

SAFETY - A. H. Sather

OCCUPATIONAL INJURIES

<u>Injuries Treated</u>	<u>January</u>	<u>1980 Year-to-Date</u>	<u>1979 Year-to-Date</u>
First Aid	5	5	2
Medical Cases	0	0	0
Restricted Workday Cases	0	0	0
Restricted Workdays	0	0	0
Lost Time	0	0	0

Injuries by Department

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

Injuries by Type

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

As of January 31, 1980, the plant operated 210 days or 276,154 manhours without a disabling injury.

SAFETY AWARENESS

The initial plant emphasis of safety awareness using the films noted in the November and December Supervisory Workshop progress reports was completed early in the reporting period. Materials for the "Win With Safety" campaign were reviewed, ordered, and received during the reporting period. The plant plans to utilize the sports themes and hazard emphasis from this program. To supplement the material from the campaign, numerous films were reviewed and reserved as appropriate to support the safety awareness topic of the month.

EMPLOYEE SAFETY RESPONSIBILITIES PROGRAM

The second issue of part 1 of the Employee Safety Responsibilities slide and tape program was received and reviewed. Comments were given to M. S. Reynolds in early February. Initial photographic work was initiated with several rolls of slide film being processed.

SAFETY (Cont.)

LABORATORY FIRE PROTECTION

The carbon dioxide (CO₂) fire extinguishing system was installed in the laboratory chemical storage room. The system was tested for CO₂ concentration over a ten (10) minute period and accepted by the Safety Director. An operating procedure was issued to all laboratory Supervisors and Safety personnel.

LOSS CONTROL HOME STUDY COURSE

To improve injury control methods in the plant, the International Loss Control Institute's home study course "Management Guide to Loss Control" was issued to the Plant Manager, Department Heads and Safety personnel. Current plans call for work requirements to begin in at the end of February.

PHTHALIC ANHYDRIDE STORAGE TANK FAILURE

At approximately 2:15 a.m. on January 8, 1980, T-100, Phthalic Anhydride (P.A.) storage tank failed. At the time of failure, GATX 14180 was in the final stage of unloading. An investigation team composed of L. D. Honeycutt, Yard Supervisor, J. R. McCrimon, Compound Operations Superintendent, and A. H. Sather, Safety Director, reviewed the incident and issued its findings and recommendations on January 18, 1980. All available evidence indicated the cause to be overpressure due to a plugged atmospheric vent.

OSHA COMPLIANCE

Numerous activities in the area of OSHA compliance occurred during the reporting period and include:

- A. VCM and lead training.
- B. Health testing by American Health Profiles.
- C. Ventilation improvements in the compound color weigh room were completed.
- D. Routine personnel monitoring, the results of which are shown below along with a brief explanation of overexposures.

VCM Dosimetry - A total of 85 samples were analyzed for the reporting period with two (2) indicating overexposure. Below is a summary table of the results and a brief explanation of overexposure.

<u>Range (ppm)</u>	<u>Number</u>	<u>Percent</u>
0.0 - 0.5	81	95.3
0.5 - 1.0	2	2.35
1.0 - 5.0	2	2.35
5.0+	0	0.00
	<u>85</u>	<u>100.00</u>

SAFETY (Cont.)

OSHA COMPLIANCE (Cont.)

Overexposures - The two (2) overexposures occurred to Vinyl Chief Operators. The source of one of the overexposures is undetermined at this time and the operator did not wear a respirator. The other operator indicated that he wore a respirator while working on recovery systems.

Lead Dosimetry - The results for a total of twenty-one (21) samples were received during the reporting period all indicating exposures less than the permissible exposure limit (PEL).

VINYL - C. R. Miller

<u>Production</u>	<u>Month</u>	<u>Y.T.D.</u>	<u>Budget</u>
1. Total Production, MM#'s	30.3	30.3	
2. Production Rate, M#'s/C.D.	977	977	918
3. Charges, Reactor Batches/C.D.	22.7	22.7	
4. Total Charges	705	705	
5. Reactor Stream Factor, %	90.4	90.4	
6. Drying Rates, Average #'s/Hr.	6243	6243	
7. Dryers, Stream Factor, %	93.1	93.1	
8. Accounting Days	31	31	

Vinyl department production for the month was 106% of budget at 30.3 MM pounds. This monthly total represents a new monthly production record which surpasses the previous record of 28.8 MM pounds set last October.

Dryer performance was up from December with a 93.1% stream factor. The major items affecting the dryer performance were maintenance on the centrifuges (49 hours), and activators (38 hours) and the limitations caused by the large resin bagging requirements.

Vibration studies and operating revisions were conducted in the new reactor module during January. Testing was completed on several steam nozzles. One of the more promising nozzles was installed in 741 reactor for longer term testing in normal service.

A plant test run utilizing the new 5305 chain transfer agent was conducted during the month. Representatives of the Resin Development Group from Ponca City were on hand for the trials. Preliminary results were very favorable. The material produced is currently being processed into dry blend for customer trials.

Resin bagging continued at maximum rates due to low inventory of empty hopper cars. Rates often exceeded 500 M pounds per day with a total of 12.5 MM pounds of resin packaged during the month.

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	1,332,690	(4,500)	79,750	4.7
5385	21,854,312	1,481,250	535,250	78.9
5425	4,455,805	42,750	201,750	15.5
5465	71,450	-	(2,400)	0.2
Sifter Overflow	-	-	225,160	0.7
TOTAL	27,714,257	1,519,500	1,039,510	100.0

VINYL (Cont.)

Quality performance for the month of January was 90.8% customer grade with 5.5% "BC" and 3.7% "H" grade. The high "BC" and "H" grade reported results from resin moisture and revised particle size grading of bagged resin blends. This off-grade total reflects the increased packaging of resin from the budgeted 4 MM pounds to the actual 12.5 MM pounds packaged.

The variable cost variance for the vinyl department was (\$311.7 M) with (\$517.8 M) due to price and \$206.1 M due to efficiency. The major price variance was (\$300.2 M) for VCM. The major efficiency variances were \$12.6 M for VCM and \$13.5 M for combined initiators.

The raw material requirement for the month was 1.01801 pounds VCM/pound of PVC versus a 1.02000 standard.

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	885	55	885
Line V, M Pounds	194	16	194
Line III, M Pounds	1,877	87	1,877
Total, M Pounds	2,956	158	2,956
Accounting Days	31		31

Line I operated 16 days during January at an average rate of 55 M pounds per day. Major items affecting production efficiency were product changes (28.7 hours), maintenance on blender scales (14.1 hours), dicing delays (8.9 hours), maintenance on pellet star valve (7.4 hours) and quality control (5.1 hours). Line I produced material for customer orders and to replenish packaged compound inventory.

Line V operated 12 days during January at an average rate of 16 M pounds per day. Major items affecting production efficiency were maintenance on the Orbitran (31.6 hours), plugged pellet transfer line (34.5 hours), product changes (17.3 hours) and changing screw configuration (17.1 hours). Production included 27121 Blk., 17461 Gry. 545, 34431 Nat., 18161 Gry 545, 18961 Gry. 545, 35441 Nat., 38551 Nat., and 48562 Blk. The major problem with product quality has been hard particles. Werner-Pfleiderer and PAL personnel have been assisting in the Line V operation.

Line III operated 21 2/3 days during January at an average rate of 87 M pounds per day. Line III production was hindered by product changes (45.7 hours), maintenance on mill coupling (110.2 hours) and plugged sewer due to P.A. spill (7.0 hours). The FCM gearbox was also repaired during the downtime required for the mill coupling replacement. Line III will be on a 7 day schedule during February.

Quality performance for flexible compounds was 1.9% off-grade of which 71.7% was due to mill scrap. "BC" production was 4.2%.

The raw material requirement for flexible compounds was 1.00984 pounds of raw material per pound of compound versus a 1.01299 standard. (Y.T.D. is 1.00984.) The lower raw material requirement is due to reworking Line V "BC" material on Line I.

The variable cost variance for compound was \$7.4 M with \$7.3 M due to price and \$0.1 M due to efficiency. The variance due to product mix was (\$26.6 M). The only major efficiency variance was \$11.7 M for resin which reflects reworking of Line V "BC" material on Line I. There were no major price variances.

COMPOUND (Cont.)

<u>Dry Blend</u>	<u>Month</u>	<u>M #'s/Day</u>	<u>Y.T.D.</u>
Production, M Pounds	1,863	160	1,863
Accounting Days	31		31

Dry blend operated 11 2/3 days during January at an average rate of 160 M pounds per day. Production included 80172B, 80273G, and 80274. Dry Blend production was reduced by the inventory control program. Quality performance for the month was 99.99% customer grade.

The raw material requirement for dry blend was 1.00301 pounds of raw material per pound of dry blend versus a standard of 1.00318. (Y.T.D. is 1.00301.)

The variable cost variance for dry blend was \$35.2 M with \$37.4 M due to price and (\$2.2 M) due to efficiency. The variance due to product mix was \$21.8 M. There was only one major price variance \$33.4 M for organo-tin stabilizers and no major efficiency variances.

<u>Plasticizer</u>	<u>Month</u>	<u>M #'s/Day</u>	<u>Y.T.D.</u>
Production, M Pounds	251	42	251
Accounting Days	31		31

Plasticizer operated 6 days during January at an average rate of 42 M pounds per day. Production included 610P, DOP and DIDP.

VRP production totaled 7.0 M pounds (2.5%). Production was limited by the failure of T-100 which was a molten phthalic anhydride storage vessel. Engineering is in progress for the installation of a new pressure vessel replacement for T-100. The new installation is scheduled for completion in late February.

Due to sufficient inventory of 610P and DOP, bag charging with flake phthalic anhydride has been minimized. DIDP has been purchased from EXXON.

The raw material requirement for plasticizer was 1.2116 pounds of raw material per pound of plasticizer versus a 1.09087 standard. (Y.T.D. is 1.21166.)

The variable cost for plasticizer was (\$12.9 M) with (\$1.4 M) due to price and (\$11.5 M) due to efficiency. There were no major price or efficiency variances.

GENERAL

Total customer grade compound inventory decreased to 5.0 MM pounds during January.

Three sample compounds were produced during the month: ADK-3972-134A; ERC 3711-75C; JRT-3866-195.

MECHANICAL - S. J. Vincent

VINYL

There were no large reactor seal failures this month. There was one large reactor condenser cleaned during this period. The condenser was on the D-400 reactor. There was one gearbox failure this month. This failure was to the intermediate gear shaft on the D-400 gearbox. The safety discs were replaced on the D-400 reactor and condenser. There were several steam stripping tests conducted in the 742 reactor using steam dispersing nozzles drilled to various hole configurations. Various plant people followed the tests. The AMP meter was replaced on D-400 reactor.

Reactor and recovery system valves replaced this month were the suction and discharge valve on "A" recovery compressor, the recovery valve on the 743 reactor and the kill valve on the 742 reactor. The VCM meter was cleaned in the old module. Several problems with the incinerator ignitor and water totalizer were repaired.

There were ten (10) mechanical seals repaired this month on pumps and compressors in the vinyl production area. Six of the seals replaced were in the old unit and four (4) were in the new unit. The seals replaced in the old unit were the outboard seal on "B" vacuum pump, the inboard seal "A" vacuum pump, and the seal on the west VCM charge pump. The pump was overhauled and the seal replaced on the east VCM charge pump. The outboard seal on the "B" recovery compressor and the seal on the west VCM transfer pump were also replaced. Seals replaced in the new unit were the inboard seal on the 905 recovery compressor, and the seal on the west RVCN charge pump. A new vacuum pump was installed in place of the 902 vacuum pump and the old unit was overhauled for use as a spare. The inboard seal on the 904 recovery compressor was replaced.

There were four P.M. inspections to the vinyl dryers and seven major repairs to vinyl dryer equipment. The dryers inspected were the numbers 2, 4, 5, and 8 units. Major repairs were completed as follows: the southwest trunion was replaced on #5 dryer, the Bird and gearbox were changed on #8 and a baffle rewelded in #8 dryer. The Bird and gearbox were changed on #2, the vibrator chute welded on #2, the #2 air lock rebuilt and the collector level alarm was repaired. Three Bird centrifuges were cleaned. The units cleaned were #1, 2, and 8. The spare Bird centrifuge was rebuilt.

The engine was replaced in the vinyl fork truck. A new two inch vent header was installed from the new reactor area to the old unit blowdown tank. The drain piping on the old unit knockout drums was changed from 1" to 2" piping and valves. The receiver deluge line in the old reactor area was rerouted to provide better access to equipment.

MECHANICAL (Cont.)

COMPOUND, DRY BLEND, PLASTICIZER AND SILO STORAGE

There were three major repairs completed to compound line III during a plant shutdown this month. The repairs were to the FCM gear reduction unit, the drive coupling on the back mill roll and replacement of the front mill roll "O" ring. Other repairs completed during this down period consisted of minor leak repairs and replacing a section of cooling water return line and the overhaul of #5 vacuum pump. The gear reduction unit was sent to a Memphis machine shop for repair. All bearings were replaced and the line bore checked on the gear case. This unit has major gear problems and will require replacement in the near future. The drive coupling failed on the back mill roll. A replacement coupling would have required 22 weeks to manufacture. The plant machinists and a local machine shop fabricated an adapter to allow replacement of this coupling using a standard Falk coupling. The "O" ring replacement is a reoccurring problem associated with wear on the unit. The compound Lines I and V were operated on a limited basis and required no major repairs. Minor revisions to the cooling transfer line and the bag drop chute were completed as a part of the modifications and debugging of compound Line V. There were no major repairs this month in the dry blend and plasticizer units. Some repairs consisted of steam leak repairs, cleaning pumps, and rebuilding the phthalic anhydride charge pump. As a result of the failure of one of the phthalic anhydride storage tanks, six motors were repaired.

There were several repairs in the silo storage area. The major repair was to the resin transfer unit. A clutch and one blower were replaced. Most of the other repairs were to unplug lines and to replace loading chutes. Several of the silo level indicators were repaired.

UTILITIES AND SERVICE

Major repairs to the plant air systems were completed as follows: valves were replaced in the #2 compressor and the motor was overhauled. The #5 compressor was overhauled and inspected and a head gasket leak repaired on #6 compressor. The new Joy air compressor, the second centrifugal unit, was checked out and placed in service. The new Deltech instrument air dryer was placed in service. The refrigeration mechanic changed out the #4 catalyst freezer compressor and repaired a leaking condenser tube on the Line III chiller. The propane system was tested three times and the plant operated on propane for 25 1/2 hours.

MAINTENANCE PLANNER AND MISCELLANEOUS PROJECTS

The planner issued 24 registers for contracted outside repair of equipment, processed 26 statements for payment, planned 52 work orders and ordered material for 17 of the planned work orders. The planner set up a system to review material on order working through the purchasing department. Shutdown lists were updated for each process area and the safety valve and safety disc records were reviewed and updated. A summary of reoccurring equipment repairs was compiled from the equipment history files and issued for comments.

MECHANICAL (Cont.)

SAFETY PROJECTS AND ESAR ITEMS

New lifting devices were installed on the plasticizer reactor to support the vent stacks when changing safety discs. New welding curtains were installed in the maintenance welding shops. The walkway to the V-11 dryer burner controls was decked to provide a dry work area when working on the controls.

There were several projects completed involving relocation and the installation of lighting. The medical surveillance trailer was provided with utilities for operation.

PERSONNEL - J. L. Carter

EMPLOYMENT

Bernard Lloyd - Process Engineer (Temporary)
Arthur Cunningham - General Helper (Reinstated)
Douglas Vogue, Casual Labor
Vernetta Peters, Casual Labor
Daniel Darby, Casual Labor
Alonzo McKnuckle, Casual Labor
Aaron Dobson, Casual Labor
William Caldwell, Casual Labor
Michael Clopton, Casual Labor
Larry Hubbard, Casual Labor
Eugene Mays, Casual Labor

TO/FROM LEAVE OF ABSENCE

None.

TRANSFER/PROMOTION

John R. Williams, Lab Shift Supervisor, promoted to Quality Control Supervisor
Billy P. Sizemore, Lab Lead Technician, promoted to Lab Shift Supervisor
James D. Wells, "A" Lab Technician, promoted to Lab Lead Technician
Robert E. Stone, Vinyl Lead Operator, promoted to Vinyl Chief Lead Operator
J. D. Sims, Vinyl "A" Operator, promoted to Vinyl Lead Operator
Cleveland Brown, Vinyl Utility, promoted to Vinyl "A" Operator
Robert Newman, General Helper, promoted to Vinyl Utility

RETIREMENT

None.

TERMINATION

Robert McNabb, Casual Labor
Terry Metcalf, Compound Utility
Ricky Rea, Casual Labor
Johnny Sharp, Co-Op Student
James Sykes, Compound Utility

DEATH/DISABILITY

None.

OTHER

During the month of January there were 13 casual labor employees on payroll. Total hours worked were 1926. The bulk of these employees were utilized for bagging resin.

CONOCO CHEMICALS
Aberdeen, Mississippi

January 1980
MONTHLY PERSONNEL REPORT

Salaried Employees 78*
Hourly Employees 155
Total Employees 233*
Employees (Hourly)
New Employees -
Terminations 2

Minority Employees # %
Salaried 7** 9%**
Hourly 60 39%
Total 67** 29%**
Hourly Min. Hired 0
% Min. Hired 0
Hourly Min. Term. 1
% Min. Term. 50%

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>1</u>	<u>1</u>	<u>11%</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>35</u>	<u>28</u>	<u>80%</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>2.8%</u>	<u>2.8%</u>
Vinyl	<u>32</u>	<u>33</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 33 Year to Date 33

APPLICANT BREAKDOWN:

Minority 25 % Minority 76%
Female 4 % Female 12%

Hires (Hourly) :

Month - Year to Date -

Terminations (Hourly) :

Month 2 Year to Date 2
1.3% Hourly - 0 - Salaried
Overall Turnover .9%

Projected Annual Turnover 15%

*Includes two (2) temporary employees.

**Includes one (1) temporary employee.

OVERTIME AND ABSENTEEISM

January 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	1678.25	118.00	32.00	8.9%	0	0	0	0
Maintenance	7329.25	379.50	8.00	5.3%	96	100%	0	1.3%
Laboratory	3854.75	405.75	108.00	13%	24	100%	0	.6%
Compound	6114.00	682.00	200.00	14%	440	100%	0	7.2%
Vinyl	6711.75	750.00	216.00	14.4%	176	91%	9%	2.4%
Plasticizer	706.00	18.75	2.75	3%	0	0	0	0
Utility Boiler House	816.00	13.50	24.00	4.6%	0	0	0	0
General Plant	1111.00	149.75	0	13.5%	0	0	0	0
Total	28321.00	2517.25	590.75	11%	736	98%	2%	2.6%

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 000043798

PROCESS ENGINEERING - R. A. Frohreich

A. Specialty Compound Line

The specialty compound line operated intermittently during the month of January. Basic problems with the weigh-up system logic controller have been resolved by MED and plant maintenance personnel. The production of customer samples has been hindered due to a quality problem of hard particles in the finished compound. Variations in operating conditions and screw configurations have not yet solved the problem. Representatives from Werner-Pfleiderer Corporation and the PAL group in Ponca City will be in the plant in February to work on this problem. Plugging of the pellet transfer line from the pelletizer has also been encountered. Werner-Pfleiderer has been advised of the problem and their recommendation on how to correct it is expected by the end of February.

B. Resin Expansion Project

The revised Class "A" process design for the PVC rail storage silos was issued. Representatives from Litiwin Engineers and Constructors, Inc. visited the plant. The review of bid tabulations for equipment items is continuing.

C. Deltech Air Dryer

Installation of the Deltech air dryer was completed and the unit started up in early January. Some mechanical problems have been encountered with the operation of the unit. Engineering is working with Deltech to correct the problems.

D. Joy Centrifugal Compressor

The new Joy centrifugal air compressor was started up and is operating smoothly.

E. Dissolved Air Flotation Tests

Dissolved air flotation tests on the effluent from the API separator are continuing. To date, dissolved air flotation has only reduced the BOD content by about 15%.

F. Resin Reclaim System

A test run to dry resin from the concrete settling basins will be conducted in late February. The process design for the proposed resin reclaim system is being prepared.

G. Calcium Stearate Addition System

The Class "A" process design for this project is being prepared and will be issued in February.

PROCESS ENGINEERING (Cont.)

H. Inline Methocel Analyzer

The Class "A" process design for installing a continuous analyzer on the methocel charge tank in each module is being prepared and will be issued in February.

I. Dryer Remote Lighting Operating Procedure

The operating procedure for the dryer remote lighting system was issued in January.

J. Centrate Rinse Water System

A test run using centrate water for rinse water in the reactors is planned for late February.

K. Boiler Economizers

The Class "A" process design to install economizers in the boiler stacks is being prepared and will be issued in February.

L. Phthalic Anhydride Handling Improvements

The Class "A" process design for this budget item is being prepared.

M. API Clean Water By-Pass

A process design to divert clean water now going into the API separator is being prepared. Decreasing the flowrate through the API separator will decrease the organic loading on the secondary waste treatment system.

N. Reactor Vibration Tests

Process Engineering is assisting the operations department in measuring reactor vibration during steam stripping. Various steam injection nozzles and steam flow rates are being tested.

ENVIRONMENTAL - V. E. Messick

I. Particulates

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

II. Water

BOD and COD levels in the plant waste treatment outfall exceeded the limits of the NPDES permit once during the month. The excursion resulted from a phthalic anhydride tank rupture. Phthalic anhydride from the spill entered the secondary waste treatment system through the process sewers biologically overloading the system.

Results of a December bioassay test showing compliance with the NPDES permit were forwarded to the state.

III. Miscellaneous

The Spill Control and Countermeasure Plan for the plant was updated and issued.

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	6.8-8.5	7.7-8.0
Max.	941	131	1342	216	2214	13	143		
Feb. - Ave.									
Max.									
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 January was 114.09 MMM BTU's. The energy consumption per pound of product increased from 3058 BTU/Lb. to 3214 BTU/Lb. but was 9.9% lower than in January, 1979.

II. PLANT ENERGY CONSERVATION PROGRAM

A. Steam Leaks

Twenty-seven (27) steam leaks were repaired in January.

B. Energy Reporting

The energy report for the 4th Quarter of 1979 was completed and issued in January. The plant had a 27.0% energy savings compared to the 1972 base year. After adjusting for EPA and OSHA projects, the plant energy savings were 40.3% compared to the 1972 base year.

ENERGY CONSERVATION DATA

<u>ITEM</u>	<u>1979</u>	<u>1980</u>
<u>Control Period</u>	<u>January</u>	<u>January</u>
<u>Production, MM Lbs.</u>		
Resin	21.1	30.3
Dry Blend	6.6	1.9
Compound	3.6	3.0
Plasticizer	1.1	0.3
TOTAL	32.4	35.5

Natural Gas

Consumption, MSCF	56200	59554
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	57.324	60.745

Electricity

Consumption, MM KWH	4.867	5.1456
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	48.670	51.456

Propane

Consumption, M Gal.	91.700	20.544
Conversion, BTU/Gal.	92000	92000
Energy Consumption, MMM BTU	8.436	1.890

Total

Energy Consumption, MMM BTU	114.430	114.091
Energy Consumption , BTU/Lb.	3532	3214

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	423	389	98	19
No. 2	410	413	105	20
No. 3	463	418	121	22

MECHANICAL ENGINEERING - J. A. Dixon

AFE'S SUBMITTED, APPROVED AND CLOSED

The following AFE's were submitted and approved in January:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9510	Miscellaneous Projects Under \$10,000	\$150,000
9520	Replacement Phthalic Anhydride Tank	75,000
9530	Spare Incinerator	650,000

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

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9208	Spare Recovery Vacuum Pump	\$ 14,000
9029	Repair of Steam Tracing & Insulation	62,000
9069	Centrifuge Rotors Repair	47,000

A completion report was issued during January for the following AFE:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9197	Dryer Area Noise Abatement	\$ 45,000

DESIGN

Contracts were let for insulation of the new dryer ducts, painting of the new Joy compressor and piping, and rental of IBM copier.

Design work is in progress on the following projects: Replacement Phthalic Anhydride Tank, Diking of Sphere and Curbing of Drum Storage Areas, Line V Modifications, Reactor Vibration Monitoring, Line III Weigh System, Methocel Charge Revisions, Double Block Valves for VCM Charge, and Reactor Inert Vent System.

CONSTRUCTION

1. The new 800 HP Joy air compressor project was placed on stream during the period.
2. The plant winterization projects were completed.
3. The new instrument air dryer project was placed on stream during the period.
4. The air header for the building ventilation system is complete.
5. The concrete repair work in the old module is complete.

MECHANICAL ENGINEERING (Cont.)

CONSTRUCTION (Cont.)

6. A roof drain was installed for the guardhouse.
7. Demolition work of the phthalic anhydride storage tanks is complete.
8. The two rental air compressors were returned to the vendors during the period.
9. The repair of the middle railroad lead is complete.
10. The mapping of the cracks in the new reactor support structure was completed by CED.
11. The hydroquinone back pressure controller was installed.
12. The installation of the concrete receiving dock steps was completed.
13. The jacketed piping for the new phthalic anhydride tank was completed.
14. T-400 phthalic anhydride charge tank was inspected to determine the extent of the repair work required.
15. Construction is in progress on the following projects: compound dock extension, color weigh room modification, phthalic anhydride tank replacement, handrails for plasticizer building, compound roof handrails, repair of T-400 charge tank, modification of Line V cyclone screen, repair of Line I wall, pipe bracing and support modifications in the new module, installation of vibration monitors, air sparging of blend tanks 646 and 647, dryer operation improvements, new air compressor, instrument air dryer, and silo isolation valves.
16. Ten annual time and material contracts were issued during January.
17. Forty-eight register tickets were issued in January.

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	56,731	60,000	0	3/80	6/80	Installation scheduled.
9307	Compound Project Conveying Lines	12/14/77	50,000	49,287	49,369	49,369	631	11/79	3/80	Closed to field charges.
9098	New Compound Line	4/17/78	2,050,000	2,065,821	2,085,494	2,101,962	(51,962)	12/79	3/80	Closed to field charges.
9148	Plasticizer Chemical Exposure Abatement	8/21/78	152,000	134,112	140,351	152,000	0	4/80	7/80	Revisions in progress.
9158	Fire Protection Improvements- Phase I	9/19/78	176,000	73,798	107,985	176,000	0	6/80	9/80	Evaluating bids.
9178	Propane Vaporizer Replacement	9/21/78	175,000	174,051	174,051	174,051	949	10/79	3/80	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	0	14,633	14,633	(633)	1/80	3/80	Closed to field charges.
9228	Dry Blend Silo Alarms	12/13/78	25,000	4,392	4,602	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	233,373	248,979	315,000	0	3/80	6/80	Installation proceeding.
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	120,786	122,231	122,231	2,769	12/79	12/80	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	5,232	14,933	15,000	0	10/79	6/80	Closed to field charges.
9559	Color Weigh Room Modifications	4/19/79	25,000	658	15,460	25,000	0	3/80	7/80	Installation in progress.
9569	Miscellaneous Projects Under \$10,000	5/8/79	125,000	56,520	127,397	127,397	(2,397)	12/79	3/80	Closed to field charges.
9589	Instrument Air Dryer	5/30/79	110,000	79,526	81,927	110,000	0	2/80	5/80	Project operational.
9609	Reactor Inert Vent System	6/28/79	90,000	2,913	8,460	90,000	0	6/80	9/80	Engineering in progress.
9619	Waste Water Revisions-Part I	7/3/79	140,000	135,352	137,131	140,000	0	1/80	4/80	Project operational.
9629	Air Compressor	7/9/79	340,000	51,054	223,993	340,000	0	6/80	9/80	Project operational.
9639	Revisions to Emission Recovery System	7/12/79	100,000	14,359	18,350	100,000	0	6/80	9/80	Engineering in progress.
9649	Double Block Valves for VCM Charge	7/18/79	182,000	20,550	64,983	182,000	0	6/80	9/80	Installation in progress.
9659	P.A. System Modifications	7/10/79	35,000	15,796	21,760	35,000	0	6/80	9/80	Engineering in progress.
9669	New Air Header	8/15/79	25,000	3,953	13,353	25,000	0	4/80	7/80	Installation proceeding.
9679	Plant Winterization	9/5/79	64,000	60,138	60,138	64,000	0	3/80	6/80	Priority items completed.
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	3/80	6/80	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.
9530	Spare Incinerator	1/23/80	650,000	0	0	650,000	0	1/81	4/81	Engineering in progress CED.

ABERDEEN AUTHORIZATIONS REPORT

<u>AUTH.</u> <u>NO.</u>	<u>CAPITAL (Cont.)</u> <u>DESCRIPTION</u>	<u>DATE</u> <u>APPROVED</u>	<u>AUTH.</u> <u>AFE AMT.</u>	(1) <u>EXPENDED</u> <u>TO DATE</u>	(2) <u>COMMITTED</u> <u>TO DATE</u>	<u>FINAL</u> <u>TOTAL EST.</u> <u>COST COMP.</u>	<u>UNDER</u> <u>(OVER)</u> <u>AUTH. AMT.</u>	<u>EST.</u> <u>COMP.</u> <u>DATE</u>	<u>EST.</u> <u>CLOS.</u> <u>DATE</u>	<u>REMARKS</u>
9739	Methocel Charge Revision	10/3/79	66,000	0	0	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	0	1,153,794	11,150,000	0	7/81	10/81	Engineering in progress.
9769	Automatic Setback Thermostats	12/31/79	3,000	0	0	3,000	0	6/80	9/80	Thermostats on order.
9510	Miscellaneous Projects Under \$10,000	1/3/80	150,000	0	7,587	150,000	0	12/80	3/81	Thirteen projects approved.
9520	Replacement Phthalic Anhydride Tank	1/17/80	75,000	0	23,709	75,000	0	6/80	9/80	Fabrication in progress.

ABERDEEN AUTHORIZATIONS REPORT

<u>AUTH.</u> <u>NO.</u>	<u>EXPENSE</u> <u>DESCRIPTION</u>	<u>DATE</u> <u>APPROVED</u>	<u>AUTH.</u> <u>AFE AMT.</u>	(1) <u>EXPENDED</u> <u>TO DATE</u>	(2) <u>COMMITTED</u> <u>TO DATE</u>	<u>FINAL</u> <u>TOTAL EST.</u> <u>COST COMP.</u>	<u>UNDER</u> <u>(OVER)</u> <u>AUTH. AMT.</u>	<u>EST.</u> <u>COMP.</u> <u>DATE</u>	<u>EST.</u> <u>CLOS.</u> <u>DATE</u>	<u>REMARKS</u>
9019	Repairs to Large Reactor Gearbox	7/7/79	22,000	23,598	23,598	23,598	(1,598)	12/79	3/80	Closed to field charges.
9029	Repair of Steam Tracing & Insulation	9/5/79	62,000	68,054	68,054	68,054	(5,954)	1/80	4/80	Closed to field charges.
9049	Repairs to Dryer Inlet Ducts	9/13/79	25,000	16,140	18,604	25,000	0	3/80	6/80	Insulation in progress.
9069	Centrifuge Rotors Repair	9/13/79	47,000	21,312	53,282	53,282	(6,282)	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	2,898	10,441	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>
Tridyn	5385	Moisture	Under Investigation
Carlton, IA	5305	Moisture-Frozen Resin	Under Investigation

WAIVERS RECEIVED

<u>Date</u>	<u>Identification</u>	<u>Product</u>	<u>Customer</u>	<u>Reason</u>	<u>Waived By</u>
1/4	PLCX 42674	5425	Intex	Viscosity	ELK
1/8	PLCX 42904	5385	Charlotte Pipe	Particle Size	CLS
1/11	CONX 45309	5385	Charlotte Pipe	Particle Size	ELK
1/11	PLCX 43703	5385	Houston Terminal	Particle Size	ELK
1/11	PTLX 41827	5385	Houston Terminal	Particle Size	ELK
1/15	PTLX 41600	5385	LCP	Particle Size	ELK
1/15	CONX 45258	5425	Southwire	Particle Size	ELK
1/17	PTLX 41624	5385	Can-Tex	Color	CLS

PRODUCT DEVELOPMENT AND SERVICE

<u>Ship Date</u>	<u>Product</u>	<u>Quantity (Lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
1/15	38931 Nat.	50	The Okonite Co.	RNG
1/15	34431 Nat.	100	Medgenco	CLS
	34641 Nat.	50	Cairo, Egypt	
	38931 Nat.	50		
1/17	90171 DB	40	Conoco, Inc	CJM
1/21	5385-I	100	Genesco	JFN
1/22	5305	2	St. Regis Paper Co.	NTH
1/24	5305	300	Conoco Chemicals Co.	
	5385-I	300	Export	
	5385-III	300	Export	
	5425	300	Export	
	5465	300	Export	
1/22	5425	10	Triangle PWC Inc.	RNG
1/29	5385-I	5	Tarola International	RTM
1/29	5305	50	Uniroyal - Chemical Div.	NTH
1/30	5425	50	Carol Cable	NTH
1/31	5305	50	Fritz Airfreight	JPM
	5385-1	50		
	5425	50		
	5465	50		

LABORATORY (Cont.)

COMPOUND DEVELOPMENT AND SERVICE

Special Compound Testing

Western Electric specification tests were run on 3 lots of 34861 Gray 546 and on four (4) lots of 36861 Natural. Two (2) lots of 34533 Natural for Packard Electric were tested for hardness and tensile properties.

Oven aging tests were run on two (2) shipments of 35851 Natural to Phelps-Dodge.

New Compounds

Quality control specifications and standards were prepared for an experimental compound - JRT-3866-204. The same was done for a dry blend formula - 3948-30.

Compound Development

Complete physical properties were measured on the first production lots of three (3) new experimental compounds. They were ERC-3711-75C, ADK-3972-134A, and JRT-3866-195.

Dry Blend Development

New quality control standards were prepared for 80172B, 80273G and 80274.

QUALITY CONTROL TESTING

Resin

Regular Samples = 346

Bag Blends - 310

Other In-Process Samples = 3328

Bulk Shipments 119 (Railcars = 81; Trucks = 38)

Dry Blend

Blenders Produced - 191

Blenders Tested = 138

Blenders Adjusted = 12.0%

Other In-Processing Samples = 116

Bulk Shipments = 12 (Railcars = 8; Trucks = 4)

Compound

Blenders Produced = 465

Blenders Adjusted = 1.9%

Other In-Process Samples = 340

Bulk Shipments = 12 (Railcars = 7; Trucks = 5)

LABORATORY (Cont.)

QUALITY CONTROL TESTING (Cont.)

Resin Heat Stability

Forty-one blends of resin were tested for oven heat stability as shown below:

5385	20 Blends
5425	12 Blends
5305	8 Blends
5465	1 Blend

The heat stability of the 5385 resin appears to have deteriorated slightly this month. Other types of resin appeared normal.

Raw Material Testing

Fifty-eight (58) lots of plant raw materials were tested and approved for use.

SPECIAL PROJECTS

RVCN of Shipments

A total of 93 samples of bulk resin were tested for RVCN content. Below is a summary of those results:

<u>Product</u>	<u>5385</u>	<u>5425</u>	<u>5305</u>
Average RVCN	2.6	0.4	2.5
No. Samples	48	15	30

RVCN of Slurries

A total of 664 samples of slurry were tested for RVCN in January (96% of the batches produced). The overall average was 276 ppm. Due to vibration problems in the new unit relating to the steam stripping, many of the new unit samples were over 400 ppm. They were balanced by the old unit samples most of which were below 100. As a result, only three (3) daily averages were above 400.

RVCN of Blowdown Tanks

A total of 151 samples were tested for RVCN in January. The overall average was 9.9.

RVCN of 5305 Dryer Samples

A total of 30 batches of 5305 were tested for RVCN. The samples were taken from the regular dryer product. The overall average was 12 ppm VCM.

LABORATORY (Cont.)

SPECIAL PROJECTS (Cont.)

Plant Process Engineering Support

A total of 35 special samples for Process Engineer's support were tested. These samples were for COD (25), % solids (5), ppm VCM (5).

Lab Computer Project

The debugging of the quality control data programs was completed in January. There are still two (2) printers out of service - one (1) Dec (sent to factory) and the other a Heath (sent to factory).

Customer Complaints Follow-Up

Phelps-Dodge has complained that they are measuring low values for retentions of elongation on 35851 coated on wire. Oven aging tests were run of molded sheets from two production lots and were found to give typical values for retention of elongation. Samples of their wire coating appeared to be borderline.

Samuel Moore Co. complained that a sample of 34551 Natural failed to pass oven aging tests; however, tests in the Aberdeen Laboratory have indicated that the sample material passes the tests.

Line V Startup

At least 40 melt flow tests were run on various compound samples from Line V as a part of the quality control program.

Extrusion tests were run on several Line V compound samples that were rejected for "hard particles." These were also found in the extruded strips. Volume resistivity tests were run on three (3) electrical compounds that had been made on Line V and were compared with the same compounds made on Line I or Line III. The Line V material was at least as good as the Line I and Line III products.

Particle Size Method Comparison

All shipments during January were tested using both the 100g. test method and the 49g + 1g. MgCO_3 method. A report was issued on results of the December data from these methods.

SURFACE TRANSPORTATION
 ABERDEEN DISTRIBUTION WAREHOUSE
 JANUARY ACTIVITY REPORT, 1980

Shipment by Product - M/lbs.

	<u>JANUARY</u>	<u>Year-to-Date</u>
Resin	16693	16693
Plasticizer	43	43
Dry Blend	2193	2193
Compound	2855	2855
Total	21784	21784

Number of Shipment by Mode

	<u>R/C</u>	<u>O.T.</u>	<u>C.C.</u>	<u>C.O.T</u>	<u>TOFC</u>	<u>CPU</u>	<u>TOTAL</u>
Resin - Bulk	82	34	1				117
Package		7	2		2	9	20
Export - ABR		40					40
Plasticizer - Bulk						1	1
Dry Blend - Bulk	12					6	18
Package		3					3
Compound - Bulk	10	5					15
Package		17	1			20	38
Export - Package		5					5
Special - Bulk		16					16
Package							
	<u>104</u>	<u>127</u>	<u>4</u>	<u>0</u>	<u>2</u>	<u>36</u>	<u>273</u>
Back Hauls for January		21					

Number of Shipment by Month-Year-To Date

	<u>R/C</u>	<u>O.T.</u> <u>Bulk</u>	<u>O.T.</u> <u>Van</u>	<u>C.C.</u>	<u>C.O.T.</u>	<u>TOFC</u>	<u>CPU</u>	<u>TOTAL</u>
January	104	55	72	4	0	2	36	273

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	4.3		
		Dry Blend	.7		
		Export Resin	.5		
		Conoco Resin	.4	5.9	4.1 10.0
Prairie 12-1	12	Resin	.9	.9	.6 1.5
12-2	22	Resin	.		
		Export Resin	2.7	2.7	.8 3.5
12-3	21	Conoco	.		
		Export Resin	3.6		
			.	3.6	. 3.5
12-4	22	Conoco Resin	3.6		
		Resin O.G.	.	3.6	. 3.5
12-5	21	Mill Scraps	.1		
		Cmpd O. G.	.7		
		Dry Blend O. G.	.1		
		Sifter Overflow	.1		
		Resin O. G.	.7	1.7	.8 2.5
12-6	21	Compound	.		
		Resin	.9		
		Raw Material	.3	1.2	2.3 3.5
12-7	21	Resin O. G.	3.5	3.5	. 3.5
12-8	21	Conoco	3.6	3.6	. 3.5
		Sub-Total			35.0
		(Plug-Aisles)			3
Total	209	Total Conoco	26.7	8.6	35.3

DTH 000043815

SAFETY REPORT

	<u>JANUARY</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	0	0	
Man Hours Worked	2892	2892	144,567

MATERIAL HANDLING REPORT

	<u>M/Lbs.</u>	<u>T/L</u>
Packaged Resin From Production	12312	304
Packaged Compound, Dry Blend From Prod.	1944	48
Transferred From Main to Prairie	11624	287
Transferred From Prairie To Prairie	0	0
Reverse Transfer Resin to Plant	81	2
Reverse Transfer Cmpd. to Plant	121	3
Shipment From Warehouses	3848	95
Special Packaging	1822	45
Transferred From Prairie to Main	365	9
	<u>32,117</u>	<u>793</u>

LABOR REPORT

Total regular Hours	2043
Total Overtime Hour	249
Total Worked	<u>2292</u>
Paid but not Worked	222
Total	<u>2514</u>

Labor Efficiency equals

32.1 MM/Lbs. - Hours Worked 14,013

Overtime % 9.9

EQUIPMENT REPORT

Lift Truck Hours Worked 598
Gal of Fuel Consumed 1033
Gals/Hrs 1.7

Lift Truck Efficiency Equals
32.1 MM/Lbs. - Hours Worked - 53707 Lbs./hr

OFF-GRADE IN STORAGE

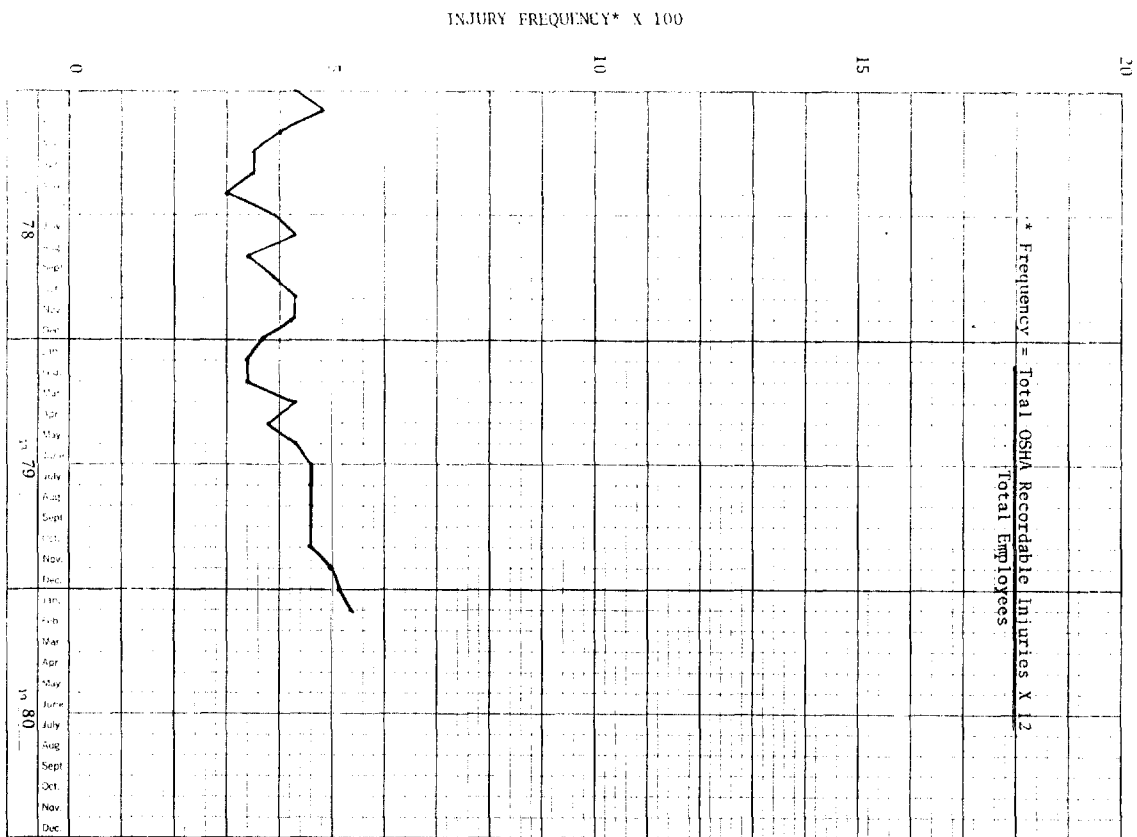
<u>MATERIAL</u>	<u>M/Lbs.</u>	<u>T/L</u>
Sifter Overflow	110	2
Resin "BC"	2671	66
Resin "H"	1304	32
Hills Scraps	85	2
Compound "B"	541	13
Compound "H"	0	0
Dry Blend "O.G."	62	2
Total	<u>4773</u>	<u>117</u>

D.F. OPERATION

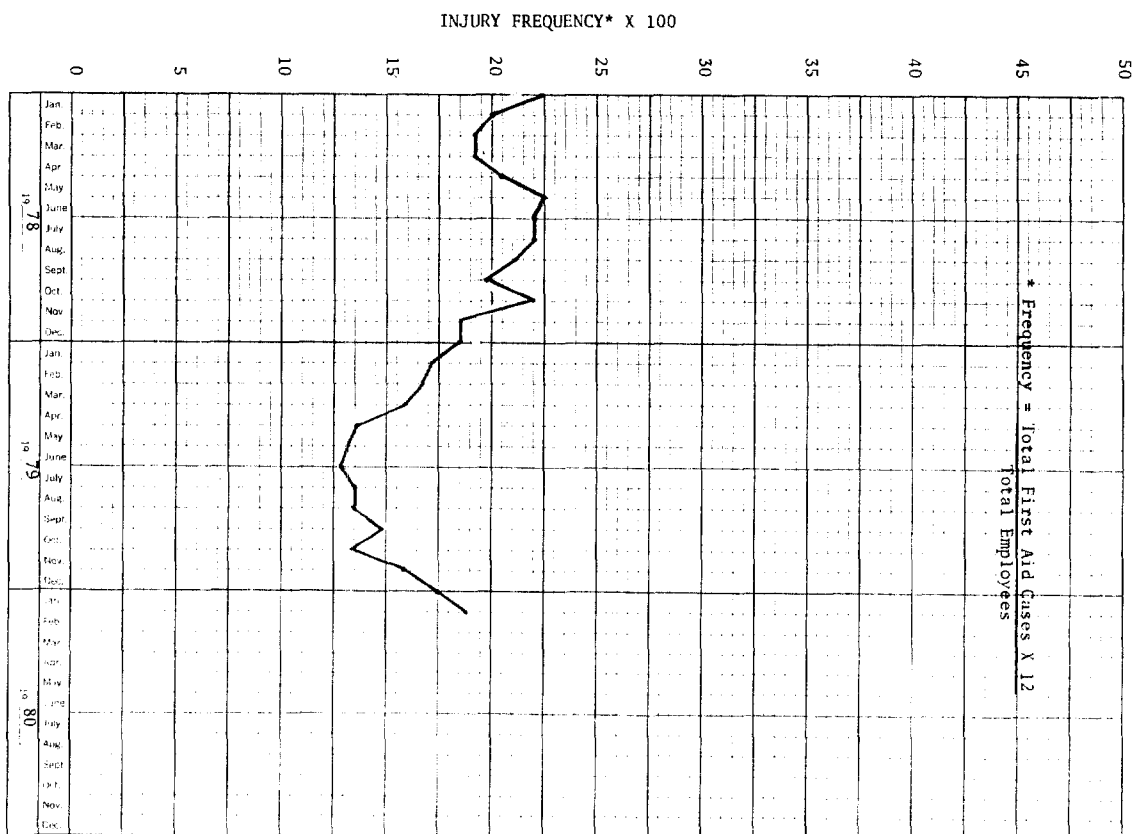
Total material in inventory increased from 16.5 MM/lbs. to 26.7 MM/lbs. during January, this build-up is from packaged resin.

We are still waiting on two large export orders to be released. These orders contain approx 3MM/lbs of 5385 -I 9 high and 5425 - I six high. Hopefully in February we will be able to ship this material.

ABERDEEN OSHA RECORDABLE INJURIES
12 MONTH MOVING AVERAGE



ABERDEEN FIRST-AID CASES
12 MONTHS MOVING AVERAGE



MONTHLY HOURLY TURNOVER

%

10

9

8

7

6

5

4

3

2

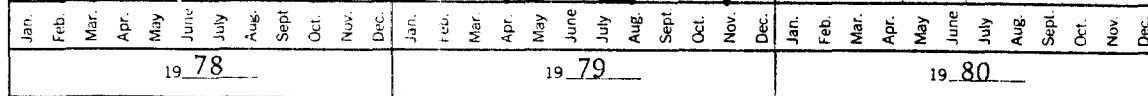
1

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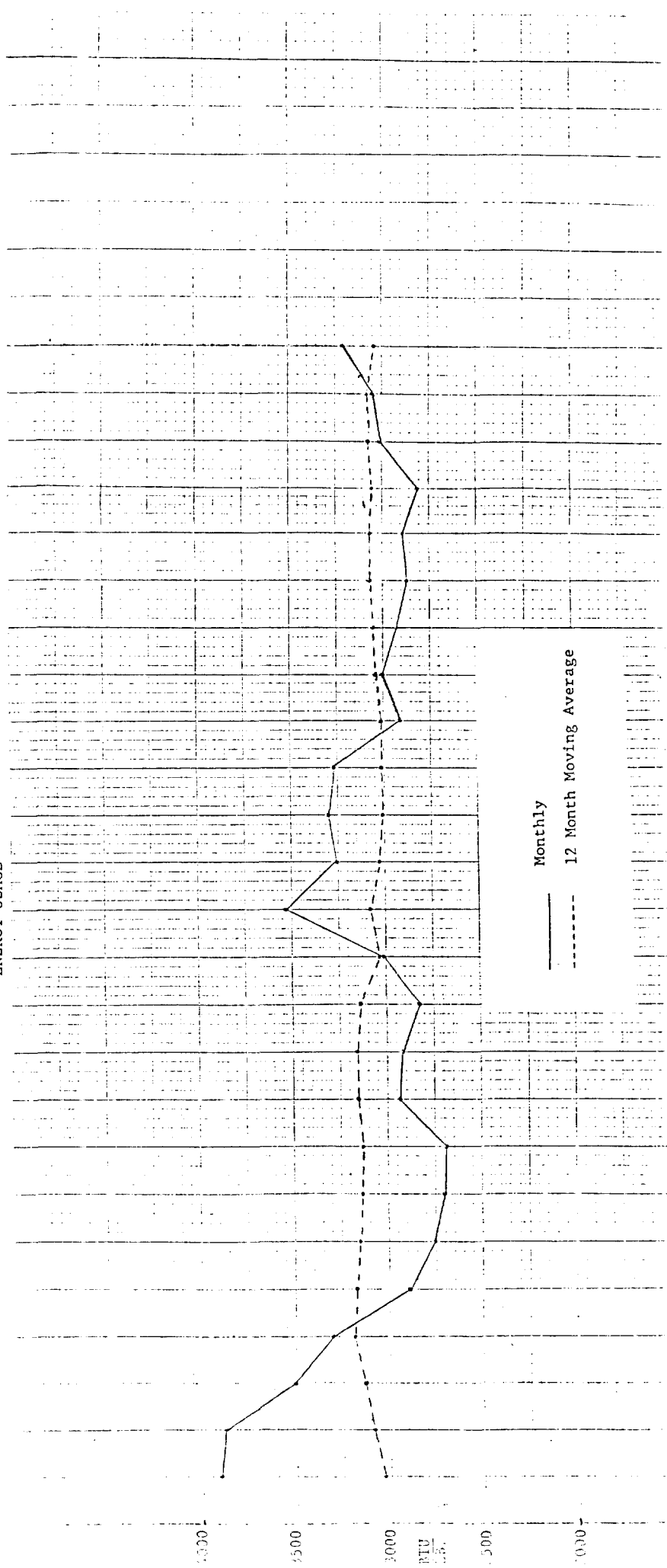
%

46 3290

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



ENERGY USAGE



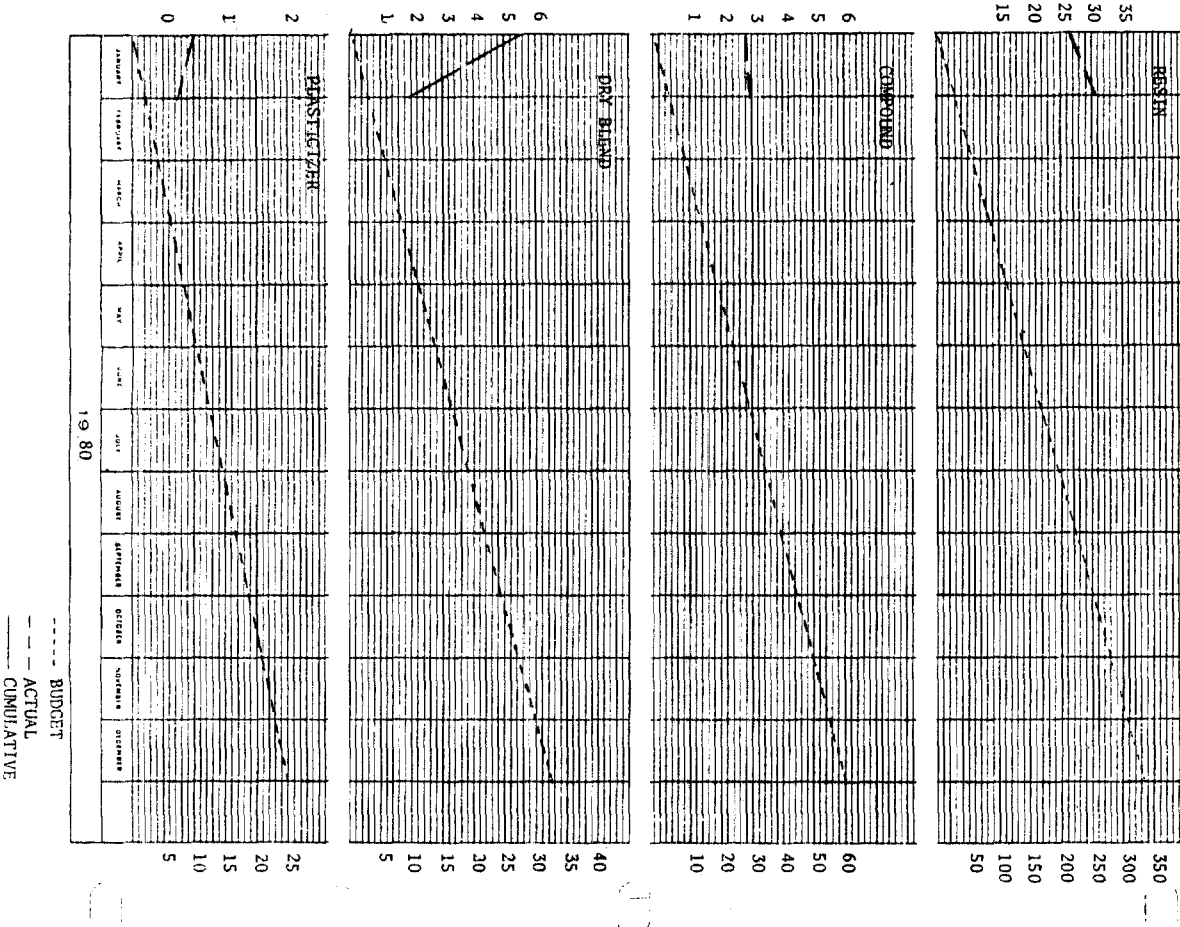
Jan. Feb. Mar. Apr. May June July Aug. 1978 1979

MM POUNDS
MONTHLY

ABERDEEN PLANT PRODUCTION

1980

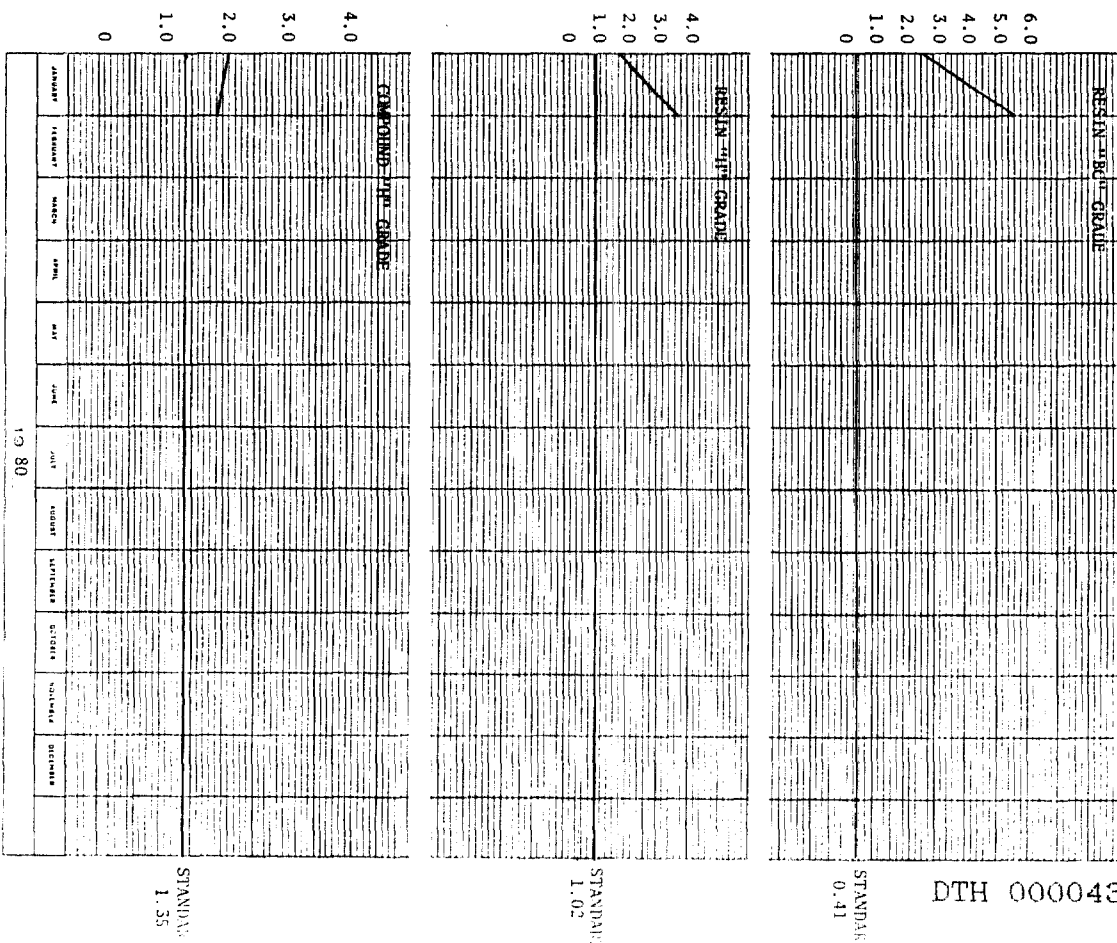
MM POUNDS
CUMULATIVE



OFF GRADE
%

ABERDEEN PLANT QUALITY PERFORMANCE

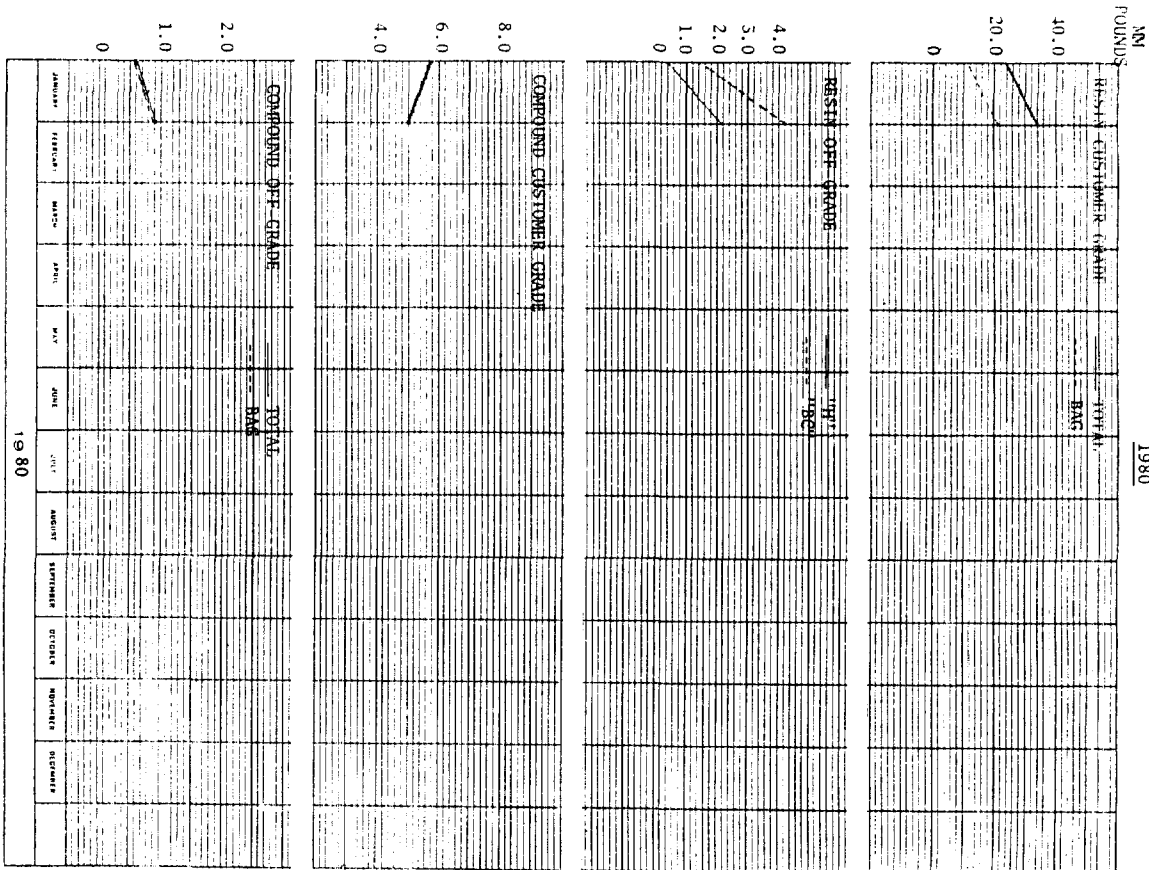
1980



DTH 000043821

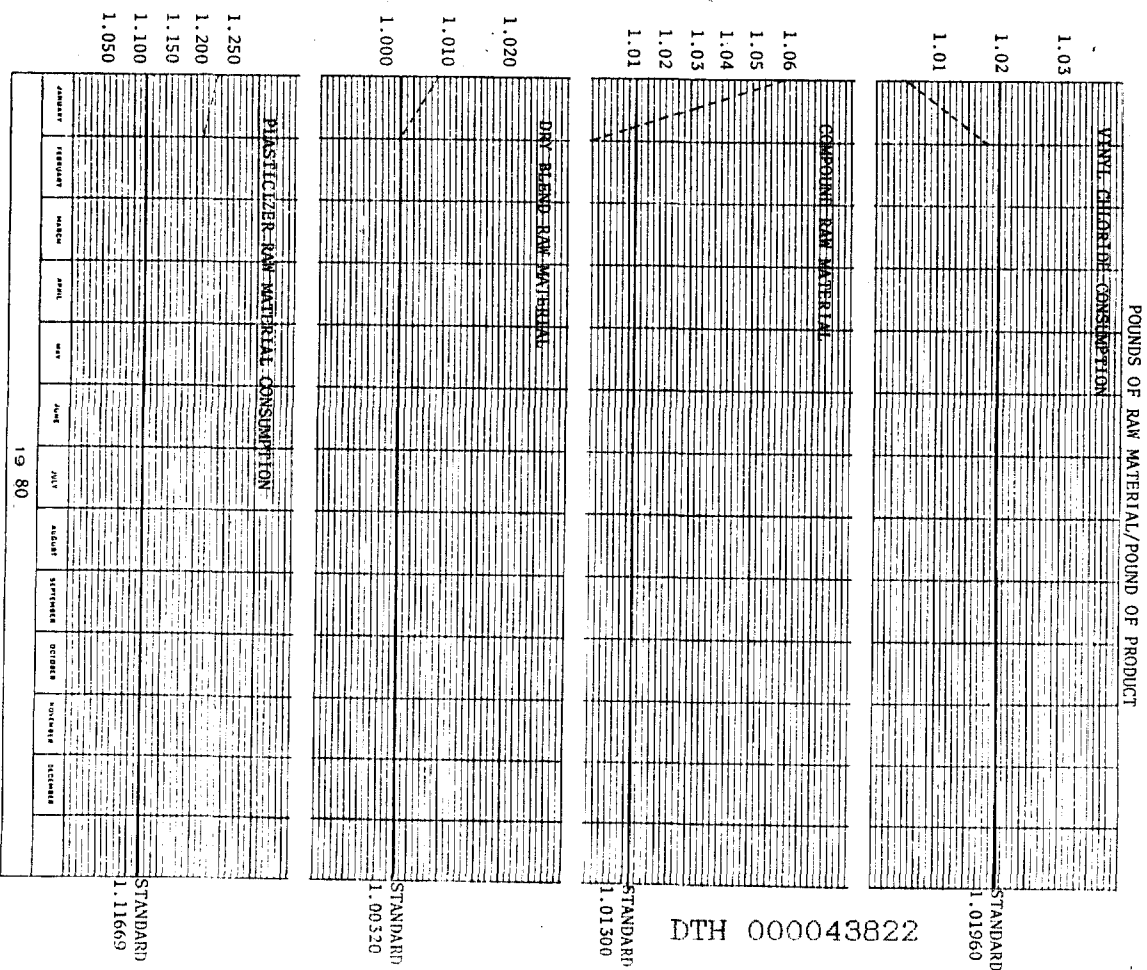
ABERDEEN PLANT INVENTORIES

1980



ABERDEEN PLANT EFFICIENCY

1980



DTH 000043822