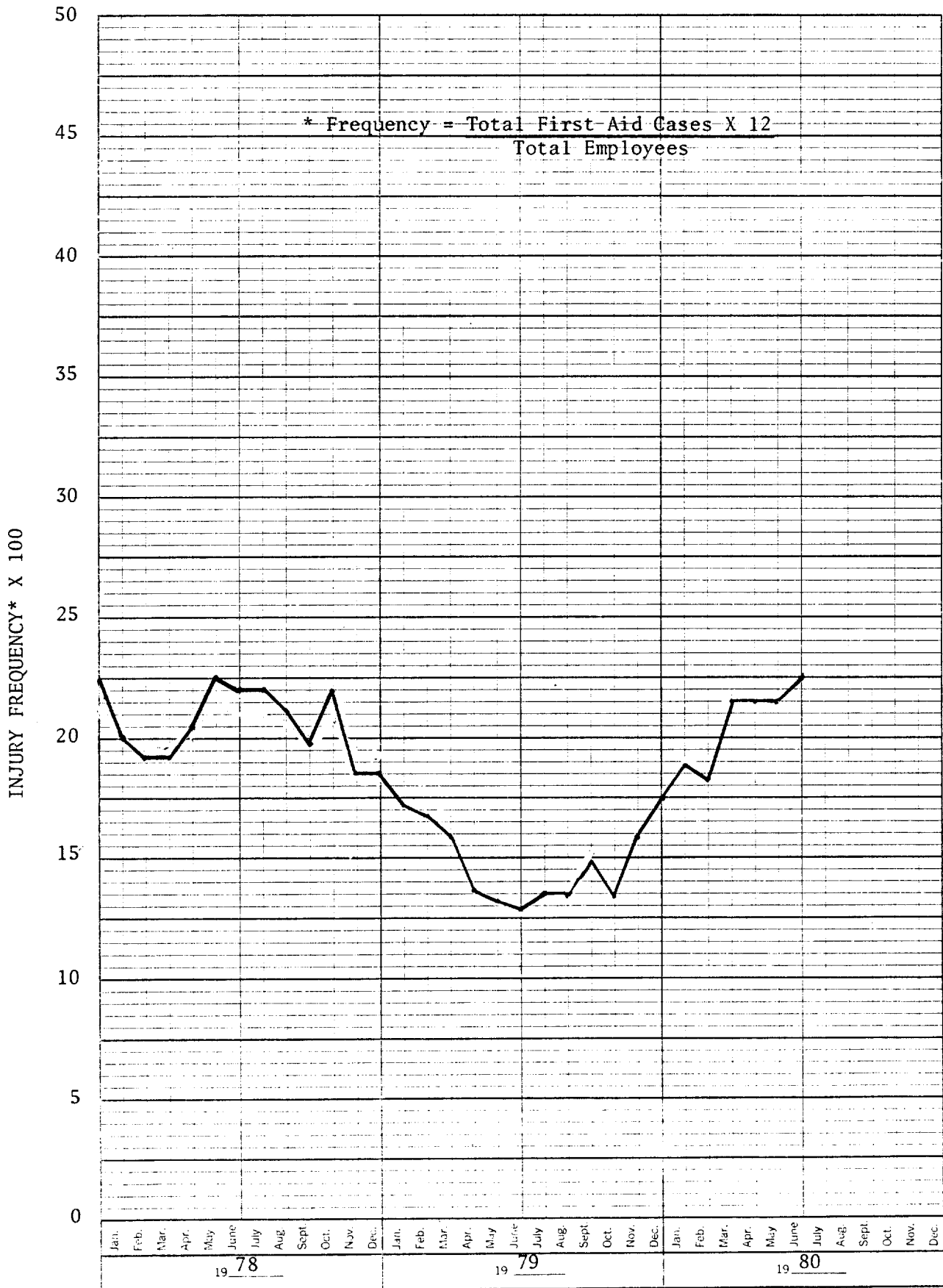
During the month of June the D.F. was extremely busy handling rush export orders. All vessel dead lines were met even though we had short lead time.

Total packaged inventory dropped approximately 3.5 MM pounds during the month. This drop was primarily due to resin shipments. We still have one outside warehouse rented.

A safety meeting was held during the month to discuss the safe and efficient way to operate forklifts in a congested area.

ABERDEEN FIRST-AID CASES

12 MONTHS MOVING AVERAGE



ABERDEEN OSHA RECORDABLE INJURIES

12 MONTH MOVING AVERAGE

INJURY FREQUENCY* X 100

20

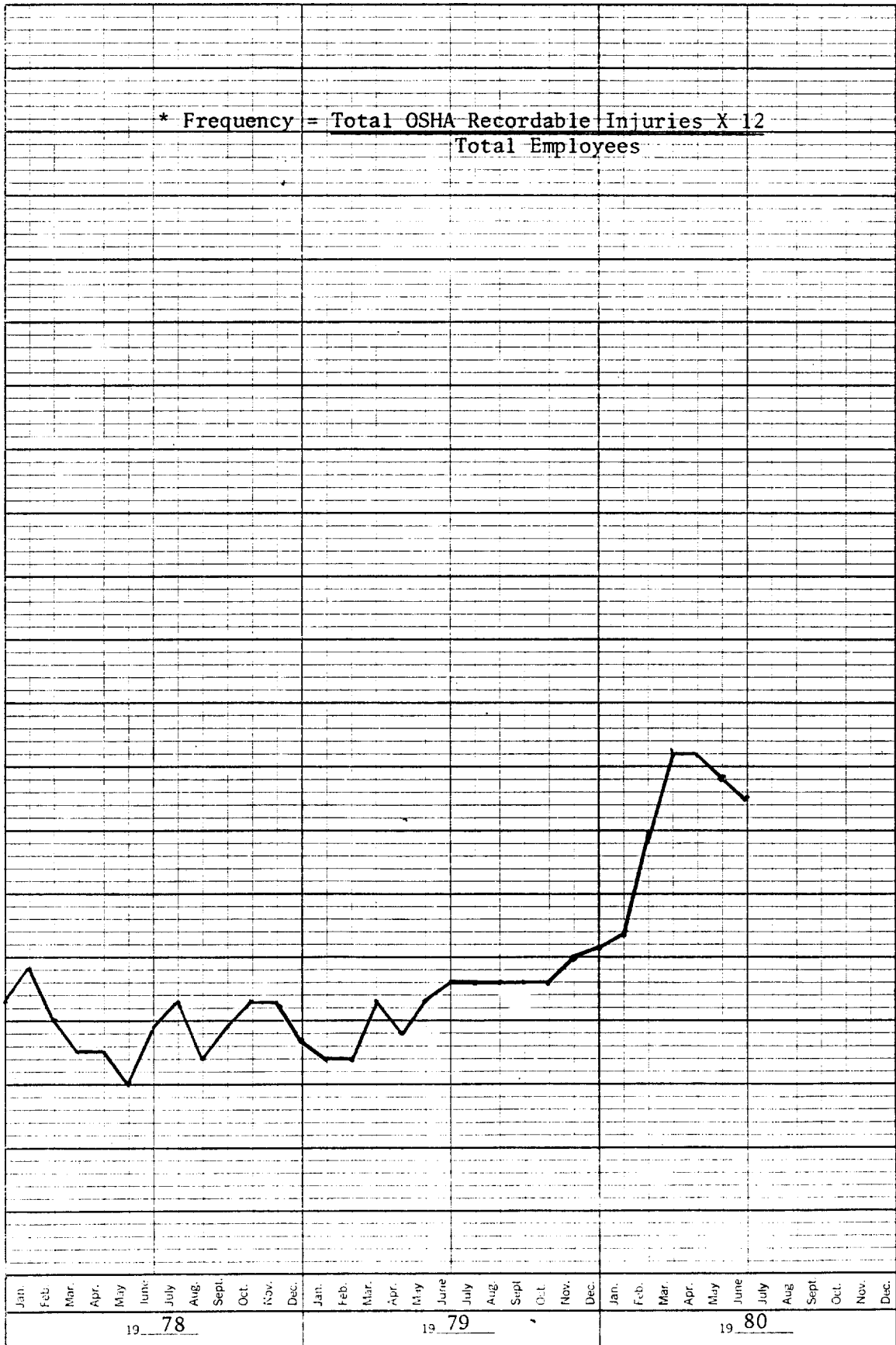
15

10

5

0

$$* \text{ Frequency} = \frac{\text{Total OSHA Recordable Injuries} \times 12}{\text{Total Employees}}$$



MONTHLY HOURLY TURNOVER

%

10

9

8

7

6

5

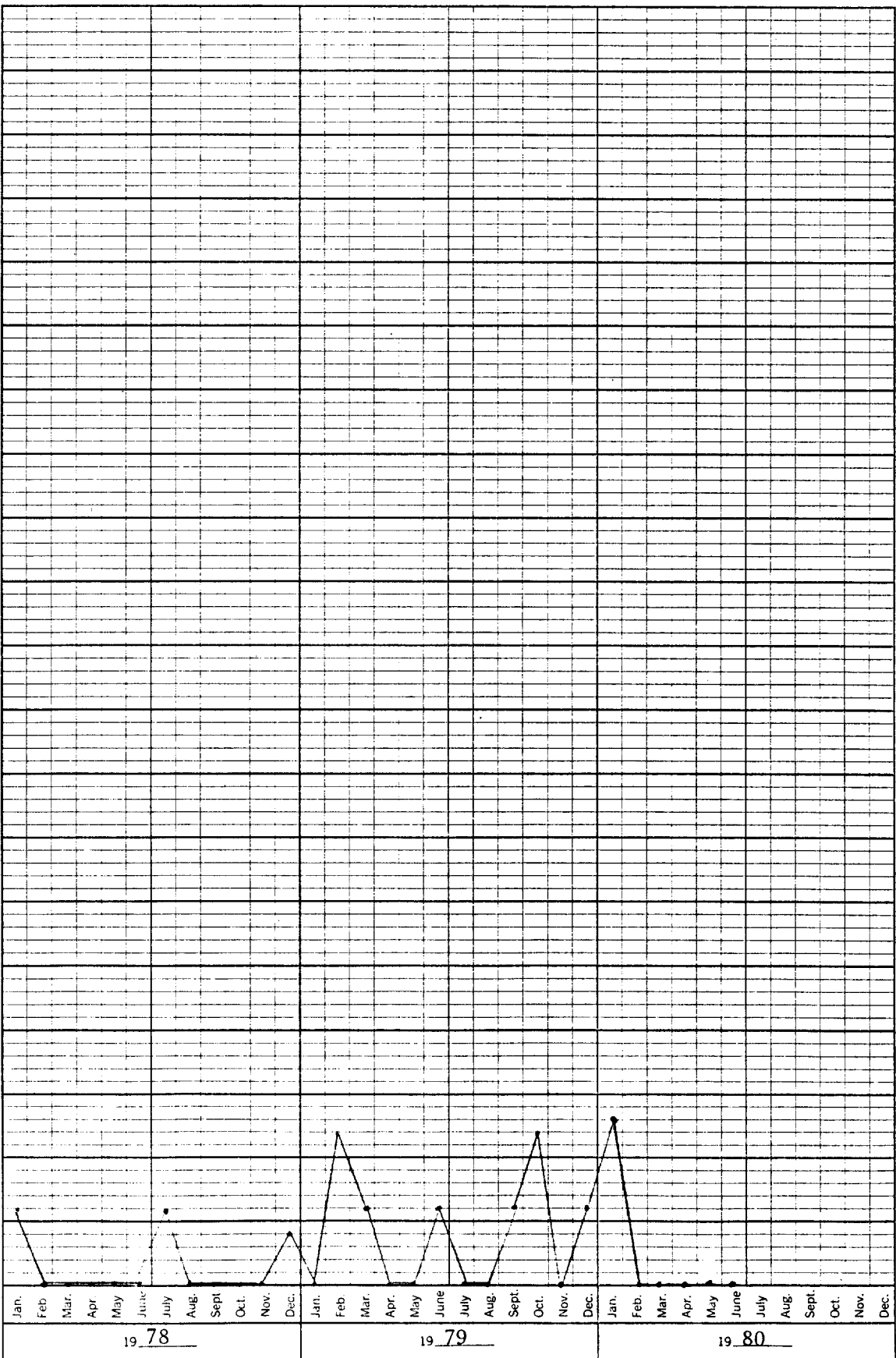
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3

2

1

0



19 78

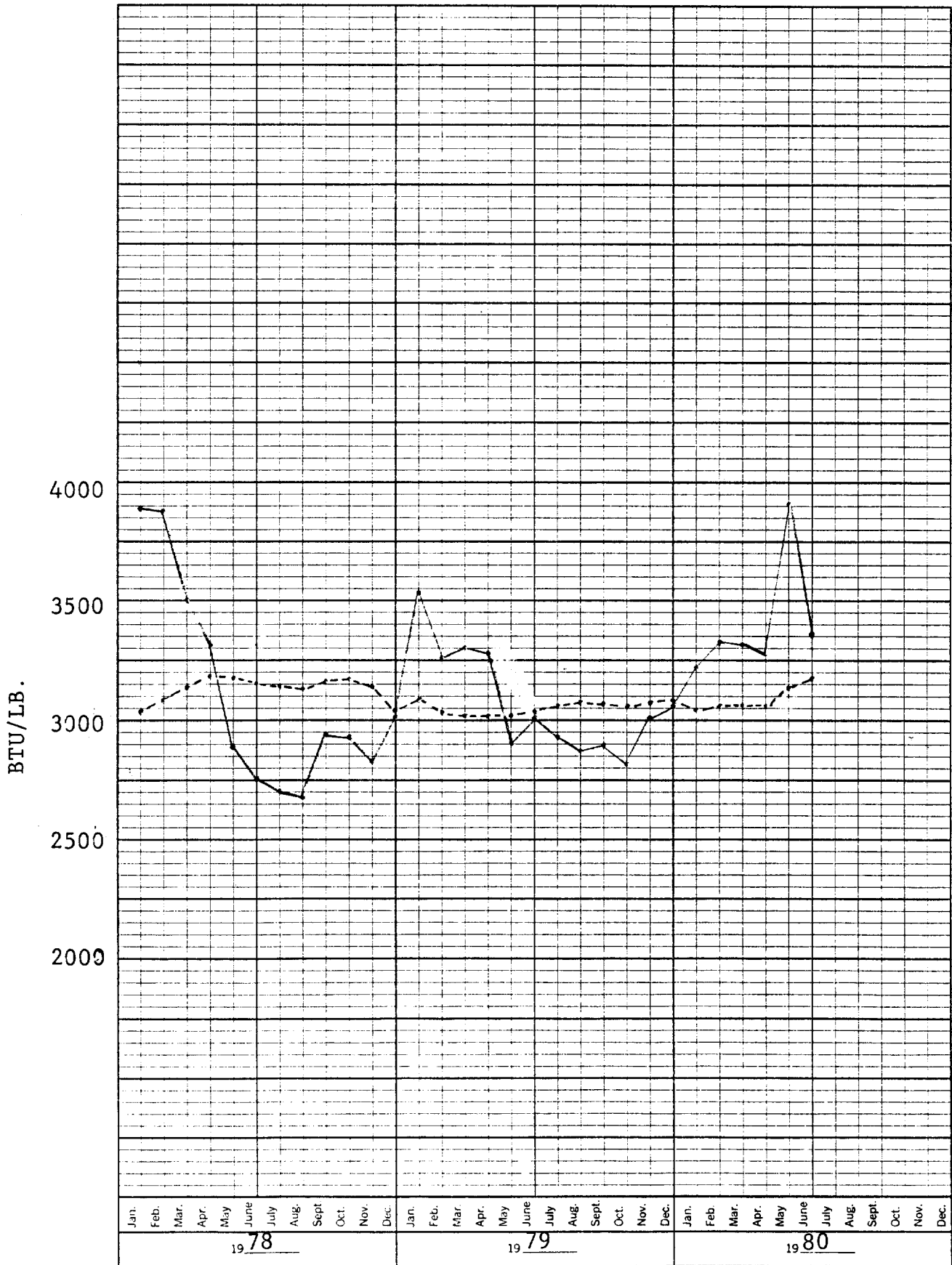
19 79

19 80

46 3290

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

ENERGY USAGE



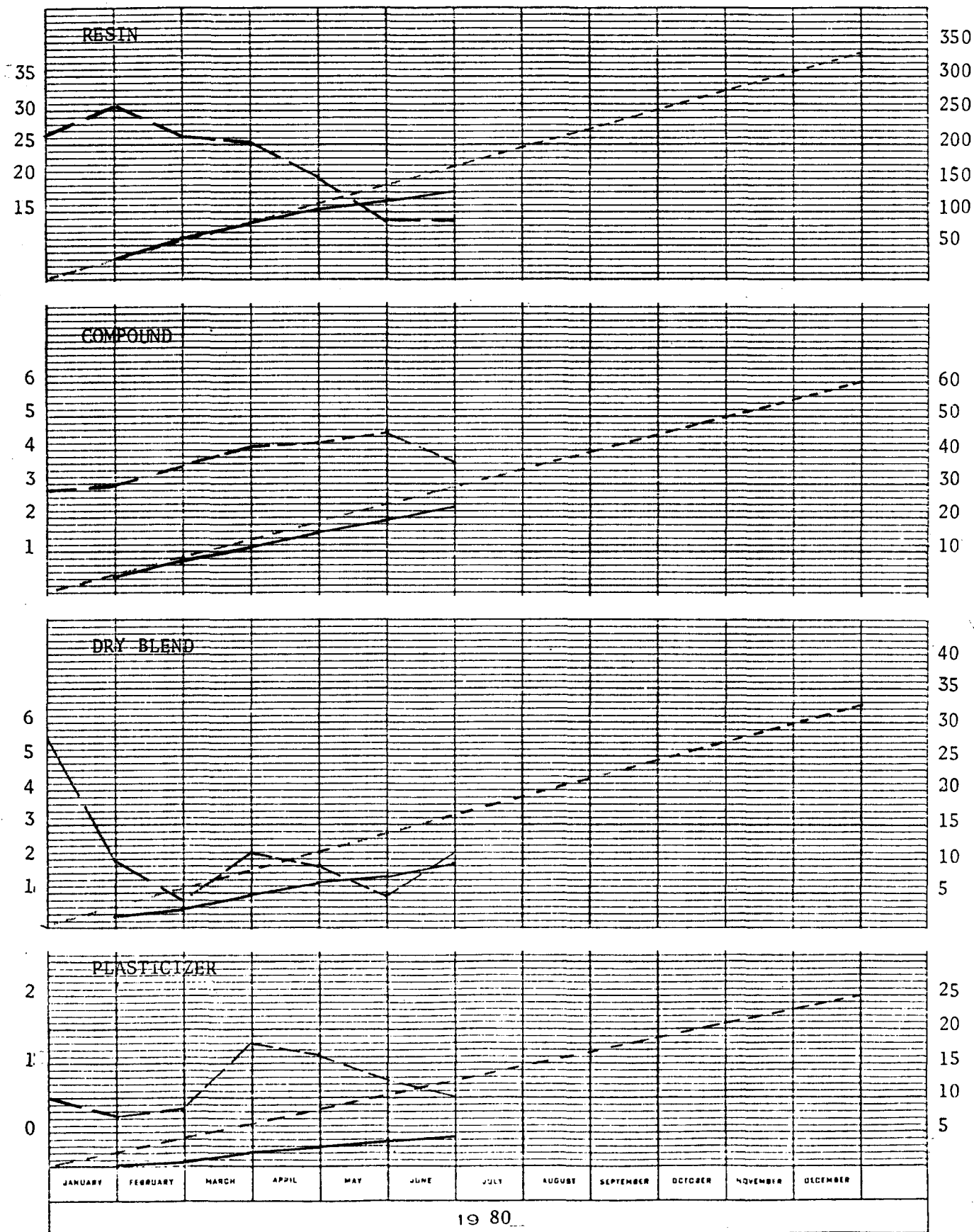
_____ Monthly
 DTH 000019210
 ----- 12 Month Moving
 Average

MM POUNDS
MONTHLY

ABERDEEN PLANT PRODUCTION

1980

MM POUNDS
CUMULATIVE



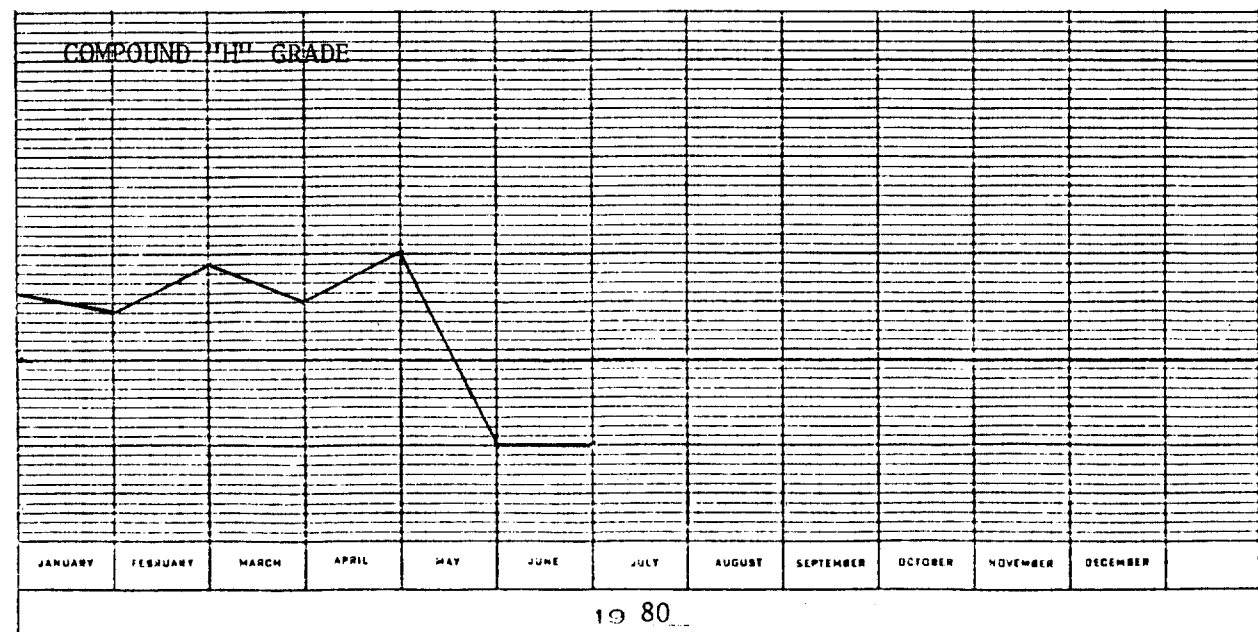
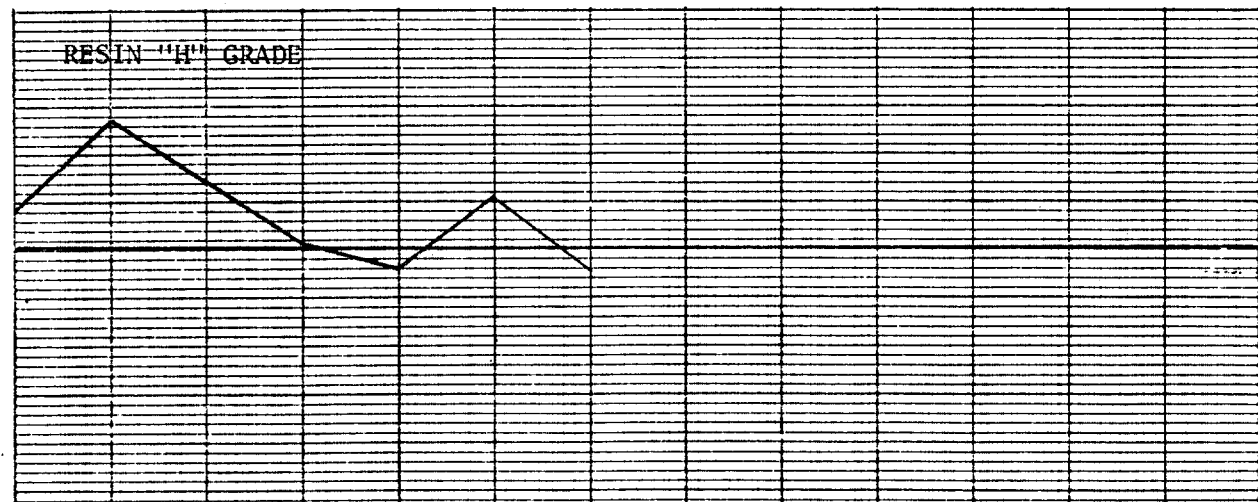
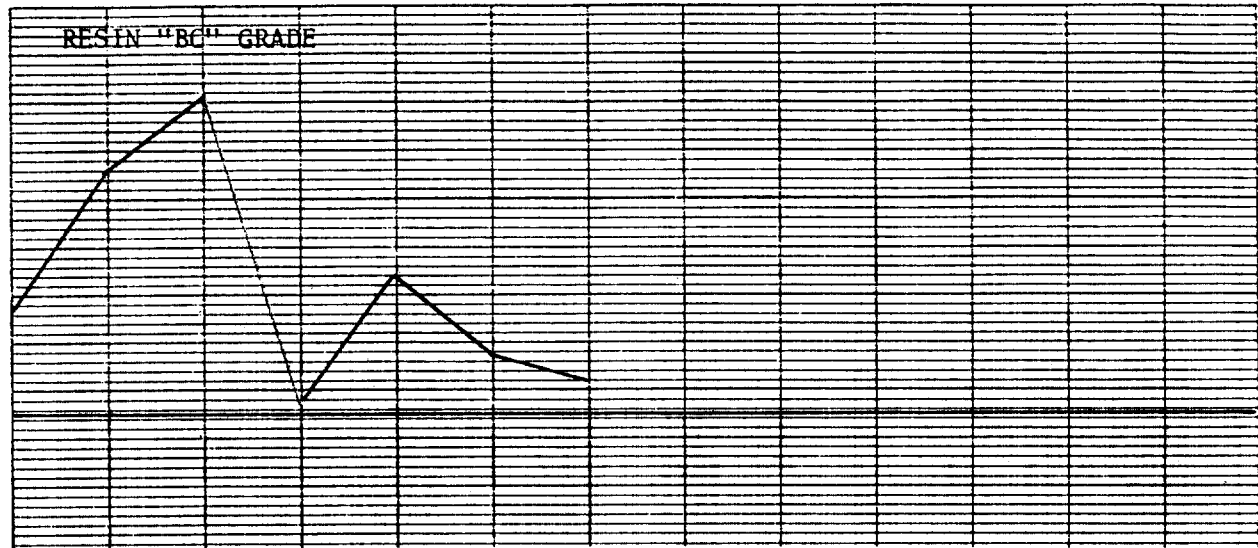
----- BUDGET
----- ACTUAL
----- CUMULATIVE

DTH 000019211

ABERDEEN PLANT QUALITY PERFORMANCE

1980

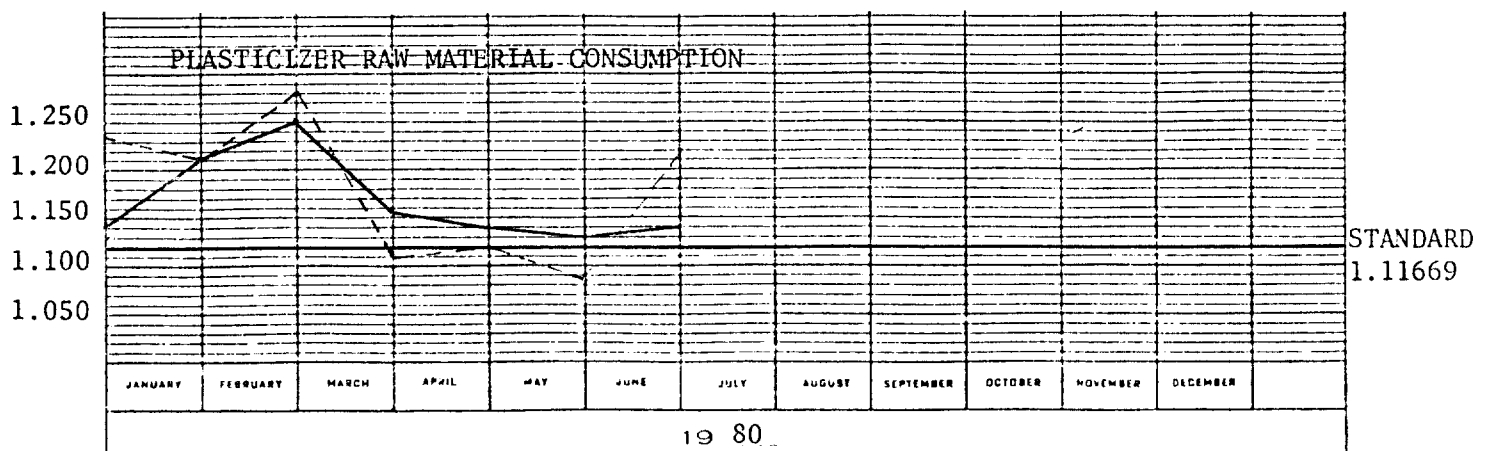
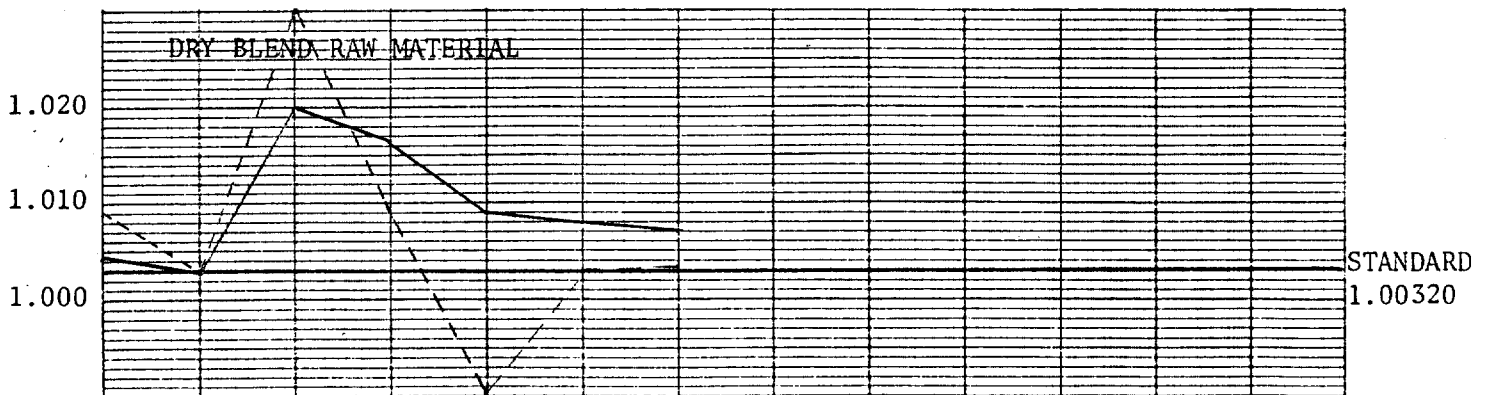
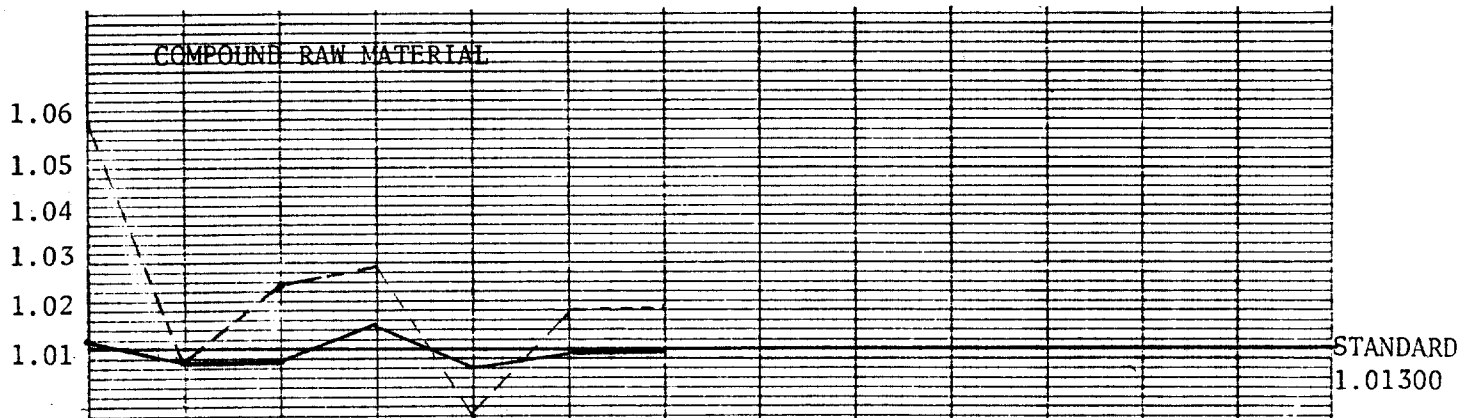
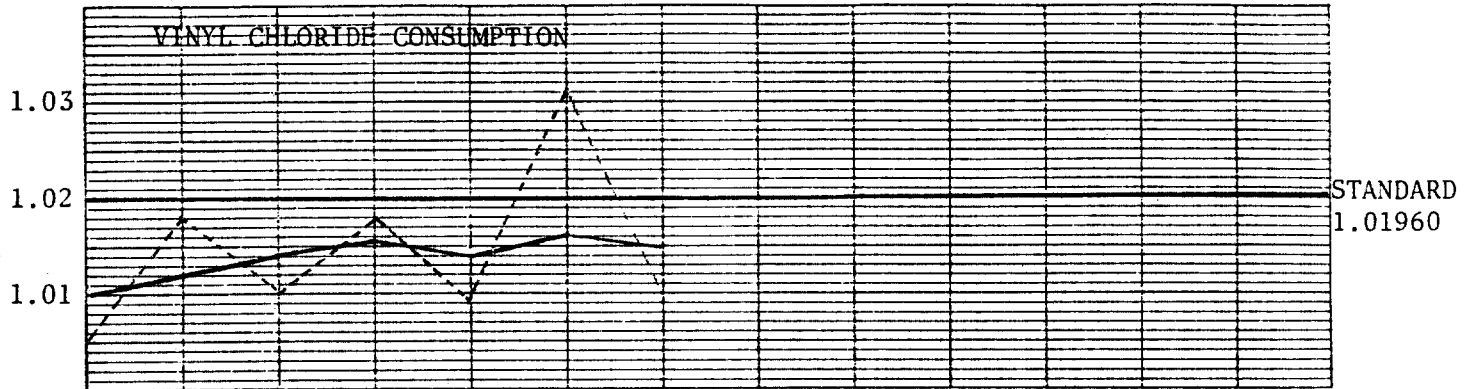
%
OFF GRADE



ABERDEEN PLANT EFFICIENCY

1980

POUNDS OF RAW MATERIAL/POUND OF PRODUCT



19 80

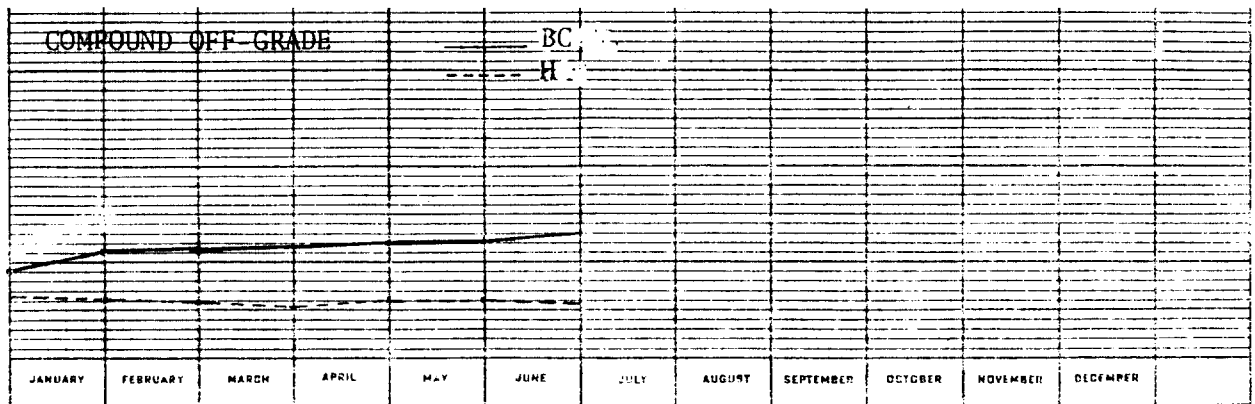
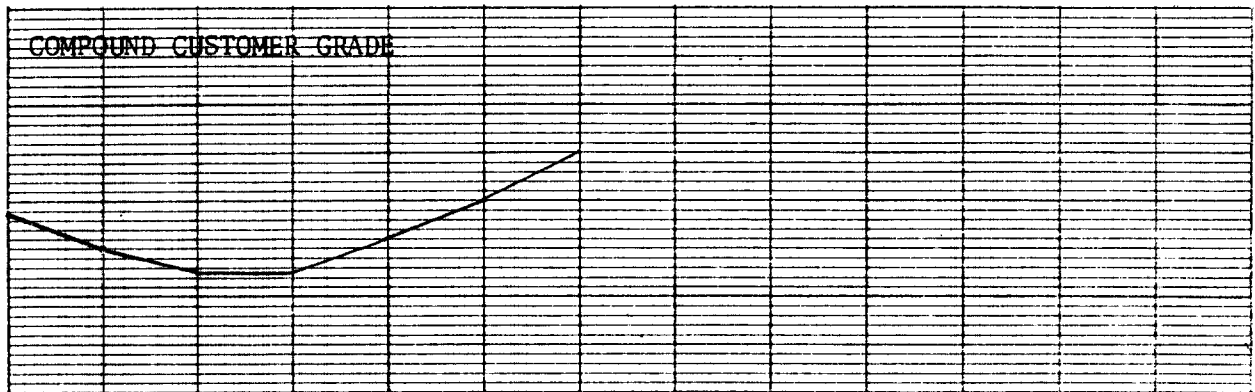
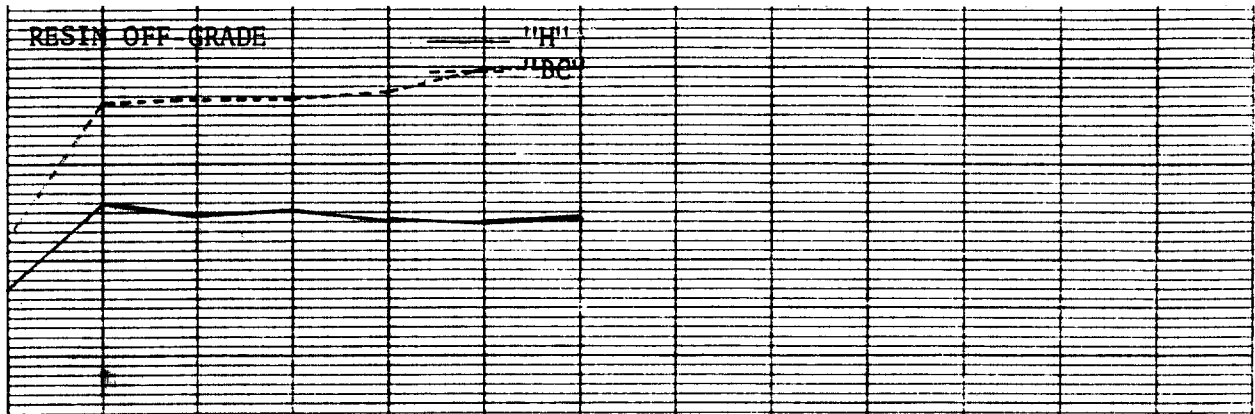
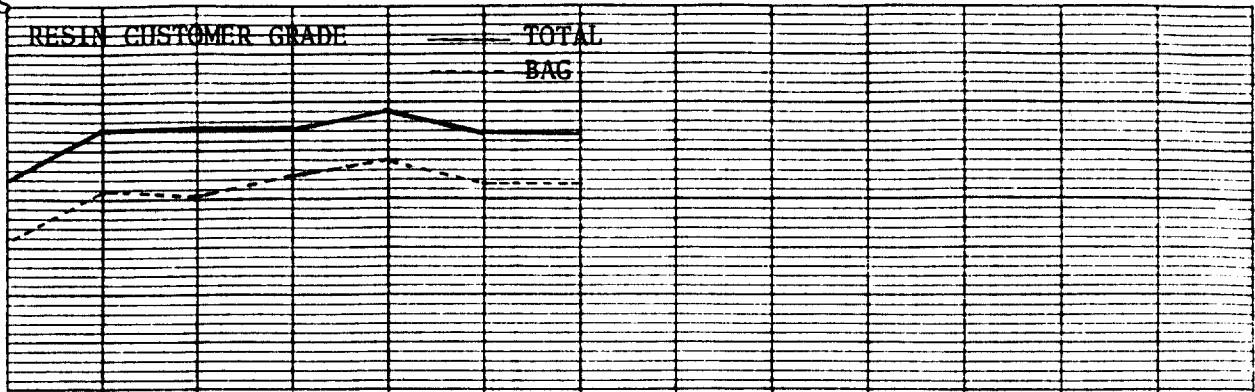
----- MONTHLY
 ————— CUMULATIVE

DTH 000019213

ABERDEEN PLANT INVENTORIES

1980

MM
POUNDS



1980