

SAFETY - A. H. Sather

OCCUPATIONAL INJURIES

<u>Injuries Treated</u>	<u>February</u>	<u>1980 Year-to-Date</u>	<u>1979 Year-to-Date</u>
First Aid	3	8	6
Medical Cases	4	4	0
Restricted Workday Cases	0	0	0
Restricted Workdays	0	0	0
Lost Time	0	0	0

Injuries by Department

Vinyl Operations	2	4	3
Compound Operations	2	4	0
Maintenance	3	4	2
Laboratory	0	0	0
Receiving and Warehouse	0	0	0
Office	0	0	1

Injuries by Type

Cuts and Abrasions	1	4	2
Eye Injuries	0	1	2
Burns	1	1	1
Bruises	2	3	2
Strains and Sprains	2	2	1
Other	1	1	0

Injuries which required medical treatment included a General Helper who suffered a muscle strain while bagging resin, a General Mechanic who slipped on an icy area, a Mechanic "B" who bruised a finger tip while working on a pump in the shop, and a Yard Operator who sprained an ankle while climbing down from loading a resin railcar. The first two (2) were the result of injuries that occurred late in January which later required medical treatment.

As of February 29, 1980, the plant had operated 239 days or 314,696 hours without a disabling injury.

CHEMICAL'S INDUSTRIAL HYGIENE AND SAFETY CONFERENCE

A. H. Sather attended the Chemical's Industrial Hygiene and Safety Conference held in Lake Charles, LA February 4-7, 1980.

SAFETY MEETINGS

The focal topic for February Safety Meetings was a detailed review of the plant Plugged Line Safety Procedures as they applied to the various departments. Personnel from the Laboratory, Receiving and Warehouse, and Process Engineering groups briefly covered the procedures noted above and viewed the film "28 Grams of Prevention." The materials for the "Win With Safety" campaign were distributed or posted. The campaign was announced in a general distribution memo from C. L. Miller dated February 13, 1980.

SAFETY (Cont.)

EMPLOYEE SAFETY RESPONSIBILITIES PROGRAM

M. S. Reynolds and A. H. Sather discussed revisions to Part I of this program while attending the Industrial Hygiene Seminar mentioned above. The script was revised and returned by M. S. Reynolds at the end of the reporting period for review and comments.

BREATHING AIR SYSTEM MODIFICATIONS

Several discussions regarding the alternatives for the plant breathing air system modifications occurred between the plant Process Engineering Department and the Safety Department. In addition, J. J. Hall and T. G. Grumbles, Houston, discussed the alternatives during an introductory plant visit for Mr. Grumbles. He will provide an evaluation of one of the alternatives to assure continued OSHA compliance.

OSHA COMPLIANCE

Activities for the reporting period included:

1. Hands-on Physicals; and,
2. Dosimetry for VCM and lead. The results of analysis and overexposure explanation are noted below.

VCM - A total of 75 samples were analyzed, one of which indicated overexposure. The results, by range, are summarized below:

<u>Range , ppm</u>	<u>Number</u>	<u>Percent</u>
0.0 - 0.5	72	96.00
0.5 - 1.0	2	2.67
1.0 - 5.0	0	0.00
5.0+	1	1.33
	<u>75</u>	<u>100.00</u>

The overexposure occurred to a Yard Operator who was wearing a respirator while connecting and disconnecting VCM railcars.

Lead

Less than PEL*	31
Greater than PEL	1
* Permissible Exposure Limit	

The overexposure occurred to a Dry Blend Utility. The cause of overexposure is under investigation.

VINYL - C. R. Miller

<u>Production</u>	<u>Month</u>	<u>Y.T.D.</u>	<u>Budget</u>
1. Total Production, MM#'s	26.3	56.5	
2. Production Rate, M#'s/C.D.	906	942	918
3. Charges, Reactor Batches/C.D.	20.8	21.8	
4. Total Charges	604	1309	
5. Reactor Stream Factor, %	87.6	89.1	
6. Drying Rates, Average #'s/Hr.	5871	6064	
7. Dryers, Stream Factor, %	91.9	92.5	
8. Accounting Days	29	60	

Vinyl department production for the month was 98.7% of budget at 26.3 MM pounds. The reactor and dryer stream factors were down from January at 87.6% and 91.9%, respectively. Items which impacted on the production for the month were:

1. The condensers on 741, 743 and 744 reactors were brushed during the month.
2. D-500 reactor required extensive downtime for repairs to the internal baffles (34 hours).
3. Reactor 742 was taken out of service for two days to make repairs to a defective reactor weld in the false bottom of the reactor.
4. Maintenance on the V-11 dryer activators resulted in a 1.9% stream factor penalty.

Resin bagging was reduced to 140 M pounds per day to meet increased railcar orders. The empty hopper car inventory remained tight throughout the month which necessitated the continuation of the resin bagging.

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	1,745,790	4,000	-	6.7
5385	19,599,455	1,713,945	245,202	82.7
5425	2,694,446	2,250	(40,500)	10.1
5465	(7,600)	-	2,050	-
Sifter Overflow	-	-	316,136	1.1
TOTAL	24,032,091	1,720,195	522,888	100.0

Quality performance for the month of February was 91.5% customer grade with 7.1% "BC" and 2.4% "H" grade. The off-grade total reflects the high volumes of packaged resin during the month.

VINYL (Cont.)

RESIN QUALITY SUMMARY (Cont.)

The variable cost variance for the vinyl department was (\$186.9 M) with (\$434.8 M) due to price and \$247.9 M due to efficiency. The major price variance was (\$251.2 M) for VCM. The major efficiency variance was \$48.5 M for VCM. The raw material requirement for the month was 1.01072 pounds VCM/pound of PVC versus a 1.02000 standard. (Y.T.D. is 1.01462).

COMPOUND - J. R. McCrimon

<u>Compound Production</u>	<u>Month</u>	<u>M#'s/Day</u>	<u>Y.T.D.</u>
Line I, M Pounds	884	40	1,769
Line V, M Pounds	13	-	207
Line III, M Pounds	2,554	91	4,431
Total, M Pounds	3,451	123	6,407
Accounting Days	29		60

Line I operated 22 days during February at an average rate of 40 M pounds per day. Major items affecting production efficiency were: product changes (21.6 hrs.), dicing delays (20.3 hrs.), maintenance on star valves (5.8 hrs.), maintenance on pull roller (5.2 hrs.), adjusting blender scales (3.5 hrs.) and quality control (3.4 hrs.). Line I production was also hindered by operating a split shift on Line V.

Line V operated 11 days during February with a Werner-Pfleiderer engineer in the plant. Production included 48562 Blk. and 17461 Gry 545. Hard particles in the pellets is still the major operating problem on Line V. Werner-Pfleiderer will conduct a test run the first week in March to obtain operating data on the unit.

Line III operated 28 days during February at an average rate of 91 M pounds per day. Line III production was hindered by product changes (54.6 hrs.), quality control (10.7 hrs.), maintenance on the hydrotherm unit (5.0 hrs.), maintenance on the FCM conveyor (4.0 hrs.), and replacing Sweco motor (4.0 hrs.). Production was further hindered by running only one dicer for quality control for hard particles (235 hrs.).

Quality performance for flexible compounds was 2.4% off-grade of which 98% was due to mill scrap. "BC" production was 2.3%.

The raw material requirement for flexible compounds was 1.02547 pounds of raw material per pound of compound versus a 1.01301 standard. (Y.T.D. is 1.00908).

The variable cost variance for compound was (\$30.5 M) with \$9.6 M due to price and (\$40.1 M) due to efficiency. The variance due to product mix was \$2.3 M. Major efficiency variances were: (\$16.2 M) for tribasic lead sulfate (coated) and (\$13.9 M) for combined colors which are both a result of product mix for the month.

There were two major price variances: (\$23.1 M) for DIDP and \$13.5 M for TOTM. The DIDP variance is a result of purchasing DIDP from Exxon during the month.

DTH 000043713

COMPOUND (Cont.)

<u>Dry Blend</u>	<u>Month</u>	<u>M#'s/Day</u>	<u>Y.T.D.</u>
Production, M Pounds	801	67	2,664
Accounting Days	29		60

Dry Blend operated 12 days during February at an average rate of 67 M pounds per day. Production included 80273G and 90171. Dry Blend production was hindered by: 2 shift operation, inventory control, maintenance on Orbitran (7.4 hrs.), quality control (6.9 hrs.), and transfer line plug (3.2 hrs.).

Quality performance for the month was 99.99% customer grade.

The raw material requirement for dry blend was 1.06854 pounds of raw material per pound of dry blend versus a standard of 1.00320. (Y.T.D. is 1.02269).

The variable cost variance for dry blend was (\$11.4 M) with \$7.0 M due to price and (\$18.4 M) due to efficiency. The variance due to mix was \$25.1 M. There were two major efficiency variances: (\$18.5 M) for Thermolite 101 stabilizer and (\$13.8 M) for organotin stabilizers. Both variances are a result of an error in inventory count. There were no major price variances.

<u>Plasticizer</u>	<u>Month</u>	<u>M#'s/Day</u>	<u>Y.T.D.</u>
Production, M Pounds	314	29	552
Accounting Days	29		60

Plasticizer operated 11 days during February at an average rate of 29 M pounds per day. Production included DOP and DIDP.

VRP production totaled 12.5 M pounds (4.2%). Production was limited by bag charging with flake phthalic anhydride. Installation of the molten phthalic anhydride tank has been completed. Use of molten phthalic anhydride will resume the first week in March.

The raw material requirements for plasticizer was 1.28566 pounds of raw materials per pound of plasticizer versus a 1.08554 standard. (Y.T.D. is 1.25199).

The variable cost for plasticizer was (\$11.3 M) with (\$6.1 M) due to price and (\$5.2 M) due to efficiency. There were no major price variances.

The variance due to product mix was \$5.2 M.

GENERAL

Total customer grade compound inventory decreased to 4.5 MM pounds during February.

Two sample compounds were produced during the month (JRT-3866-204 and Western Electric 757A).

MECHANICAL - S. J. Vincent

VINYL

There were two large reactor seal failures this month. The seal failures were to the D-600 reactor seal in the old module and to the 742 reactor in the new module. There were three large reactor condensers cleaned during this period. One of the condensers was on the D-500 reactor in the old module and the two condensers cleaned in the new module were on the 741 and the 743 reactors. All safety discs were changed on the 741 and the 743 reactors and condensers and the relief valves were tested.

There were no large reactor gearbox problems this month. There were four other major problems resulting in production downtime. Three of the problems were in the old module and one in the new module. In the old module, a section of the steam stripping header ruptured, the VCM line to D-300 plugged, and a baffle came loose in the D-500 reactor. Both the baffle and steam line sections have been sent to MED for analysis. In the new module, a crack developed in the false bottom in the 742 reactor. The installation of this bottom section is being reviewed to ascertain if the thickness of this section is a problem. No metal coupons were taken since the mode of failure was determined to be improper initial installation.

Reactor and recovery system valves replaced this month were the jacket steam valve on the D-400 reactor and the steam stripping check valve on the D-500 reactor. New controllers were installed on the old module blowdown tank. A flexible line on the incinerator was replaced.

There were seven mechanical seals repaired this month on pumps and compressors in the vinyl production area. Five of the seals replaced were in the new module and two were in the old module. The seals replaced in the new unit were the inboard seal in 903 recovery compressor, the north knockout circulating pump seal, and the east VCM return pump. The seals were replaced and the pumps overhauled on the south knockout circulating pump and the south seal water pump. The seals replaced in the old module were the inboard seal on the "B" vacuum pump and the outboard seal on the "A" vacuum pump.

One of the 690 corken compressors was replaced with the spare compressor. The east RVCM receiver was opened for cleaning and a standpipe installed in the water drain.

There were no P.M. inspections to the vinyl dryers during this period. Major repairs completed were as follows: the activator and the Bird centrifuge were replaced on the #5 dryer train; the bearings were replaced on the #4 exhauster and the sifter gearbox was replaced on the #7 sifter.

The star valves under the 281 and 282 resin silos were pulled and rebuilt and the large transfer blower was replaced.

MECHANICAL (Cont.)

COMPOUND/DRY BLEND/PLASTICIZER AND SILO STORAGE

There were no major repairs to the compounding lines this month. The seals were replaced on the FCM and the #6 star valve on Line III was replaced. The bag drop photo eye and pellet transfer blowers were revised on the Compound Line V. External resets were installed on the Line V Orbitran panel. The dry blend unit operated with no major mechanical problems. The Orbitran control panel spares for dry blend were checked.

The inert gas compressor in the plasticizer unit failed and was replaced. The major repairs required in the silo storage area were to replace loading chutes, repairs to level indicators, and resin transfer line leaks.

The maintenance project crew fabricated the platform and steam piping for the phthalic anhydride storage project.

The spark-arrestor mufflers were replaced on the four fire pump engines. A new one inch dry air header was installed to supply dry filtered air to the vinyl area Honeywell units. This line will also maintain the required air pressure to operate the units.

UTILITIES AND SERVICE

Some major repairs to the plant air system were completed. The aftercooler was repaired on the #2 air compressor. The heater element on the east tower on the #2 air dryer was replaced. The east propane pump vanes were replaced and the propane system test fired four times. pH control problems in the plant lagoon system developed this month and the utility department and the engineering department are working to resolve the problems. The dew point indicator was repaired.

MAINTENANCE PLANNER AND MISCELLANEOUS PROJECTS

The Planner issued 29 invoice registers for contracted repair of equipment. During this period, the Planner processed 29 statements for payment, planned and estimated 61 work orders, and ordered material for 18 mechanical repairs. All of the mechanical department mechanics and supervisors completed the in-plant Fork Truck Training Program.

The vibration study in the new reactor area is continuing.

PERSONNEL - J. L. Carter

EMPLOYMENT

None.

TO/FROM LEAVE OF ABSENCE

None.

TRANSFER/PROMOTION

None.

RETIREMENT

Essie B. Eubanks, Compound Operator
Will E. Ridings, Head Security Guard

TERMINATION

Tony Smith, Casual Labor
Douglas Vogue, Casual Labor

DEATH/DISABILITY

None.

OTHER

During the month of February there were 13 casual labor employees on payroll. Total hours worked were 2289.75. The bulk of these employees were utilized for bagging resin.

CONOCO CHEMICALS
Aberdeen, Mississippi

February 1980
MONTHLY PERSONNEL REPORT

Salaried Employees 77*

Hourly Employees 154

Total Employees 231*

Employees (Hourly)

Minority Employees # 3

Salaried 7** 9%**

Hourly 59 38%

Total 66** 28%**

New Employees -

Terminations 1(Retired) ***

Hourly Min. Hired 0

% Min. Hired 0

Hourly Min. Term. 1***

% Min. Term. 100%***

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>9</u>	<u>4</u>	<u>44%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>11%</u>
Maintenance	<u>46</u>	<u>45</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>41</u>	<u>34</u>	<u>27</u>	<u>79%</u>	<u>0</u>	<u>0</u>	<u>1***</u>	<u>2***</u>	<u>0</u>	<u>2.8%</u>
Vinyl	<u>32</u>	<u>32</u>	<u>13</u>	<u>39%</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 0 Year to Date 33

APPLICANT BREAKDOWN:

Minority 0 % Minority 0

Female 0 % Female 0

*Includes two (2) temporary employees.

**Includes one (1) temporary employees.

***Includes one (1) retirement and is not counted in turnover rate.

Hires (Hourly) :

Month 0 Year to Date 0

Terminations (Hourly) :

Month 1*** Year to Date 3***

Overall Turnover 0

Projected Annual Turnover 1.3%

OVERTIME AND ABSENTEEISM

FEBRUARY 1980

Department	Straight Time Hours Worked	Overtime Hours Worked		Overtime as % of Straight Time	Absence Hours Lost	Absence as a % of Straight Time		
		Controllable (1)	Non-Controllable (2)			Sickness	Other	Total
Warehouse	1418.75	96.75	0	6.8%	0	0	0	0
Maintenance	6305.75	276.00	0	4%	104	85%	15%	1.6%
Laboratory	3097.75	249.00	0	8%	192	71%	29%	6.2%
Compound	5122.50	209.50	120.00	6%	456	100%	0	8.9%
Vinyl	5562.00	278.25	0	5%	64	100%	0	1%
Plasticizer	620.00	17.75	0	3%	0	0	0	0
Utility Boiler House	672.00	5.50	0	.8%	0	0	0	0
General Plant	949.00	105.25	0	11%	0	0	0	0
Total	23747.75	1238.00	120.00	6%	816	91%	9%	3%

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 000043719

PROCESS ENGINEERING - R. A. Frohreich

A. SPECIALTY COMPOUND LINE

A representative from Werner-Pfleiderer Corporation was in the plant and tests were conducted on the unit to try to eliminate the hard particles in the finished compound. The various screw configurations and operating conditions tested did not solve this problem. Werner-Pfleiderer Corporation personnel will be in the plant in early March to present their recommendation on how to correct the hard particle problem. They will also make recommendations to eliminate the plugging problem with the pellet transfer system.

B. RESIN EXPANSION PROJECT

Plant review and approval of equipment purchases and drawings are continuing.

C. JOY CENTRIFUGAL COMPRESSOR

Relief valves providing adequate relieving capacity for the plant air system were specified.

D. Resin Reclaim System

A detailed description for the test run to dry resin collected in the concrete settling pits was issued. The test run is scheduled to begin in mid-March. Economics of drying the resin presently being collected in settling pits compared to disposal of the resin at a hazardous waste disposal site or a sanitary land fill were prepared.

E. CALCIUM STEARATE ADDITION SYSTEM

The class "A" process design for the system was issued and reviewed.

F. INLINE METHOCCEL ANALYZERS

The class "A" process design for the project will be issued in early March. Methocel samples are being prepared and will be sent to the manufacturer of the refractive index instrument for testing.

G. CENTRATE RINSE WATER SYSTEM

The test run using centrate water for rinse water in the reactor has been delayed due to problems with one of the hot water charge tanks in the old module.

H. PHTHALIC ANHYDRIDE HANDLING IMPROVEMENTS

The class "A" process design was issued and an AFE request was submitted for the project.

PROCESS ENGINEERING (Cont.)

I. API CLEAN WATER BY-PASS

A design to reduce water flow through the API separator by diverting clean water now entering the separator was issued. By reducing the flow from the API separator, the organic loading on the secondary waste treatment system will be decreased.

J. SPILL CONTAINMENT

A process design to contain spills which may occur at the plasticizer truck loading and unloading stations is being prepared.

K. BREATHING AIR MODIFICATIONS

The class "A" process design for installing a package water separator for the existing seal ring breathing air compressors is being prepared. A breathing air system using instrument air is being evaluated as an alternate to upgrading the present system.

L. COMPOUND LINE III DEBOTTLENECKING

A class "A" process design for the project is being prepared.

M. COMPOUND DIE FACE PELLETIZER

A class "A" process design for the installation of a dry face pelletizer on Compound Line III is being prepared and will be issued in March. Meetings with the various vendors who can supply the pelletizer will be held in the plant in March.

N. REACTOR AGITATOR REPLACEMENT

The class "A" process design to replace the Philadelphia Gear agitators on D-500 and D-600 reactors with Mixco grade mounted agitators is being prepared and will be issued in March.

ENVIRONMENTAL - V. E. Messick

I. PARTICULATES

Two (2) dryer exhausts were sampled for particulates and were within allowable limits.

The renewed operating permit for the plant for air emission equipment was received in February. Compliance testing on three dryers will begin on March 10. A stack sampling procedure review meeting was held February 28 with the State of Mississippi Bureau of Pollution Control.

II. WATER

BOD and COD levels were within allowable limits during February. The pH in the plant outfall exceeded allowable limits once during the month. To prevent other pH excursions in the ponds, we have updated our procedures for controlling pH. Also, the capability to add acid in #6 pond has been provided.

TABLE I
WATER COMPLIANCE WITH
NPDES PERMIT PARAMETERS

	Flow	BOD		COD		Sus. Solids		Diss.	
	GPM	PPM	LB./DY.	PPM	LB./DY.	PPM	LB./DY.	O ²	ph
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.									
Max.									
Apr. - Ave.									
Max.									
May - Ave.									
Max.									
June - Ave.									
Max.									
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 February was 104.4 MMM BTU's. The energy consumption per pound of product increased from 3,214 BTU/lb. to 3,378 BTU/lb. This is a 3.5% increase over February, 1979.

II. PLANT ENERGY CONSERVATION PROGRAM

A. Steam Leaks

Leak Repair, Inc. was called in to repair leaks on-stream in key areas that could not be shut down. Twenty-six leaks were repaired in February.

B. Energy Reporting

The yearly energy report for 1979 was completed and issued in February. The plant had a 25.8% energy savings compared to the 1972 base year. After adjusting for EPA and OSHA projects, the plant energy savings were 39.0% compared to the 1972 base year.

C. Boiler Economizers

The class "A" design for the installation of economizers on the plant's three boilers was issued in February.

ENERGY CONSERVATION DATA

<u>ITEM</u>	<u>1979</u>	<u>1980</u>
<u>Control Period</u>	<u>February</u>	<u>February</u>
<u>Production, MM Lbs.</u>		
Resin	22.5	26.3
Dry Blend	4.7	0.8
Compound	3.5	3.5
Plasticizer	1.1	0.3
TOTAL	31.8	30.9
<u>Natural Gas</u>		
Consumption, MSCF	55,308	54,266
Conversion, BTU/SCF	1,020	1,020
Energy Consumption, MMM BTU	56.414	55.351
<u>Electricity</u>		
Consumption, MM KWH	4.368	4.848
Conversion, BTU/KWH	10,000	10,000
Energy Consumption, MMM BTU	43.680	48.480
<u>Propane</u>		
Consumption, M Gal.	39.44	6.069
Conversion, BTU/Gal.	92,000	92,000
Energy Consumption, MMM BTU	3.628	0.558
<u>Total</u>		
Energy Consumption, MMM BTU	103.722	104.389
Energy Consumption , BTU/Lb.	3,262	3,378

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	408	400	92	33
No. 2	418	419	92	34
No. 3	463	428	107	37

MECHANICAL ENGINEERING - J. A. Dixon

AFE'S SUBMITTED, APPROVED AND CLOSED

The following AFE was submitted and approved during February.

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9540	Laboratory Equipment	\$ 45,000

There were no AFE's closed to field charges during February. Completion reports were issued during February for the following AFE:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9019	Repairs to Large Reactor Gearbox	\$ 22,000

DESIGN

Contracts were let for the following: New Module Pipe Supports, New Phthalic Anhydride Tank Insulation, Installation of Double Block and Bleed Valves in New Module, and Plant Pest Control for 1980, 1981 & 1982.

Design work is in progress on the following projects: Replacement of Phthalic Anhydride T-100 Storage Tank, Reactor Inert Vent System, Double Block Valves for VCM Charge, Diking of Sphere and Curbing of Drum Storage Area, and Methocel Charge Revisions.

AFE PROJECT ACTIVITY

Automatic Plasticizer Stabilizer Weigh-Up Systems - R. B. Harned & J. P. Windham

The estimate to complete this project has been made and is ready for review.

Plasticizer Chemical Exposure Abatement - M. S. Richards

Additional revisions are needed to complete this project. The revisions are as follows: revise dump outlet and valve; increase temperature of funnels installed on reactors; and revise seal flush system and reactor piping.

Fire Protection Improvements - Phase I - J. P. McKee

The initial bids for installation were too high for the available funding. Re-bidding is in progress to attempt to complete the project within current authorized funding.

Dryer Operation Improvements - M. F. Holman

The piping revisions have been completed for all vinyl dryers. A work order has been issued to revise the control room wiring for the remote burner controls.

MECHANICAL ENGINEERING (Cont.)

AFE PROJECT ACTIVITY (Cont.)

Critical Spare Equipment - J. P. Windham

Additional specifications were issued for vendors to quote guaranteed performance rates for the portable resin transfer unit. Quotes are ready for evaluation.

Color Weigh Room Modifications - J. P. McKee

This project is operational. Installation of the new 150 HP motor for the building ventilation system is scheduled.

Instrument Air Dryer - M. S. Richards

This project is operational. A design is in progress for overall winterization of the unit.

Waste Water Revisions - Part I - J. L. White

This project is operational. The design of the final items, sampling weirs and outlet piping are in progress.

Air Compressor - M. S. Richards

This project is operational. Additional design is required for the following items: converting the old Joy compressor to dual oil filters and dual control; motor, coupling, and control panel change for the new Joy compressor.

Revisions to Emission Recovery System - J. L. White

Engineering is complete. Bid packages for installation are being prepared for mailing.

Double Block Valves for VCM Charge - M. F. Holman

The mechanical and electrical installation is in progress for the new module. The mechanical and electrical design for the old module is near completion.

Phthalic Anhydride System Modification - J. P. Windham

The installation of the replacement for T-1000 storage tank and piping were completed during this period. Startup is scheduled for 3/3/80. The design of the replacement for T-100 and piping is in progress.

Aberdeen PVC Expansion - M. F. Holman

The selection of cooling tower pumps and miscellaneous process pumps have been approved. Review of the dryer, reactor and cooling tower are in progress.

CONSTRUCTION - G. A. Morgan

Temporary repairs were completed for the damaged D-500 baffles. The crack in the 742 reactor bottom was repaired. The inlet line to Line V Welex was modified. A removable screen was installed on the pellet cooler cyclone. The removal of the damaged phthalic anhydride storage tanks and piping was completed. The Line III dock extension was completed. The installation of the vibration monitors for the new reactor module is complete.

(1) Thru January, 1980 Annual Accounting
(2) Thru February, 1980

ABERDEEN AUTHORIZATIONS REPORT

AUTH. NO.	CAPITAL DESCRIPTION	DATE APPROVED	AUTH. AFE 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
9237	Heated Plasticizer Addition System	10/11/77	37,000	13,090	13,518	37,000	0	3/80	6/80	Design in progress.
9247	Farrel Mixer Feeders	11/21/77	47,000	42,412	42,426	42,426	4,574	11/79	3/80	Closed to field charges.
9297	Automatic Plasticizer-Stabilizer Weigh-Up System	12/14/77	60,000	56,293	57,944	60,000	0	3/80	6/80	Installation scheduled.
9307	Compound Project Conveying Lines	12/14/77	50,000	49,336	49,989	49,989	11	11/79	4/80	Closed to field charges.
9098	New Compound Line	4/17/78	2,050,000	2,082,337	2,101,962	2,101,962	(51,962)	12/79	4/80	Closed to field charges.
9148	Plasticizer Chemical Exposure Abatement	8/21/78	152,000	136,476	143,216	152,000	0	4/80	7/80	Revisions in progress.
9158	Fire Protection Improvements - Phase I	9/19/78	176,000	95,558	95,558	176,000	0	6/80	9/80	Re-bidding in progress.
9178	Propane Vaporizer Replacement	9/21/78	175,000	174,135	174,217	174,217	783	10/79	4/80	Closed to field charges.
9188	Railcar Resin Heel Clean-Up System	10/12/78	55,000	33,970	41,951	55,000	0	4/80	7/80	Project operational.
9208	Spare Recovery Vacuum Pump	12/5/78	14,000	14,542	14,542	14,542	(542)	1/80	3/80	Closed to field charges.
9228	Dry Blend Silo Alarms	12/13/78	25,000	4,392	9,368	25,000	0	4/80	7/80	Purchases proceeding.
9248	Silo Isolation Valves	12/14/78	25,000	21,156	22,244	25,000	0	5/80	8/80	Eighteen of twenty-one valves installed.
9258	Dryer Operation Improvements	12/14/78	315,000	241,398	253,957	315,000	0	4/80	7/80	Project operational.
9519	Critical Spare Equipment	2/6/79	175,000	35,697	116,337	175,000	0	3/80	6/80	Purchases proceeding.
9529	Miscellaneous Projects Under \$10,000	2/15/79	125,000	122,259	122,259	122,259	2,741	12/79	4/80	Closed to field charges.
9539	Laboratory Equipment	3/27/79	31,000	24,441	31,410	31,410	(410)	7/79	4/80	Closed to field charges.
9549	Safety Equipment	3/26/79	15,000	12,076	14,683	15,000	0	10/79	6/80	Closed to field charges.
9559	Color Weigh Room Modifications	4/19/79	25,000	6,124	15,711	25,000	0	3/80	7/80	Installation in progress.
9569	Miscellaneous Projects Under \$10,000	5/8/79	125,000	64,249	128,987	128,987	(3,987)	12/79	4/80	Closed to field charges.
9589	Instrument Air Dryer	5/30/79	110,000	88,703	90,258	110,000	0	4/80	7/80	Project operational.
9606	Reactor Inert Vent System	6/28/79	90,000	3,849	8,460	90,000	0	6/80	9/80	Engineering in progress.
9619	Waste Water Revisions - Part I	7/3/79	140,000	126,230	128,010	140,000	0	4/80	7/80	Project operational.
9629	Air Compressor	7/9/79	340,000	72,752	225,846	340,000	0	6/80	9/80	Project operational.
9639	Revisions to Emission Recovery System	7/12/79	100,000	14,687	25,412	100,000	0	6/80	9/80	Bids requested.
9649	Double Block Valves for VCM Charge	7/18/79	182,000	53,258	74,040	182,000	0	6/80	9/80	Installation in progress.
9659	P. A. System Modifications	7/10/79	35,000	16,166	32,015	35,000	0	6/80	9/80	Project operational.
9669	New Air Header	8/15/79	25,000	6,949	13,285	25,000	0	4/80	7/80	Project operational.
9679	Plant Winterization	9/5/79	64,000	56,039	61,944	64,000	0	3/80	6/80	Project operational.
9689	Diking of Sphere & Curbing of Drum Storage Areas	9/15/79	170,000	0	0	170,000	0	6/80	9/80	Engineering in progress.
9699	Plant Dryer Debottlenecking	9/15/79	80,000	0	0	80,000	0	9/80	12/80	Engineering in progress CED.
9709	Facilities for Multiple Grade Resin Production	9/20/79	870,000	0	0	870,000	0	9/80	12/80	Engineering in progress CED.
9719	Aberdeen PVC Resin Expansion (Partial)	9/10/79	850,000	11,421	829,021	850,000	0	9/80	12/80	Equipment on order.
9729	Fire Protection Improvements - Phase II	10/1/79	490,000	0	0	490,000	0	10/80	1/81	Engineering in progress CED.
9739	Methocel Charge Revision	10/3/79	66,000	0	10,640	66,000	0	6/80	9/80	Engineering in progress.
9749	Improved Rupture Disc Holders	10/22/79	27,000	0	24,613	27,000	0	4/80	7/80	Safety heads on order.
9759	Aberdeen PVC Resin Expansion	12/10/79	11,150,000	12,214	1,750,258	11,150,000	0	7/81	10/81	Engineering in progress.

(1) Thru January, 1980 Actual Accounting
(2) Thru February, 1980

ABERDEEN AUTHORIZATIONS REPORT

AUTH. NO.	CAPITAL DESCRIPTION	DATE APPROVED	AUTH. AFE 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
9769	Automatic Setback Thermostats	12/31/79	3,000	128	2,001	3,000	0	6/80	9/80	Thermostats on order.
9510	Miscellaneous Projects Under \$10,000	1/3/80	150,000	5,182	23,850	150,000	0	12/80	3/81	Sixteen projects approved.
9520	Replacement Phthalic Anhydride Tank	1/17/80	75,000	2,101	77,297	84,000	(9,000)	6/80	9/80	Installation in progress.
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	0	34,975	45,000	0	8/80	11/80	Purchase proceeding.
<u>EXPENSE</u>										
9029	Repair of Steam Tracing & Insulation	9/5/79	62,000	69,270	69,270	69,293	(7,293)	1/80	4/80	Closed to field charges.
9049	Repairs to Dryer Inlet Ducts	9/13/79	25,000	16,548	19,012	25,000	0	3/80	6/80	Insulation in progress.
9069	Centrifuge Rotors Repair	9/13/79	47,000	53,302	53,302	53,302	(6,302)	2/80	5/80	Closed to field charges.
9079	Cooling Tower Motor Repair	10/22/79	17,800	0	0	17,800	0	4/80	7/80	Motor being repaired.
9089	Vibration Study-Capacity Replacement Reactors	10/29/79	50,000	5,059	34,264	50,000	0	3/80	7/80	Prototype testing in progress.
9238	Compound Line I Roof Collapse	12/13/78	44,000	43,739	43,739	43,739	261	1/80	3/80	Closed to field charges.

LABORATORY - R. D. Jackson

CUSTOMER COMPLAINTS

<u>Customer</u>	<u>Product</u>	<u>Complaint</u>	<u>Report By</u>
Celanese Piping	5305	Moisture	RDJ
Charlotte Plastics	5305	High Viscosity	RDJ
Western Electric	36861 Nat.	Contamination	RDJ
LCP Plastics	5385	Moisture/Frozen Resin	Under Investigation
Runzel Cord & Wire	34641 Nat.	Wrong Product	Under Investigation

WAIVERS RECEIVED

<u>Date</u>	<u>Identification</u>	<u>Product</u>	<u>Customer</u>	<u>Reason</u>	<u>Waived By</u>
2/5	T2481	5385-III	World of Plastics	Static Flow	JRW
2/5	PTLX 41623	5385-III	Charlotte Pipe	Color "b" Value	ELK
2/6	PTLX 41652	5385-III	Charlotte Pipe	Particle Size	ELK
2/8	PTLX 42027	5385-III	Simpson	Particle Size	JRW
2/8	T2811	5425	Intex	Gels	ELK
2/8	PLCX 43736	5425	Uniroyal	Dry Time	ELK
2/13	CONX 45280	5465	Inmont	Gels	HRF
2/13	PLCX 42962	5425	Intex	Gels	HRF
2/18	PLCX 43205	5385-III	World of Plastics	Particle Size	ELK
2/18	PTLX 41598	5385-III	World of Plastics	Particle Size	ELK
2/20	PTLX 41651	5385-III	World of Plastics	Particle Size	CLS
2/20	PLCX 43216	5385-III	Simpson	Particle Size	CLS
2/22	PLCX 42660	5385-III	Simpson	Particle Size	ELK
2/24	T2811	5385-III	Can-Tex	Static Flow	JRW
2/25	PLCX 43742	5385-III	World of Plastics	Particle Size/Color	ELK
2/27	PLCX 43015	5385-III	World of Plastics	Color "b" Value	ELK
2/27	PLCX 43007	5385-III	LCP	Particle Size	ELK
2/27	PLCX 43704	5385-III	Simpson	Particle Size	ELK
2/27	PLCX 43228	5305	Intex	Particle Size	ELK
2/27	T2479	5305	Celanese Pipe	Static Flow	JRW
2/28	T2811	5385-III	Can-Tex	Static Flow	JRW
2/28	T2869	5385-III	Mastic	Static Flow	JRW
2/29	CONX 45708	5385-III	Simpson	Particle Size	ELK

TOTAL 23

DTH 000043731

LABORATORY (Cont.)

PRODUCT DEVELOPMENT AND SERVICE

<u>Ship Date</u>	<u>Product</u>	<u>Quantity (Lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
2/4	35031 Nat.	200	Dixie Wire Co.	JFN
2/5	5385-I	10	Rubbermaid Specialty Products	PCM
2/13	5385-I	100	Glyco Chemical Co.	RNG
2/13	5385-I	100	Fritz Airfreight	JPMc
	5425	100		
2/13	5305	5	CSI-Coating Systems, Inc.	NTH
2/13	5305	5	Intex Plastics	JFN
2/14	17461 Wht.	50	Crane Plastics	JTW
2/15	80172B	5	Can-Tex	JFN
2/19	5425	5	Phelps-Dodge	NTH
2/26	5425	10	Western Electric Mfg. Co.	RNG
2/26	5385-I	50	Ferro Chemical	JTW
2/26	48562 Blk.	200	Siegel Robert Co.	GCC
2/29	5385-I	300	Kohkoku, USA	-
2/29	15041 Cl. Bl. 50	100	Lavanture Products	AHH
	17461 Nat.	100		
	18031 Cl. Bl. 50	100		
	18961 Nat.	100		

COMPOUND DEVELOPMENT AND SERVICE

Special Compound Testing

Western Electric specification tests were run on one lot of 34861 Gray 546, on two lots of 36861 Natural and on one lot of 38761 Black.

One lot of 34533 Natural for Packard Electric was tested.

Line V Startup

Melt flow tests were run on fifteen (15) compound samples to provide information for Line V operation.

Compound Property Verification

A report was issued which gave physical property values measured on all active compounds during 1979. The 1980 compound property verification program has been started on ten (10) compounds.

LABORATORY (Cont.)

QUALITY CONTROL TESTING

Resin

Regular Samples = 387
Bag Blends = 137
Other In-Process Samples = 3,129
Bulk Shipments = 220 (Railcars = 105; Trucks = 115)

Dry Blend

Blenders Produced = 109
Blenders Tested = 101
Blenders Adjusted = 15.6%
Other In-Process Samples = 112
Bulk Shipments = 10 (Railcars = 2; Trucks = 8)

Compound

Blenders Produced = 548
Blenders Adjusted = 4.6%
Other In-Process Samples = 264
Bulk Shipments = 24 (Railcars = 9; Trucks = 15)

Resin Heat Stability

Forty-two (42) samples of resin were tested for oven heat stability.

5385	18 Blends
5425	16 Blends
5305	8 Blends

All types of resin averaged poorer than the control on heat stability; however, they improved during the last two weeks of the month, and heat stability was about normal the last week.

RAW MATERIAL TESTING

Forty-nine (49) lots of plant raw materials were tested. One (1) shipment of SP-33 clay was rejected because it gave a low value for volume resistivity. The other materials were accepted.

SPECIAL PROJECTS

RVCN of Shipments

A total of 106 shipment samples were tested for RVCN in February. Due to many factors, the RVCN of the shipments are higher. Truck shipments of 5305 were tested for RVCN on a call-in basis prior to release.

LABORATORY (Cont.)

RVCM of Shipments (Cont.)

<u>Product</u>	<u>5385</u>	<u>5425</u>	<u>5305</u>	<u>Dry Blend</u>
No. Samples	69	6	27	4
Average ppm RVCM	3.4	0.3	21.0	0.0
% of Samples over 10 ppm	7.2%	0.0	66.7	0.0

RVCM in Slurries

A total of 595 slurry samples were tested for RVCM in February. The overall average was 298 ppm VCM. The pound weighted average exceeded 400 ppm on four (4) days during the month.

RVCM of Blowdown Tanks

A total of 126 samples of blowdown water were checked for RVCM in February. The overall average was 12.2 ppm. Most of the samples were below 10 ppm but a few high samples raised the overall average.

RVCM of 5305 Dryer Samples

A total of 48 samples were tested from the regular Q.C. sample taken at the beginning of each batch. The average was 18 ppm. These results look rather low when compared to the shipment samples and would seem to indicate that the dryer samples were not representative of the entire production.

SPECIAL WORK

Plant Process Engineering Support

The following samples were tested in support of work done by the Process Engineers:

- 10 incinerator samples for VCM.
- 6 #1 pond samples for % solids.
- 6 API water samples for COD.
- 5 Inert gas samples for composition.
- 1 Sulfuric acid sample for purity.

Miscellaneous

Work was done to try to quantitatively measure the % plasticizer in compound. Reproducibility at present is $\pm 5\%$ relative.

Much repair work was required to keep the F-42 running. Repair parts are on order.

SURFACE TRANSPORTATION
 ABERDEEN DISTRIBUTION WAREHOUSE
February ACTIVITY REPORT, 1980

Shipment by Product - M/lbs.

	<u>FEBRUARY</u>	<u>Year-to-Date</u>
Resin	20634	37327
Plasticizer	0	43
Dry Blend	2127	4320
Compound	3998	6853
Total	<u>26759</u>	<u>48543</u>

Number of Shipment by Mode

	<u>R/C</u>	<u>O.T.</u>	<u>C.O.T</u>	<u>C.C.</u>	<u>TOFC</u>	<u>CPU</u>	<u>TOTAL</u>
Resin - Bulk	93	71		14			178
Package		1		2	4	7	14
Export - ABR		31					31
Plasticizer - Bulk							
Dry Blend - Bulk	9					10	19
Package		7				1	8
Compound - Bulk	9	12		2			23
Package		26		3		17	46
Export- Pkg		1					1
Back Hauls for February	<u>111</u>	<u>149</u>	<u>0</u>	<u>21</u>	<u>4</u>	<u>35</u>	<u>320</u>
		24		1			

Number of Shipment by Month-year-to Date

	<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>
January	104	55	72	0	4	2	36	273
February	111	83	66	0	21	4	35	320

CONOCO TRANSPORTATIONABERDEEN WAREHOUSE

<u>LOCATION</u>	<u>TOTAL M SQ. FT.</u>	<u>CONTENTS</u>	<u>ESTIMATED MM POUNDS</u>		
			<u>ON FLOOR</u>	<u>OPEN</u>	<u>TOTAL</u>
MAIN-East	48	Compounds	3.6		
		Dry Blend	.6		
		Export Resin	.2		
		Conoco Resin	.4	4.8	5.2
					10.0
Prairie 12-1	12	Resin	.7	.8	1.5
12-2	22	Resin	.		
		Export Resin	3.2	.3	3.5
12-3	21	Conoco	.		
		Export Resin	4.0		
			.	* 4.0	3.5
12-4	22	Conoco Resin	4.5		
		Resin O.G.	.	* 4.5	3.5
12-5	21	Mill Scraps	.		
		Compd O. G.	.7		
		Dry Blend O. G.	.1		
		Sifter Overflow	.2		
		Resin O. G.	.6	1.6	.9
					2.5
12-6	21	Compound	.1		
		Resin	2.7		
		Raw Material	.2	3.0	.5
					3.5
12-7	21	Resin O. G.	3.8	* 3.8	.5
					3.5
12-8	21	Conoco	4.6	* 4.6	.5
					3.5
		Sub-Total			35.0
		(Plug-Aisles)		*	2.9
Total	209	Total Conoco	30.2	7.7	37.9

SAFETY REPORT

	<u>February</u>	<u>Y. T. D</u>	<u>GRAND TOTAL SINCE L.T.A.</u>
Lost Time Accident	0	0	
Doctor Cases	0	0	
First-Aid Cases	<u>0</u>	<u>0</u>	
Man Hours Worked	2265	5157	146832

MATERIAL HANDLING REPORT

	<u>M/lbs.</u>	<u>T/L</u>
Packaged Resin From Production	6521	161
Packaged Compound, Dry Blend From Prod.	1539	38
Transferred From Main to Prairie	6480	160
Transferred From Prairie To Prairie	0	0
Reverse Transfer Resin to Plant	364	9
Reverse Transfer Cmpd. to Plant	40	1
Shipment From Warehouses	3969	98
Special Packaging	1296	32
Transferred From Prairie to Main	365	9
	<u>20574</u>	<u>508</u>

LABOR REPORT

Total Regular Hours	1638
Total Overtime Hours	<u>147</u>
Total Worked	1785
Paid But not Worked	<u>40</u>
Total	1825

Labor Efficiency Equals
20.6 MM/Lbs. - Hours Worked 11,526
Overtime% 8.0%

EQUIPMENT REPORT

Lift Truck Hours Worked 340
Gal of Fuel Consumed 541
Gals/Hrs 1.6

Lift Truck Efficiency Equals
20.6 MM/Lbs. - Hours Worked -60512 Lbs./hr

OFF-GRADE IN STORAGE

<u>MATERIAL</u>	<u>M/Lbs.</u>	<u>T/L</u>
Sifter Overflow	196	5
Resin "BC"	4106	101
Resin "H"	1807	45
Mills Scraps	44	1
Compound "B"	580	14
Compound "H"	0	0
Dry Blend "O.G."	63	2
Total	<u>6,796</u>	<u>168</u>

D.F. OPERATION

Total material in inventory increased this month from 26.7 MM/lbs. to 30.2 MM/lbs. this increase was due to packaged resin. Compound inventory dropped approximately .5 MM/lbs during February. Our export order for China for 5425-I was completed in February. At the present we do not have any export orders.

ABERDEEN RAIL CAR REPORT
SURFACE TRANSPORTATION DEPT.

AS OF 2/29/80

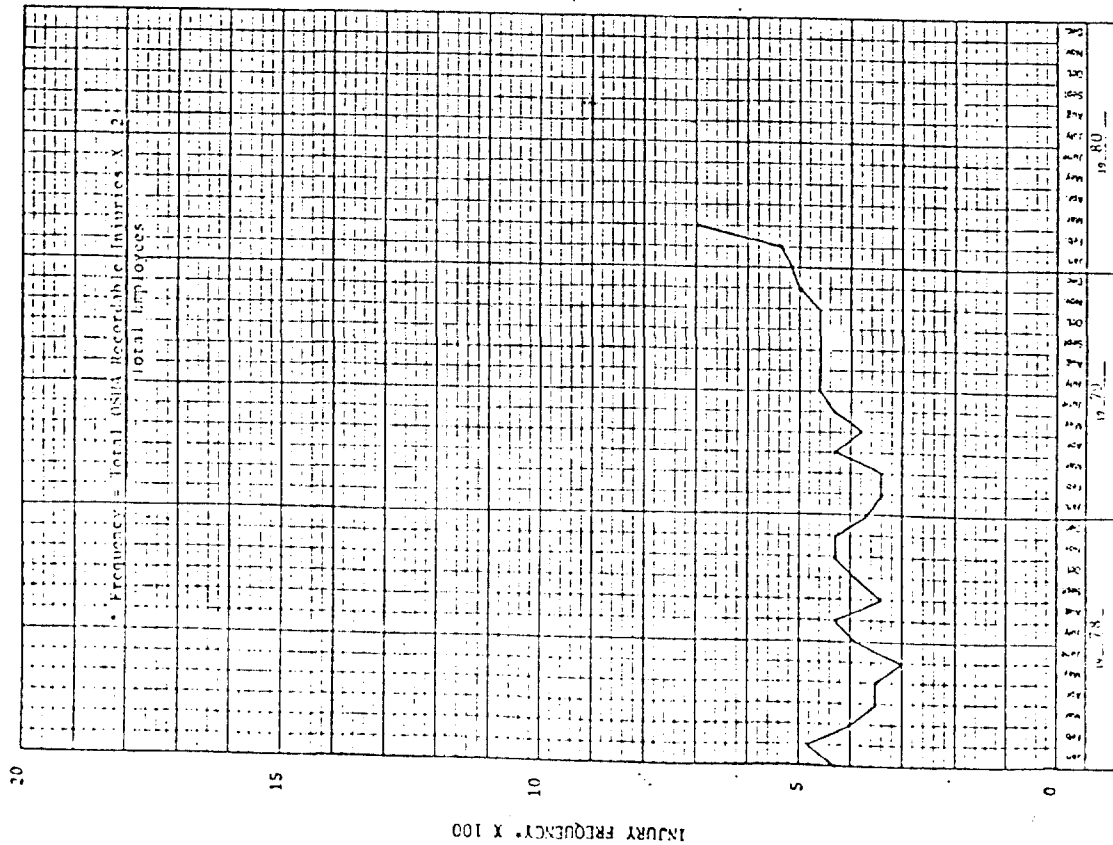
LIMITS	LOCATION	LOADED VCH	EMPTY HOPPERS	LOADED HOPPERS	OTHER LOADS	TOTAL
35	IN PLANT	<u>10</u>	<u>10</u>	<u>28</u>	<u>2</u>	<u>50</u>
25	MONROE LEAD	<u>40</u>	<u>15</u>	<u>2</u>	<u>6</u>	<u>63</u>
20	BINFORD			<u>21</u>		<u>21</u>
	ICG DOWNTOWN					
	TEXICO TRACK					
	SLSF ACROSS BRIDGE					
	STRONG					
30	PRAIRIE		<u>8</u>	<u>11</u>		<u>19</u>
50	EGYPT			<u>7</u>		<u>7</u>
	OTHER					
160	TOTALS	<u>50</u>	<u>33</u>	<u>69</u>	<u>8</u>	<u>160</u>

RECAP FOR MONTH

<u>2/8/80</u>	<u>31</u>	<u>35</u>	<u>78</u>	<u>7</u>	<u>151</u>
<u>2/15/80</u>	<u>36</u>	<u>40</u>	<u>69</u>	<u>7</u>	<u>152</u>
<u>2/21/80</u>	<u>31</u>	<u>32</u>	<u>76</u>	<u>7</u>	<u>146</u>
<u>2/25/80</u>	<u>41</u>	<u>35</u>	<u>78</u>	<u>8</u>	<u>162</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

ABERDEEN OSHA RECORDABLE INJURIES

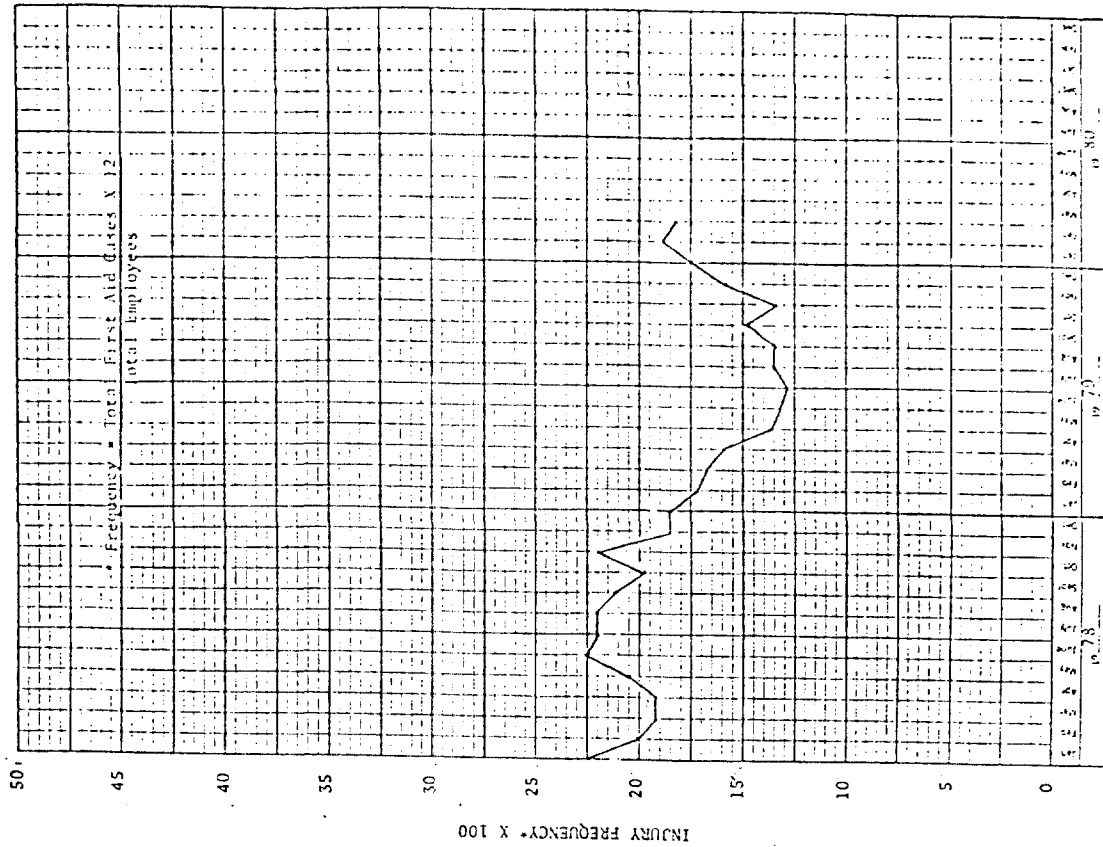
12 MONTH MOVING AVERAGE



INJURY FREQUENCY x 100

ABERDEEN FIRST-AID CASES

12 MONTHS MOVING AVERAGE



INJURY FREQUENCY x 100

MONTHLY HOURLY TURNOVER

%

10

9

8

7

6

5

4

3

2

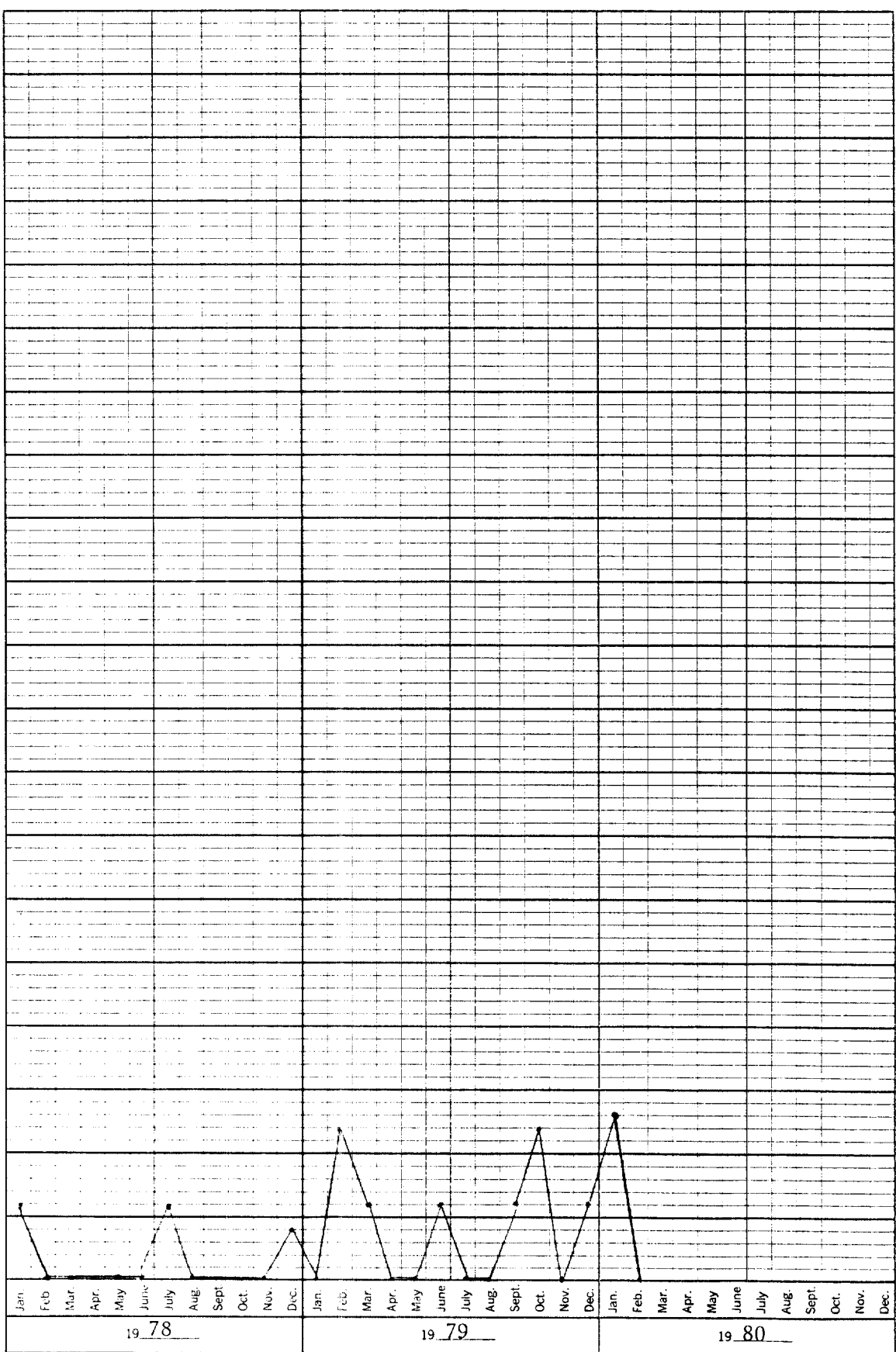
1

0

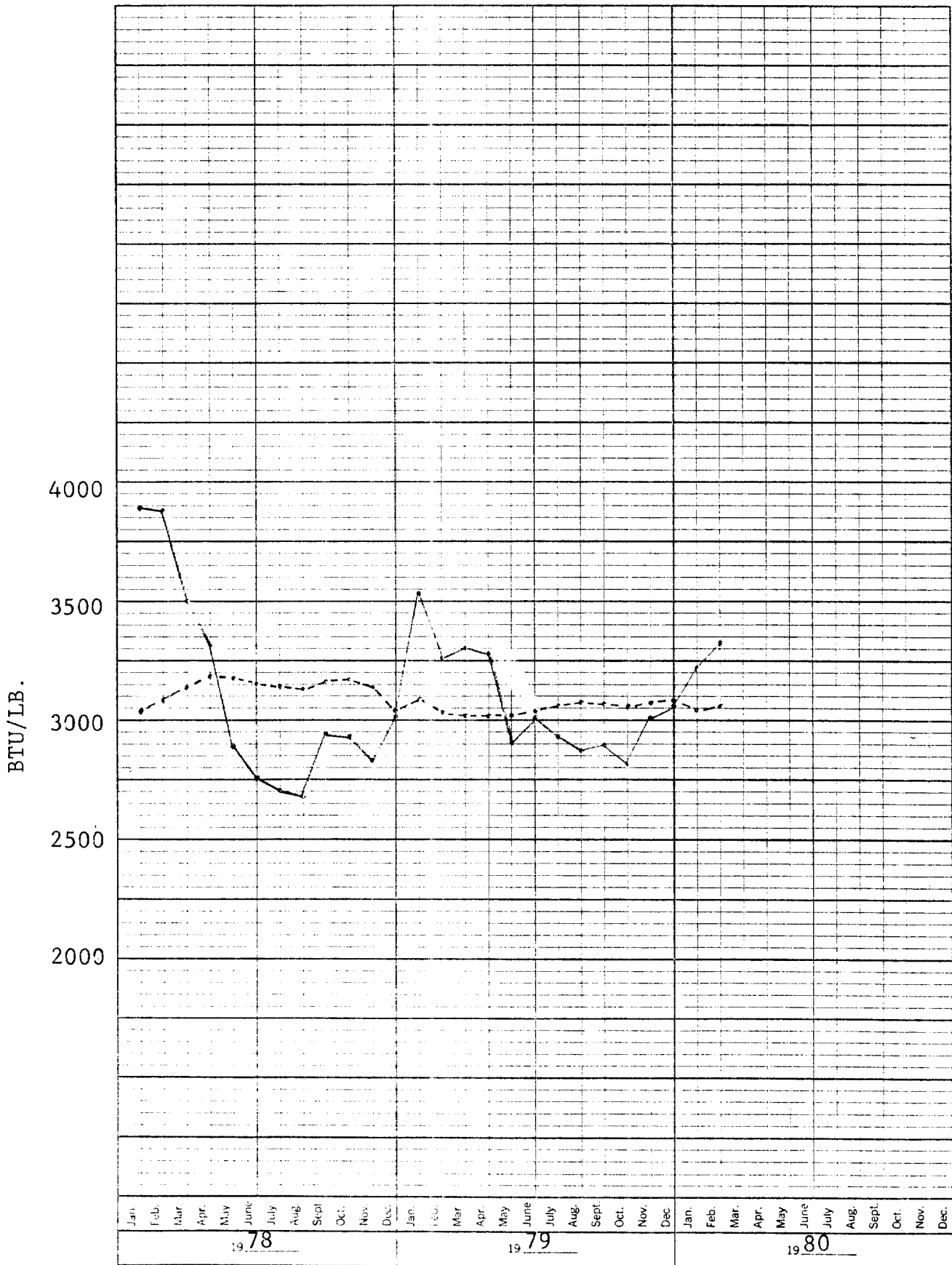
%

46 3290

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



ENERGY USAGE



Monthly

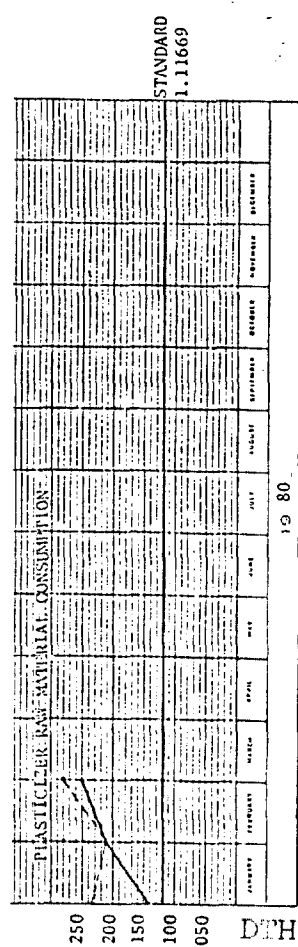
DTH 000043742

----- 12 Month Moving
Average

ABERDEEN PLANT EFFICIENCY

1980

POUNDS OF RAW MATERIAL/POUND OF PRODUCT



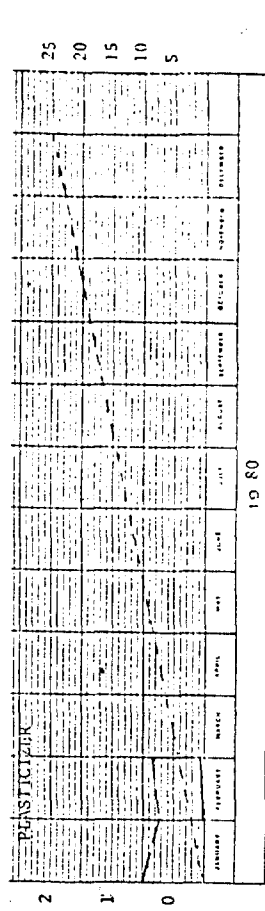
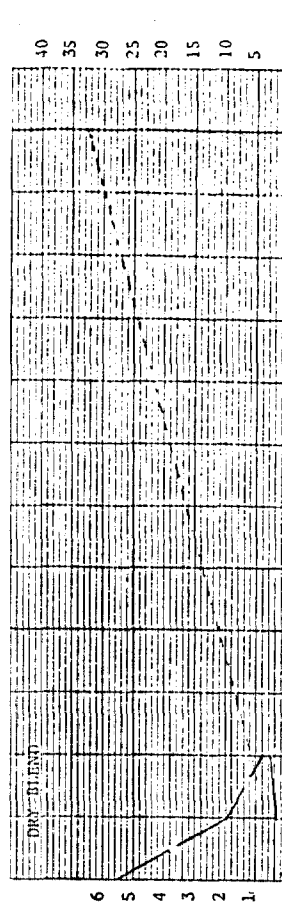
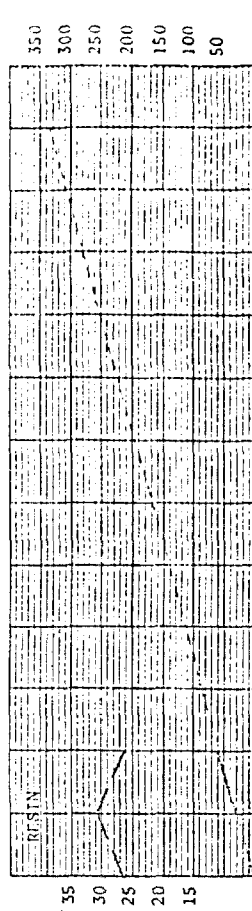
----- MONTHLY
----- CUMULATIVE

DIH 000043743

ABERDEEN PLANT PRODUCTION

MM POUNDS MONTHLY

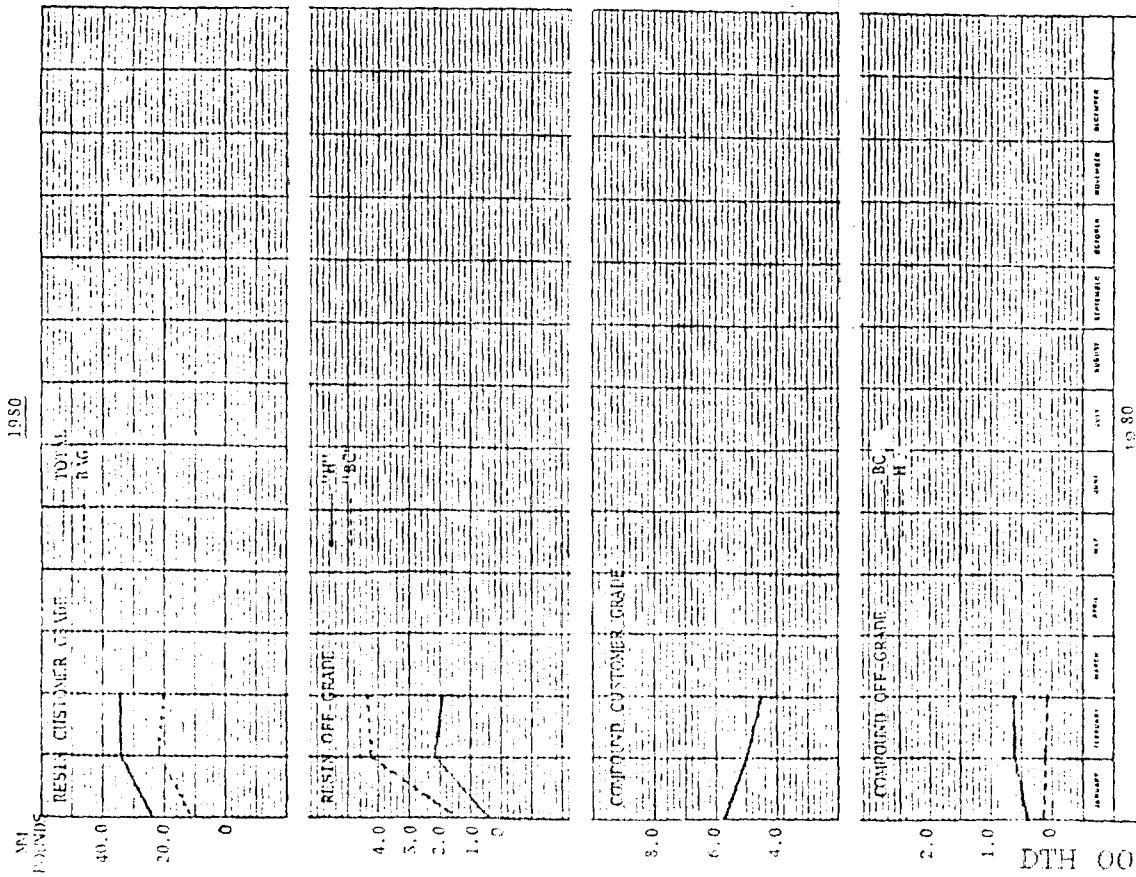
1980



----- EXPECT
----- ACTUAL
----- CUMULATIVE

ABERDEEN PLANT INVENTORIES

1980



ABERDEEN PLANT QUALITY PERFORMANCE

1980

