

SAFETY - A. H. Sather

<u>Occupational Injuries</u>	<u>October</u>	<u>1980 Year-to-Date</u>	<u>1979 Year-to-Date</u>
<u>Injuries Treated</u>			
First Aid	3	41	32
Medical Cases	0	14	8
Restricted Workday Cases	0	2	2
Restricted Workdays	0	23	29
Lost Time	0	0	1
<u>Injuries By Department</u>			
Vinyl Operations	0	12	13
Compound Operations	3	18	3
Maintenance	0	23	22
Laboratory	0	3	1
Receiving and Warehouse	0	0	0
Office	0	1	2
<u>Injuries By Type</u>			
Cuts and Abrasions	2	29	12
Eye Injuries	0	4	5
Burns	1	7	12
Bruises	0	11	10
Strains and Sprains	0	4	5
Other	0	4	2

As of October 31, 1980, the plant had operated a total of 481 days or 623,504 manhours without a disabling injury.

Safety Meetings

The topic for October Safety Meetings was "Slips and Falls and Hand Safety". The film "Slips and Falls" (Conoco produced film) was shown and a National Safety Council - Petroleum Newsletter Article "Ten Safety Rules to Help Preserve All Ten of Your Fingers" were reviewed. Also, C. R. Miller, Plant Superintendent, and A. H. Sather conducted three (3) safety performance review meetings, one each for the Maintenance, Compound and Vinyl Departments. Personnel involved in these meetings included first and second level supervisors and department heads. Several topics were reviewed and discussed in each of the meetings. The topics included: 1980 year-to-date on and off-the-job safety performance, job planning, incident control and the effects of attitude.

VCM Tank Car Derailment

On October 15, 1980, C. R. Miller, Plant Superintendent and A. H. Sather, Safety Director, responded to a CHEMTREC assistance call for 3 derailed VCM cars near Strong, MS. The cars were found not leaking. The cars were re-railed without incident.

SAFETY - (continued)

Plant Noise Level Survey

W. Guy Warren of CED conducted a noise level of the plant and plant boundaries October 7 through 10, 1980. Numerous suggestions were made regarding improvements. Several of these improvements are currently being evaluated for implementation to reduce sound levels.

Chemicals Industrial Hygienist

T. G. Grumbles, Chemicals Industrial Hygienist, visited the plant October 14 through 16, 1980 to familiarize himself with the Aberdeen Plant, review chemical usage, review the plant Industrial Hygiene Program and to discuss the usage of the compound raw material, Antimony Trioxide.

VCM Plant Turnaround

J. G. Roberts, Safety Inspector, assisted W. V. Henry for the VCM plant turnaround. His work activities in Lake Charles required him to be at the VCM plant from September 29 through October 23, 1980.

OSHA Compliance

Activity in this area included VCM and lead dosimetry, and a review meeting on lead compliance activities. The results of the dosimetry work are indicated below. A lead compliance plan review was conducted on October 16, 1980, and efforts were reinforced.

VCM

A total of 85 samples were taken and analyzed with six (6) indicating overexposure. The results are tabulated by range below. Overexposures are also explained.

<u>Range (ppm)</u>	<u>Number</u>	<u>Percent</u>
0.0-0.5	75	88.24
0.5-1.0	4	4.71
1.0-5.0	4	4.71
5.0+	2	2.34
	<u>85</u>	<u>100.00</u>

Of the six (6) overexposures, one occurred to a Yard Operator who was connecting and disconnecting VCM railcars while wearing a respirator, one each occurred to a Reactor Operator and a Mechanic working in the old reactor module without respirators, one occurred to a Mechanic-Oiler who worked in several VCM process areas without a respirator, and two occurred to Mechanics who were working on recovery equipment seals while wearing respirators.

SAFETY - (continued)

Lead

A total of twelve (12) samples were analyzed, the results are shown below with overexposure information.

	<u>Number</u>
Greater than PEL*	2
Less than PEL	10
	<u>12</u>

Of the two (2) overexposures which occurred, one occurred to a color weigh room compounder and one to a line I compounder. Both of the overexposed employees were wearing dust respirators.

VINYL - P. E. Markey

<u>Production</u>	<u>Month</u>	<u>Y.T.D.</u>	<u>Budget</u>
1. Total Production, MM Lbs.	26.5	209.3	
2. Production Rate, M Lbs./C.D.	853	686	900
3. Charges, Reactor Batches/C.D.	21.0	17.0	
4. Total Charges	650	5176	
5. Reactor Stream Factor	87.9	73.5	
6. Drying Rates, Average Lbs./C.D.	5821	5545	
7. Dryer Stream Factor, %	87.4	73.7	
8. Accounting Days	31	305	

Vinyl Department production for September was 95% of budget at 26.5 MM pounds. Production levels for the first half of the month were reduced for inventory control purposes during which time advantage was taken by performing discretionary unit maintenance and available dryer line capacity was used to debug "BC" and "H" grade resin. Production target was increased mid month from 22.0 to 26.5 MM pounds.

Reactor and dryer stream factors were 87.9% and 87.4% respectively. The major items affecting stream factor and production were:

1. Inventory control programs during the first half of October continued to represent substantial stream factor penalties in the reactor and drying areas (3.0% and 4.2%, respectively).
2. Steam limitations resulting from boiler downtime to install energy conserving economizers caused a 2.9% stream factor penalty.

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	2,299,652	40,500	40,200	9.0
5385	17,700,967	239,650	(174,850)	67.2
5425	6,036,973	(335,250)	(40,500)	21.4
5465	419,880	-	(40,300)	1.4
Sifter Overflow	-	-	269,835	1.0
TOTAL	26,457,472	(55,100)	54,385	100.0

Quality performance for October was 100.0% customer grade with (0.2%) "BC" grade and 0.2% "H" grade. Debugging operations upgraded 672,050 M pounds to prime quality resin.

VINYL - (continued)

The variable cost variance was \$606.3 M with \$542.6 M due to price and \$63.7 M due to efficiency. The major price variance was \$546.6 M for VCM. Favorable efficiency variances for VCM and processing additives totaled \$39.8 M. Favorable variances in the off-grade category were \$23.9 M. There was no variance due to product mix.

The raw material requirement for October was 1.01785 pounds VCM/pound PVC versus the 1.01960 standard. (Y.T.D. is 1.01865)

General

1. Resin packaging for October totaled 2,004,600 pounds. Resin debuggng totaled 672,050 pounds upgrading "BC" and "H" grade resin to customer grade.
2. A test run was conducted 10/20/80 through 10/26/80 using the experimental J-48 Methocel. 48 batches were produced in the old reactor module producing 7 coarse batches, at which time testing was discontinued. Old module testing indicated J-48 produced a poorer coefficient of variation than our currently used F-50 Methocel and had a tendency towards higher gels. 2 batches were produced in the new module with better results, but with only 2 batches produced the results are best categorized as inconclusive.

COMPOUND - J. R. McCrimon

<u>Compound Production</u>	<u>Month</u>	<u>Day</u>	<u>Y.T.D.</u>
Line I, M Pounds	1,545	55	11,593
Line V, M Pounds	134	45	968
Line III, M Pounds	3,116	101	26,633
Total, M Pounds	4,796	155	39,194
Accounting Days	31		305

Line I operated 28 days during October at an average rate of 55 M pounds per day. Major items affecting production efficiency were: product changes (61.7 hours), maintenance on blender conveyor bucket (24.1 hours), dicers (19.4 hours), scale adjustments (12.5 hours), No. 1 blender gearbox failure (14.1 hours), and maintenance on skip hoist (10.3 hours).

Line V operated 3 days during October at an average rate of 45 M pounds per day. Major items affecting production efficiency were: maintenance on the Orbitran (14.3 hours), pellet blower bearing failure (7.0 hours), and Werner-Pfleiderer temperature control problems (3.5 hours).

Line III operated 31 days during October at an average rate of 101 M pounds per day. Line III production was affected by: product changes (50.5 hours), FCM clutch failure (20.5 hours), mill steam leak repairs (18.3 hours), and quality control (11.1 hours).

Quality performance for flexible compounds was 3.1% off-grade of which 83.9% was due to mill scrap. "BC" production was 0%.

The raw material requirement for flexible compounds was 0.98083 pounds of raw material per pound of compound versus a 1.01300 standard. (Y.T.D. is 1.01475).

The variable cost variance for compound was \$54.7 M with \$49.6 M due to price and \$5.1 M due to efficiency. The variance due to product mix was (\$20.0 M). Major efficiency variances were: \$14.1 M for resin and \$25.3 M for Vinyzene SB-1 which is due to the use of Vinyzene BP-5 in order to deplete the inventory of BP-5 (obsolete). Major price variances for the month were \$10.9 M for TOTM and \$14.1 M for colors.

<u>Dry Blend</u>	<u>Month</u>	<u>Day</u>	<u>Y.T.D.</u>
Production, M Pounds	4,209	183	19,537
Accounting Days	31		305

Dry Blend operated 23 days during October at an average rate of 183 M pounds per day. Production included 80273G, 80172B, 90171, and 3948-44-1. Dry Blend production was affected by: No. 1 Welex motor failure (43.0 hours), quality control (22.7 hours), Orbitran (11.5 hours), and boxing dry blend (8.3 hours).

COMPOUND - (continued)

Dry Blend - (continued)

Quality performance for the month was 99.99% customer grade.

The raw material requirement for dry blend was 0.98941 pounds of raw material per pound of dry blend versus a standard of 1.00321. (Y.T.D. is 1.00471).

The variable cost variance for dry blend was \$107.0 M with \$5.7 M due to price and \$101.2 M due to efficiency. The variance due to mix was \$91.4 M. The only major efficiency variance for the month was \$16.6 M for resin. There were no major price variances for the month.

<u>Plasticizer</u>	<u>Month</u>	<u>Day</u>	<u>Y.T.D.</u>
Production, M Pounds	1,122	65	8,152
Accounting Days	31		305

Plasticizer operated 17 days during October at an average rate of 65 M pounds per day. Production included: DIDP, 610P, and DOP.

VRP production totaled 101 M pounds (9.0%). Production was limited by: R-3 phthalic anhydride charge valve replacement, safety disc replacement on all 4 reactors, and steam restrictions (10/24 thru 10/31) due to boiler economizer installation.

The raw material requirement for plasticizer was 1.08732 pounds of raw materials per pound of plasticizer versus a 1.08258 standard. (Y.T.D. is 1.10967)

The variable cost for plasticizer was (\$44.3 M) with (\$28.3 M) due to price and (\$16.0 M) due to efficiency. Major price variances were: (\$12.4 M) for ALFOL 610, and (\$12.5 M) for 2 EH. There were no major efficiency variances for the month.

The variance due to product mix was (\$2.3 M).

General

Total customer grade compound inventory decreased from 6.7 MM to 6.0 MM pounds during October.

MECHANICAL - S. J. Vincent

Vinyl

There were two large reactor seal failures in this period. The seal failures were both in the old module on the D-400 and D-600 reactors.

There were two large reactor gearbox failures this period. Both failures were in the old module with the high speed pinion shaft failing on D-500 and a high speed pinion gear failure on D-400.

There were two condensers cleaned in the old module on the D-500 and D-600 reactors. In addition to cleaning the condenser, the safety valves were tested and all safety discs changed on the D-500 reactor.

The universal joint on the 741 agitator experienced a bearing failure requiring a major overhaul of the unit. This was the same universal joint that was damaged during the summer by a resin accumulation inside of 741 reactor. Also the 741 reactor drive motor was replaced with the spare when it began making noise.

There were 17 seal failures to pumps and compressors in this period. 8 of the seal failures were in the old module and 9 were in the new module. In the old module, seals were replaced on the 705 emission recovery compressor outboard seal, the east VCM charge pump, the recovered VCM charge pump, the east RVCN return pump, and the outboard seal was replaced three times on "A" vacuum pump. In the new module, seals were replaced on the east VCM charge pump, the west VCM charge pump, the 905 compressor inboard seal, the west chem wash pump, the PVA transfer pump, the 904 compressor inboard seal, the east RVCN return pump, the west RVCN return pump and the west RVCN charge pump.

Pump and compressors overhauled in this period included the east hot water charge pump in the new module. In the old module the "B" recovery compressor, "B" vacuum pump, 706 emission recovery compressor, and the spare 1256 recovery compressor were all overhauled. A new compressor was installed on the inerts vent chiller system.

The north and south seal water separator level controllers were calibrated in the new module. The deckwriter in the vinyl control room was repaired and re-installed. The conversion from 110 volts to 24 volts on the blowdown tank controls was completed.

In the vinyl drying equipment the #7 dryer was down to repair the oil seal on the drive gearbox, to repair the drive motor and to rework the day collector explosion door. The sock holders were replaced in #4 day collector. Belts were replaced on #6 exhaustor. The #1 Bird was pulled for cleaning. The #8 Bird and gearbox were changed out twice for plugging and bearing failures. The resin blower transfer system controls were also revised.

Repairs in the vinyl storage area included replacing two loading hoses and to rebuild one 690 Corken for a case repair and packing leaks.

MECHANICAL - (continued)

Vinyl - (continued)

A major effort was made to repair steam tracing leaks and repair insulation in both reactor modules. An intensified effort by several of the maintenance people completed these repairs in a timely fashion.

Compound - Dry Blend - Plasticizer - and Silo Storage

Repairs to the compounding equipment on line III were to replace the clutch unit to the FCM, change FCM seals twice, and to replace the spindle on #6 dicer. Minor steam and process leaks were also repaired. Repairs to line I consisted of minor adjustments to the conveyor and scale system. There was a failure of the #1 blender gearbox on the last day of the month.

New controls were installed on the line III condensate pump. A new locking mechanism was installed on the pellet blower. Several start and stop switches were installed.

The major repairs in dry blend included replacing the drive end shaft and bearings and replacing the drive motor and belts on #1 Welex unit. The Welex motor failed when water apparently entered it when a heavy rain came in through an open doorway.

Repairs in the plasticizer unit included replacing bearings in the north blower. The safety disc on R-2 was replaced and the discs on R-1 reactor were replaced twice. The PM inspection of the glycol unit in the plasticizer tank farm was completed.

The final adjustments and revisions were completed and the new portable product transfer system was placed in operation.

Utilities and Service

There were five repairs to equipment in the plant air system in this period. Valves were repaired in #2, 7, 8 and 9 compressors and the motor repaired on #1 compressor. The fire pond overflow dike material was replaced with new red wood material. The D-500 and D-600 cooling tower distributor was repaired to control water loss. The gearboxes, supports and fan hubs were cleaned and coated with special paint on this cooling tower. All electrical switchgear and instruments were also inspected on this tower.

One new bulk storage tank for the cooling tower chemicals was installed. Sight glasses were installed on both the new and existing bulk chemical tanks.

Boiler repairs completed this period included having #2 and #3 boilers down to install economizers on them. With the unit down, the Drum baffles were pulled to wash the tubes. Three leaking tubes were repaired in the #2 boiler.

MECHANICAL - (continued)

Utilities and Service - (continued)

The propane system was test fired three times in this period. The machinist and tool room mechanic completed repairs or machine work on twenty-four pieces of equipment. Also all plant central heating systems were PM inspected.

Planner

The Planner estimated 105 work orders in this period and material was ordered for 28 work order projects. The Planner closed 16 invoice registers and issued 17 new registers. There were 20 statements processed for payment and 692 work orders closed for the month.

The history and safety valve records were brought up to date at the end of the month.

MECHANICAL ENGINEERING - J. A. Dixon

AFE's Submitted, Approved, and Closed

The following AFE's were submitted and approved during October:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9700	Compound Fines & Streamer Removal	\$ 95,000
9710	Fire Protection Improvements - Phase III	385,000
9720	Reactor Agitator Replacement	420,000
9730	Compound Line III Debottlenecking	1,350,000
9740	Modifications to Make Profile Dry Blend	200,000

Completion reports were issued for the following AFE's during October:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9297	Automatic Plasticizer-Stabilizer Weigh-Up System	\$ 60,000
9158	Fire Protection Improvements - Phase I	176,000
9228	Dry Blend Silo Alarms	25,000
9248	Silo Isolation Valves	25,000
9769	Automatic Setback Thermostats	3,000

There were no AFE's closed to field charges during October.

Design

Design work is in progress on the following projects:

- Replacement of Hot Water Charge Tank
- Methocel Charge Revisions
- Reactor Inert Vent System
- Interplant Communications - Phase II
- Spare Reactor Condenser
- Multigrade Resin Production Facilities
- Water Stripping
- Fire Protection Improvements - Phase II
- Spare Inert Incinerator
- Breakroom Extension
- Sweco Installations

AFE Activity

1. AFE 9629 - Air Compressor - M. S. Richards

Conversion of the old Joy compressor to dual control is scheduled for November.

MECHANICAL ENGINEERING - (continued)

AFE Activity - (continued)

2. AFE 9689 - Diking of Sphere and Curbing of Drum Storage Area - J. L. White
All exterior walls are complete. Backfilling and final grade work is in progress.
3. AFE 9709 - Facilities for Multigrade Resin Production - S. Krause
Overall project design is 80% complete. The contract for concrete and site work has been let.
4. AFE 9729 - Fire Protection Improvements - Phase II - M. Ingle
Overall project design is 97% complete. The piping and concrete drawings are undergoing final revisions.
5. AFE 9739 - Methocel Charge Revisions - J. L. White
Design is complete. Bulk material is being quoted. Bids have been requested for installation of piping.
6. AFE 9530 - Spare Incinerator - D. Haub
Overall project design is 54% complete. Piping plans are complete. Concrete basis of bids to be issued in November.
7. AFE 9550 - P. A. Handling Improvements - J. P. Windham
The new jacketed unloading line is complete and operational. Instrumentation design work is in progress.
8. AFE 9580 - Boiler Economizers - J. L. White
The economizers have been installed on number 2 and 3 boilers and are operational.
9. AFE 9590 - Critical Spare Equipment - J. P. McKee
The drawings have been reviewed and approved and are ready to be mailed out for bids.
10. AFE 9610 - API Clean Water Bypass - M. S. Richards
Sewer design is complete and construction work is scheduled.
11. AFE 9630 - Water Stripping - M. Ingle
Overall project design is 70% complete. Piping drawings are undergoing final revisions.

MECHANICAL ENGINEERING - (continued)

AFE Activity - (continued)

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

Concrete and site work is in progress. Bids have been requested for installation of the piping and electrical.

13. AFE 9680 - Fixed Point Monitor Data Computer & Warning Lights - R. B. Harned

Overall project design is 35% complete. Computer Services Division in Ponca City is negotiating the purchase of the computer for this project.

14. AFE 8395 - Interplant Communications - Phase II - R. B. Harned

Design is complete. All major equipment is on order. Bids have been requested for the equipment installation.

Construction - G. A. Morgan

The foundation for the new hot water charge tank was completed. Bids have been requested for piping, equipment, structural and electrical installation on this project.

A proto-type loading chute for the resin silos was installed and approved.

Two boiler economizers have been installed and the third is scheduled for early November.

Repairs to the Lagoon Aerators was completed during the period.

Installation of the new back-up plasticizer filter was completed.

Six contracts were let during the period. They were for:

1. Boiler Economizers Piping and Equipment
2. Boiler Economizer Structural
3. Concrete work for Silos, Cooling Tower, Blend Tanks and Initiator Storage
4. Piping for Part I of Fire Protection Improvements - Phase II
5. Concrete, Demolition and Sewer Line Installation for Batch Water Stripping
6. Maintenance of Plant Two-Way Radios and Closed Circuit Television

Nineteen (19) register tickets were issued during October.

(1) Thru September, 1980 Actual Accounting
(2) Thru October, 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	14,691	37,000	0	12/80	3/81	Design in progress.
9148	Plasticizer Chemical Exposure Abatement	8/21/78	152,000	143,513	145,005	152,000	2,842	9/80	12/80	Closed to field charges.
9258	Dryer Operation Improvements	12/14/78	315,000	287,958	324,848	324,848	(9,848)	9/80	12/80	Closed to field charges.
9519	Critical Spare Equipment	2/6/79	175,000	107,281	161,214	163,000	12,000	12/80	3/81	Revisions in progress.
9559	Color Weigh Room Modifications	4/19/79	25,000	18,552	19,346	25,000	0	1/81	4/81	Project operational.
9589	Instrument Air Dryer	5/30/79	110,000	90,134	91,694	110,000	0	12/80	3/81	Revisions in progress.
9609	Reactor Inert Vent System	6/28/78	90,000	13,488	17,895	90,000	0	3/81	6/81	Project on hold.
9629	Air Compressor	7/9/79	340,000	260,090	266,368	340,000	0	3/81	6/81	Revisions in progress.
9639	Revisions to Emission Recovery System	7/12/79	100,000	60,726	72,445	100,000	0	12/80	3/81	Revisions in progress.
9649	Double Block Valves for VCM Charge	7/18/79	182,000	143,075	167,026	182,000	0	12/80	3/81	Project operational.
9669	New Air Header	8/15/79	25,000	17,084	18,296	25,000	0	12/80	3/81	Revisions in progress.
9689	Diking of Sphere & Curbing of Drum Storage Areas	9/15/79	170,000	97,375	127,330	170,000	0	1/81	4/81	Construction in progress.
9699	Plant Dryer Debottlenecking	9/15/79	80,000	5,805	24,205	80,000	0	3/81	6/81	Engineering in progress CED.
9709	Facilities for Multiple Grade Resin Production	9/20/79	870,000	28,560	330,305	870,000	0	3/81	6/81	Construction in progress.
9719	Aberdeen PVC Resin Expansion	9/10/79	850,000	11,421	817,600	850,000	0	1/81	4/81	Equipment on order.
9729	Fire Protection Improvements - Phase II	10/1/79	490,000	19,953	166,185	490,000	0	6/81	9/81	Piping contract let.
9739	Methocel Charge Revision	10/3/79	66,000	8,732	21,119	66,000	0	12/80	3/81	Bids requested on piping.
9759	Aberdeen PVC Resin Expansion	12/10/79	11,150,000	1,272,679	5,062,100	11,150,000	0	9/81	12/81	Foundation work in progress
9510	Miscellaneous Projects Under \$10,000	1/3/80	150,000	94,951	120,361	150,000	0	12/80	3/81	Forty-Eight projects approved.
9530	Spare Incinerator	1/23/80	650,000	1,036	214,455	650,000	0	6/81	9/81	Engineering in progress CED.
9550	P. A. Handling Improvement	3/3/80	63,000	25,093	33,914	63,000	0	2/81	5/81	Unloading line complete.
9560	Safety Equipment	3/12/80	25,000	1,711	7,843	25,000	0	12/80	3/81	Smoke detection portion complete
9570	Replace T-100 P.A. Tank	3/27/80	119,000	57,782	62,366	119,000	0	12/80	3/81	Project on hold.
9580	Boiler Economizers	3/26/80	140,000	4,365	132,676	140,000	0	12/80	3/81	Two economizers operational.
9590	Critical Spare Equipment	3/26/80	59,000	44	11,486	59,000	0	12/80	3/81	Engineering in progress.
9600	Calcium Stearate Addition System	4/2/80	84,000	0	0	84,000	0	5/81	8/81	Engineering scheduled.
9610	API Clean Water Bypass	4/15/80	23,000	4,628	5,039	23,000	0	12/80	3/81	Sewer construction in progress.
9630	Water Stripping	4/30/80	810,000	12,501	76,926	810,000	0	4/81	7/81	Sewer contract let.
9650	Miscellaneous Projects Under \$10,000	5/30/80	150,000	67,370	115,630	150,000	0	12/80	3/81	Thirty-eight projects approved.
9660	Hot Water Charge Tank Replacement	6/4/80	160,000	200	67,772	160,000	0	2/81	5/81	Bids requested for piping.
9670	Laboratory Equipment	7/9/80	32,000	151	30,529	32,000	0	12/80	3/81	Analyzer purchased.
9680	Fixed Point Monitor Data Computer and Warning Lights	9/4/80	113,000	0	8,800	113,000	0	9/81	12/81	Engineering in progress.
9690	Breathing Air Modifications	9/9/80	21,000	0	0	21,000	0	3/81	6/81	Engineering scheduled.
9700	Compound Fines & Streamers Removal	10/1/80	95,000	0	0	95,000	0	10/81	1/82	Engineering scheduled.
9710	Fire Protection - Phase III	10/14/80	385,000	0	0	385,000	0	10/81	1/82	Engineering scheduled CED.
9720	Reactor Agitator Replacement	10/14/80	420,000	0	0	420,000	0	10/81	1/82	Updated quotes requested.
9730	Compound Line III Debottlenecking	10/16/80	1,350,000	0	0	1,350,000	0	10/81	1/82	Engineering scheduled.
9740	Modifications to Make Profile Dry Blend	10/27/80	200,000	0	0	200,000	0	10/81	1/82	Engineering scheduled.

(1) Thru September, 1980 Actual Accounting
 (2) Thru October, 1980

ABERDEEN AUTHORIZATIONS REPORT

<u>AUTH.</u> <u>NO.</u>	<u>Capital</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>
8395	Interplant Communications - Phase II	1/22/80	55,000	0	8,142	55,000	0	6/81	9/81	Equipment on order.
	<u>Expense</u>									
9010	Centrifuge Rotor Repair	9/19/80	20,000	0	0	20,000	0	12/80	3/81	Repairs in progress.

PERSONNEL - J. L. Carter

EMPLOYMENT

None

TO/FROM LEAVE OF ABSENCE

None

TRANSFER/PROMOTION

None

RETIREMENT

None

TERMINATION

None

OTHER

During October there were five casual labor employees on payroll.
Total hours worked were 868.

CONOCO CHEMICALS
Aberdeen, Mississippi

October 1980
MONTHLY PERSONNEL REPORT

Salaried Employees 78*
Hourly Employees 156
Total Employees 234
Employees (Hourly)
New Employees 0
Terminations 0

Minority Employees # %
Salaried 6 7.7%
Hourly 59 38%
Total 65 28%

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

DEPARTMENTS	PAR	# EMPLOYEES	MIN. EMP.	% MIN.	NEW HIRES	YTD	TERM.	YTD	TURNOVER	YTD
Warehouse	9	9	2	22%	0	0	0	0	0	0
Gen. Plant	10	11	4	36%	0	4	0	2	0	16.6%
Maintenance	46	46	7	15%	0	0	0	0	0	0
Laboratory	22	20	3	15%	0	0	0	0	0	0
Compound	37	35	28	80%	0	0	0	3**	0	6%
Vinyl	32	31	12	39%	0	0	0	1	0	3%
Plasticizer	5	4	3	75%	0	0	0	0	0	0

Number of Applicants:

Month 92 Year to Date 208

APPLICANT BREAKDOWN:

Minority 57 % Minority 62%
Female 21 % Female 23%

*Includes three (3) temporary employees.

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

Hires (Hourly) :

Month 0 Year to Date 4

Terminations (Hourly) :

Month 0 Year to Date 6**

Overall Turnover 0

Projected Annual Turnover 3.2%

OVERTIME AND ABSENTEEISM

October 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	1920.50	125.50	0	6.5%	24	100%	0	1%
Maintenance	7365.75	326.25	0	4%	456	98%	2%	6%
Laboratory	3637.75	491.00	0	13%	184	100%	0	5%
Compound	6606.50	918.50	95.50	15%	400	100%	0	6%
Vinyl	6435.75	403.50	0	6.3%	264	100%	0	4%
Plasticizer	632.00	120.50	0	19%	168	100%	0	27%
Utility Boiler House	780.00	63.75	0	8%	0	0	0	0
General Plant	897.50	20.00	0	2%	192	100%	0	21%
Total	28275.75	2469.00	95.50	9%	1688	99.5%	.5%	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 - that overtime due to working regular hours on a holiday and working regular hours on the sixth day in operations.

PROCESS ENGINEERING - R. A. Frohreich

A. Expansion Project

Basis of bids for the new railroad spur was issued to contractors. The second concrete package which includes the silos, slurry blend tanks, cooling towers, and initiator storage freezer was awarded and field work has begun. Concrete work is continuing in the CRD and V-11 reactor areas. Review of piping, electrical, and instrumentation layout continues. Preliminary layout of equipment and piping for chem wash system was reviewed and comments returned to CED.

B. Heat Recovery System

The revised class "A" design incorporating comments from the review meeting was issued. The project will be AFE'd upon completion of the cost estimate.

C. Emission Recovery System Compressor Problem

New casings were installed on the east compressor which improved performance. Process Engineering is also examining the cost versus the benefit of installing compensated seals.

D. Process Water Filter Replacement

A design to reduce filter replacement costs by the installation of a different type of water filter was issued.

E. Fire Protection Improvements - Phase III

A revised process design for this project is being prepared.

F. Kemp Air Dryer Modifications

The class "A" design to add coalescing filters, replace purge piping, upgrade wiring, and make other modifications in order to correct the dew point problem in the Kemp air dryers was issued.

G. VCM Tank Farm Revisions

The design to add liquid detectors, a VCM knockout pot, and made other modifications in the VCM unloading area was issued and a review meeting was held.

H. Fixed Point Monitoring Data Computer and Warning Lights

Process Engineering issued a report for CCD giving detailed requirements for the operation of the data computer.

PROCESS ENGINEERING - (continued)

I. Hot Water Charge Pump Problem

Process Engineering has determined that the main cause of hot water charge pump failure is improper suction piping. A sketch showing proper suction piping configuration was given to operations. The possibility that the pumps might also be experiencing some cavitation is being investigated.

J. Resin Reclaim

A revised process design incorporating comments from CED and PED is being prepared.

K. Rotary Dryer Insulation

A report evaluating potential energy savings from insulating various sections of the rotary dryers was issued. An AFE request for insulating the uninsulated portion of the dryers was submitted.

L. Plasticizer Initiator Handling

The Class "A" design to improve plasticizer initiator handling is underway.

M. Reactor Drum Storage Areas

The design to provide a curbed drum storage area for each reactor module is being prepared.

N. Resin Silo Aeration

The class "A" design to provide additional aeration in the Series 600 resin silos was issued.

O. RVCM Receiver High Level Alarms

The class "A" design for this project is being prepared.

P. Line III Mill Temperature Control

An evaluation on the temperature control scheme of the Line III mill was made. A letter was issued on the condition of the existing heating system.

ENVIRONMENTAL - V. E. Messick

Particulates

Two dryers were tested for particulates in October.

Water

All effluent parameters were within NPDES limitations in October.

NPDES Laboratory Performance Evaluation samples were received, analyzed, and the information was transmitted to the EPA contractor.

A meeting was held with the State Bureau of Pollution Control to discuss waste water limitations for the renewal of the plant's NPDES permit.

VCM

A comprehensive leak survey of all piping and equipment in VCM service has begun. Areas with higher than normal VCM concentration are being reported to operations for corrective action.

Hazardous Waste Management

A visit was made to the Chemical Waste Management disposal site in Alabama. The RCRA permit application for treatment, storage, and disposal of hazardous wastes is being reviewed prior to submittal.

TABLE I
WATER COMPLIANCE WITH
NPDES PERMIT PARAMETERS

		Flow	BOD		COD		Sus. Solids		Diss.	ph
		GPM	PPM	LB./DY.	PPM	LB./DY.	PPM	LB./DY.	0 ²	
Jan.	- Ave.	810	43	436	86	851	11	103		
	Max.	941	131	1342	216	2214	13	143	6.8-8.5	7.7-8.0
Feb.	- Ave.	645	6	42	15	116	10	79		
	Max.	802	8	56	24	171	13	125	6.7-7.9	7.1-7.8
Mar.	- Ave.	595	29	220	66	502	11	74	6.6-8.3	7.1-7.8
	Max.	743	36	314	95	828	14	94		
Apr.	- Ave.	628	21	147	54	378	12	86	6.4-8.3	7.5-8.4
	Max.	877	30	232	67	519	13	129		
May	- Ave.	304	16	69	53	197	10	40	6.7-7.3	7.2-7.9
	Max.	480	32	184	74	426	14	81		
June	- Ave.	670	6	49	40	316	12	98	6.7-7.3	7.5-7.9
	Max.	804	11	84	51	367	15	145		
July	- Ave.	696	14	112	39	322	11	88	6.6-7.3	7.3-8.0
	Max.	813	19	145	78	597	14	110		
Aug.	- Ave.	698	7	56	32	270	15	126	6.5-6.9	7.6-7.9
	Max.	753	9	70	42	380	24	187		
Sept.	- Ave.	679	5	42	22	168	7	44	6.2-6.7	6.5-7.9
	Max.	767	7	64	27	248	14	89		
Oct.	- Ave.	956	9	110	27	316	7	78	5.9-7.3	7.6-8.0
	Max.	1066	17	217	45	576	11	119		
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 October was 112.5 MMM BTUs. The energy consumption per pound of product decreased from 3215 BTU/lb. to 3066 BTU/lb.

II. Plant Energy Conservation Program

Steam Leaks

Forty-six (46) steam leaks were repaired in October.

Boiler Economizers

Installation of economizers on two of the plant's three boilers was completed in October, with the installation of the third economizer to be completed in November.

ENERGY CONSERVATION DATA

<u>ITEM</u>	<u>1979</u>	<u>1980</u>
<u>Production, MM Lbs.</u>		
Resin	28.8	26.5
Dry Blend	5.4	4.2
Compound	3.4	4.8
Plasticizer	<u>0.9</u>	<u>1.2</u>
TOTAL	38.5	36.7
<u>Natural Gas</u>		
Consumption, MSCF	56582	57964
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	57.714	59.123
<u>Electricity</u>		
Consumption, MM KWH	5.0496	5.3398
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	50.496	53.398
<u>Propane</u>		
Consumption, M Gal.	0.601	0
Conversion, BTU/Gal.	92000	92000
Energy Consumption, MMM BTU	.055	0
<u>Total</u>		
Energy Consumption, MMM BTU	108.265	112.521
Energy Consumption , BTU/Lb.	2812	3066
<u>Boiler Operating Data</u>		

	<u>Avg. Stack Temp.</u>		<u>Avg. % Excess Air</u>	
	<u>1979</u>	<u>1980</u>	<u>1979</u>	<u>1980</u>
No. 1	365	392	27	22
No. 2	404	483	26	24
No. 3	407	406	27	31

LABORATORY - R. D. Jackson

CUSTOMER COMPLAINTS

<u>Customer</u>	<u>Product</u>	<u>Complaint</u>	<u>Report By</u>
Kaiser Aluminum	34641 Blk.	Undispersed material	RDJ
Packard Electric	34533 Nat.	Poor processing	RDJ
World of Plastics	5385	Resin streamers	CRM

WAIVERES RECEIVED

<u>Date</u>	<u>Identification</u>	<u>Product</u>	<u>Complaint</u>	<u>Reason</u>	<u>Waived By</u>
10/7	CONX 45705	5385	Charlotte Pipe	Particle size	EKL
10/3	Cust. Truck	VRP	Heritage	Color	Customer

PRODUCT DEVELOPMENT & SERVICE

<u>Ship Date</u>	<u>Product</u>	<u>Amount (Lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
10/1/80	18031 CLBL50	50	PMS	MAS
10/1/80	14431 CLBL50	50	PMS	MAS
10/1/80	15041 CLBL50	50	PMS	MAS
10/1/80	16851 CLBL50	50	PMS	MAS
10/7/80	5305	50	Amoco Chemicals	MAS
10/7/80	15041 CLBL50	10	Conoco Inc.	ERC
10/7/80	34533 Natural	5	Conoco Inc.	ERC
10/7/80	48562 Black	2	Conoco Inc.	ERC
10/7/80	5385-3	5	W. R. Grace Co.	MFM
10/8/80	5305	100	Dayco	-
10/8/80	34501 Black	5	Conoco Inc.	ADK
10/10/80	5385-3	50	General Binding Corp.	MFM
10/10/80	5305	50	Fritz Airfreight	JPM
10/14/80	VRP	1 gallon	Heritage International Inc.	WR
10/14/80	5385-1	50	Electric Hose & Rubber Co.	MFM
10/14/80	5425	50	Electric Hose & Rubber Co.	MFM
10/16/80	5385-1	50	Sheller Globe	MFM
10/16/80	5425	50	Sheller Globe	MFM
10/22/80	5385-1	50	Fritz Airfreight	JPM

LABORATORY - (continued)

PRODUCT DEVELOPMENT & SERVICE - (continued)

<u>Ship Date</u>	<u>Product</u>	<u>Amount (Lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
10/22/80	27121 Black	100	Standard Mirror	JTW
10/22/80	17461 Natural	50	Tafco Corp.	MFH
10/22/80	5465	10	Kalex Chemical Co.	RNG
10/22/80	5305	5	Wilson Products	RNG
10/24/80	27121 Natural	50	PMS Consolidated	MAS
10/27/80	5305	50	Diamond Shamrock	JTW
10/27/80	5385-1	50	Diamond Shamrock	JTW
10/27/80	5425	50	Diamond Shamrock	JTW
10/27/80	5465	50	Diamond Shamrock	JTW
10/29/80	5305	50	Uniroyal Chemical Division	NTH

Special Compound Testing

Complete specification tests were run on 2 samples of 36861 Natural for Western Electric, and selected critical tests were run on 2 other samples.

Oven aging tests were run on 2 shipments of 38601 to Phelps Dodge and one shipment of 35851. One shipment of 34641 to Kaiser was subjected to oven aging tests.

Customer Color Samples

Sample plaques of 6 gray colors available in electrical compound were prepared and sent to Electri-Flex.

QUALITY CONTROL TESTING

Resin

Regular Samples = 403
Bag Samples = 53
Other In-Process Samples = 3020
Bulk Shipments = 202 (Railcars = 87; Trucks = 115)

Dry Blend

Blenders Produced = 452
Blenders Tested = 400
Blenders Adjusted = 12.4%
Other In-Process Samples = 541
Bulk Shipments = 61 (Railcars = 4; Trucks = 57)

LABORATORY - (continued)

QUALITY CONTROL TESTING - (continued)

Compound

Blenders Produced = 737
Blenders Adjusted = 2.4%
Line 5 Production = 71 skids; 0 boxes
Other In-Process Samples = 573
Bulk Shipments = 24 (Railcars = 5; Trucks = 19)

Resin Heat Stability

Fifty two (52) lots of resin were tested for oven heat stability using the Metrastat oven.

5385	20 lots
5425	20 lots
5305	10 lots
5465	2 lots

Heat stabilities were acceptable, except for one sample of 5335 which was marginal.

RVCN of Shipments

A total of 159 shipment samples were tested for residual VCM in October. None of the samples exceeded 10 ppm. A summary of this data is below.

<u>Product</u>	<u>5305</u>	<u>5385</u>	<u>5425</u>	<u>5465</u>	<u>Dry Blend</u>
Number of Samples	71	54	27	2	6
Average RVCN, ppm	2.6	0.8	0.1	0.1	0.4

Inherent Viscosity

A total of 681 samples were analyzed for a daily average of 22 samples per day. All railcar shipments during October were tested for inherent viscosity.

Dry Blend Controls

Welex batches of 80273G and 80172B were prepared as quality control standards.

Raw Material Testing

Fifty-eight (58) lots of plant raw material were tested and released. One lot of Hydral 710 (hydrated alumina) and four lots of Thermaguard S (antimony oxide) were rejected for poor dispersion.

LABORATORY - (continued)

MISCELLANEOUS PROJECTS

Resin Volume Resistivity

Volume resistivity was measured on 4 recent samples of 5425 resin and 2 recent samples of 5465 resins. All the samples gave values that were equal to or better than the control.

Compound Property Verification

The compound property verification program is complete unless the plant should make additional compounds for the first time in 1980.

Residual VCM in Slurry

A total of 639 slurry samples were tested for RVCM. The overall average was 179 ppm. There were no days where the average exceeded 400 ppm.

RVCM of Blowdown Tanks

A total of 149 samples of blowdown tank water was tested for RVCM. The overall average was 4.7 ppm.

RVCM of 5305 Regular Samples

A total of 63 samples of 5305 taken from the regular QC drier samples were tested for RVCM. The overall average was 3.6 ppm.

Personnel Dosimetry

There were 94 analyses of VCM dosimeters reported to the Safety Department during October.

L & N Particle Size Tester

The startup of the L & N particle size tester is complete after many problems. Most of the startup problems were electronic which the L & N service people worked on. In addition we found several operation parameters which were much more critical than expected. One such item is lazer alignment. A test program to define the short term and long term precision is in progress. The precision study will be completed during November.

TRANSPORTATION - J. E. Stark

<u>Shipment by Product - M/lbs.</u>	<u>October</u>	<u>Year-to-Date</u>
Resin	24742	163464
Plasticizer	83	729
Dry Blend	4423	22123
Compound	5566	37658
Total	34814	223974

Number of Shipment by Mode

	R/C	O.T Bulk	O.T Van	C.O.T.	C.C.	TOFC	CPU	TOTAL
Resin - Bulk	112	47			16		43	218
Package			5				7	12
Export		6	37					43
Platicizer					1		1	2
Dry Blend - Bulk	6	7			3		44	60
- Package			10		1		1	12
- Export			13					13
Compound - Bulk	10	16			3			29
- Package			31	1	19		20	71
- Export			11					11
Other - Antifreeze								
- Alumina								
	128	76	107	1	43	0	116	471
Back Hauls for October			33	1	2			36

Number of Shipment by Month-Year-to-Date

	R/C	Bulk	Van	C.O.T.	C.C	TOFC	CPU	TOTAL
January	104	53	72	0	4	2	36	273
February	111	83	66	0	21	4	35	320
March	130	95	64	1	37	0	48	375
April	69	43	84	0	5	0	29	230
May	42	41	75	0	3	0	30	191
June	55	36	136	0	7	0	74	308
July	57	47	52	0	2	0	64	222
August	79	51	65	0	12	0	89	296
September	102	53	62	0	7	2	53	279
October	128	76	107	1	43	0	116	471

TRANSPORTATION - (continued)

<u>Material Handling Report</u>	<u>M/Lbs.</u>	<u>T/L</u>
Packaged Resin From Production	2,470	61
Packaged Compound, Dry Blend From Production	4,415	109
Transferred From Main to Prairie	2,187	54
Transferred From Prairie to Prairie	0	0
Reverse Transfer Resin to Plant	769	19
Reverse Transfer Compound to Plant	203	5
Shipment From Warehouses	5,427	134
Special Packaging	2,471	61
Transferred From Prairie to Main	<u>2,389</u>	<u>59</u>
TOTAL	20,331	502

Off-Grade In Storage

<u>Material</u>	<u>M/Lbs.</u>	<u>T/L</u>
Sifter Overflow	519	13
Resin "BC"	3,983	98
Resin "H"	1,735	43
Mill Scrap	183	5
Compound "B"	930	23
Compound "H"	114	3
Dry Blend "O.G."	<u>110</u>	<u>2</u>
TOTAL	7,574	187

D. F. Operation

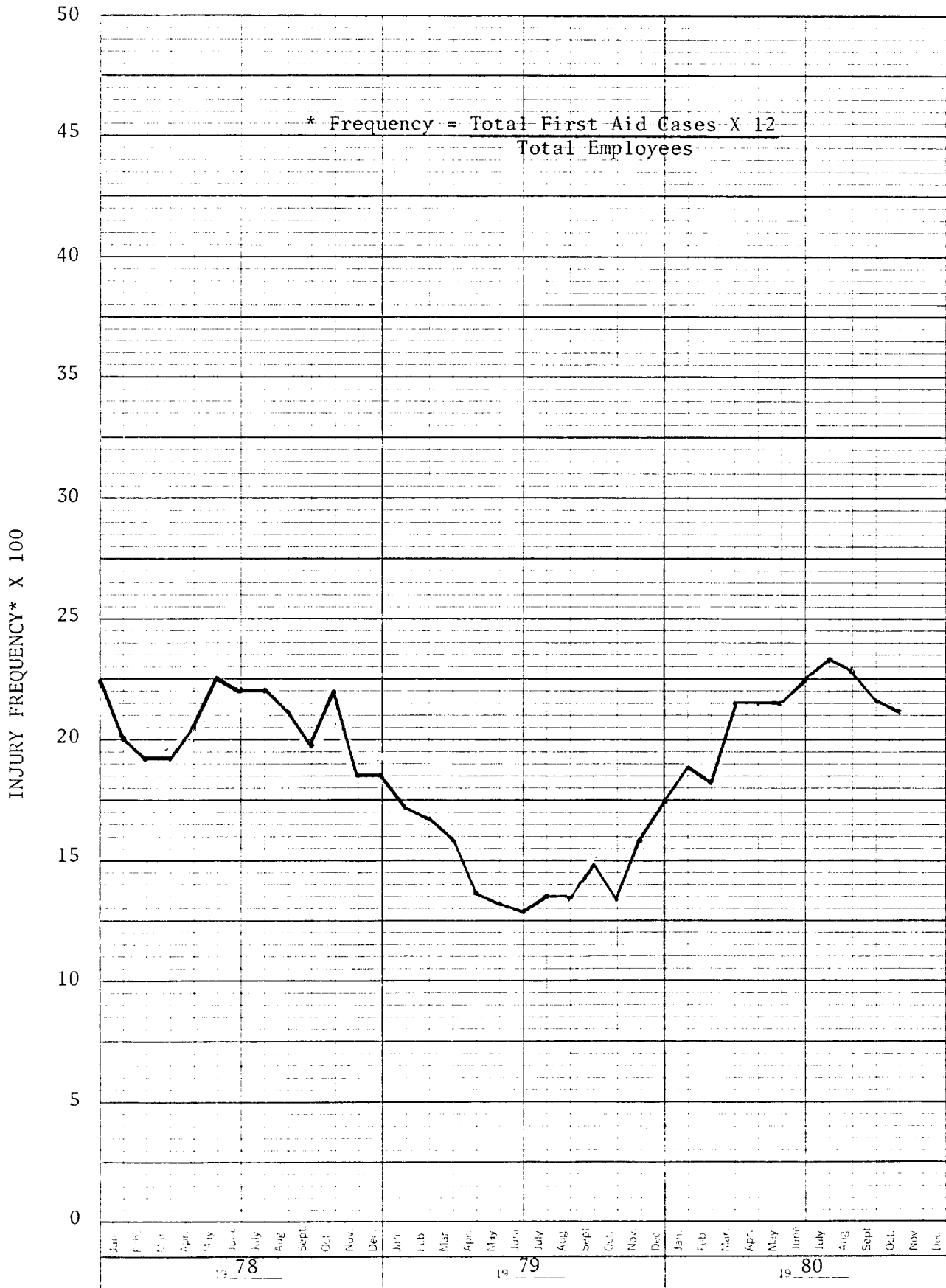
Total packaged inventory for the month remained the same. Production for packaged compound and resin was up for the month, but shipments were high, therefore the inventory remained approximately the same. Export shipments were up for the month. Total shipments for the month was the highest this year.

CONOCO TRANSPORTATIONABERDEEN WAREHOUSE

LOCATION	TOTAL M SQ. FT.	CONTENTS	ESTIMATED MM POUNDS			
			ON FLOOR	OPEN	TOTAL	
MAIN-East	48	Compounds	3.6			
		Dry Blend	.2			
		Export Resin	1.0			
		Conoco Resin	.5	5.3	4.7	10.0
Prairie 12-1	12	HDPE	.4	.4	1.1	1.5
12-2	22	Resin	3.0			
		Export Resin	.1	3.1	.4	3.5
12-3	21	Conoco	.3			
		Export Resin	3.6			
			.	* 3.9	.	3.5
12-4	22	Conoco Resin	4.4			
		Resin O.G.	.	* 4.4	.	3.5
12-5	21	Mill Scraps	.2			
		Cmpd O. G.	1.1			
		Dry Blend O. G.	.1			
		Sifter Overflow	.5			
		Resin O. G.	1.0	* 2.9	.	2.5
12-6	21	Compound	.1			
		Resin	2.6			
		Raw Material	.2	2.9	.6	3.5
12-7	21	Resin O. G.	3.0	3.0	.5	3.5
12-8	21	Conoco	4.5	* 4.5	.	3.5
12-9	21	Conoco Resin	3.7	3.7	.	3.5
		Sub-Total				38.5
		(Plug-Aisles)		* DTH 000021659		2.9
Total	209	Total Conoco	34.1	7.3		41.4

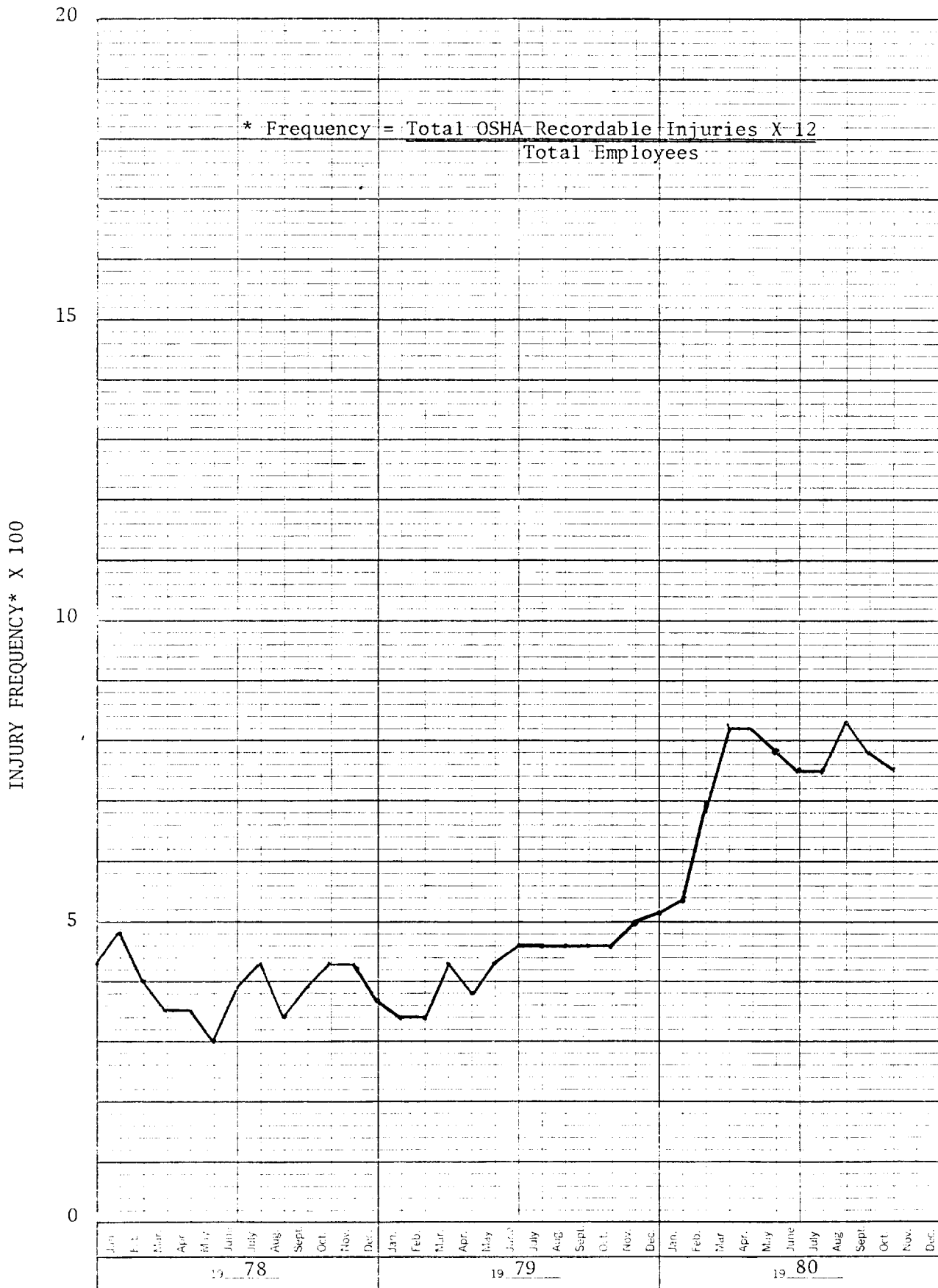
ABERDEEN FIRST-AID CASES

12 MONTHS MOVING AVERAGE

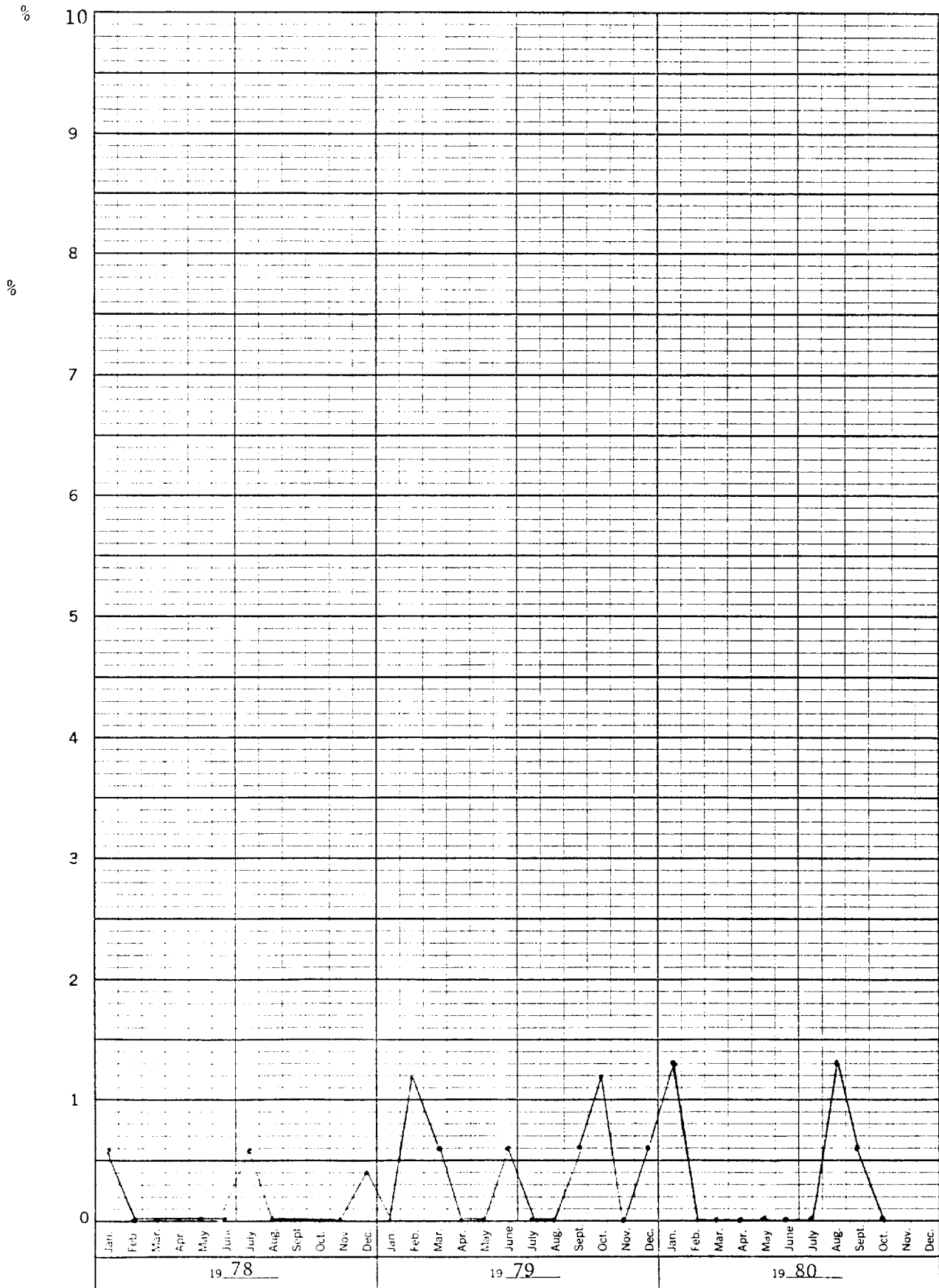


ABERDEEN OSHA RECORDABLE INJURIES

12 MONTH MOVING AVERAGE



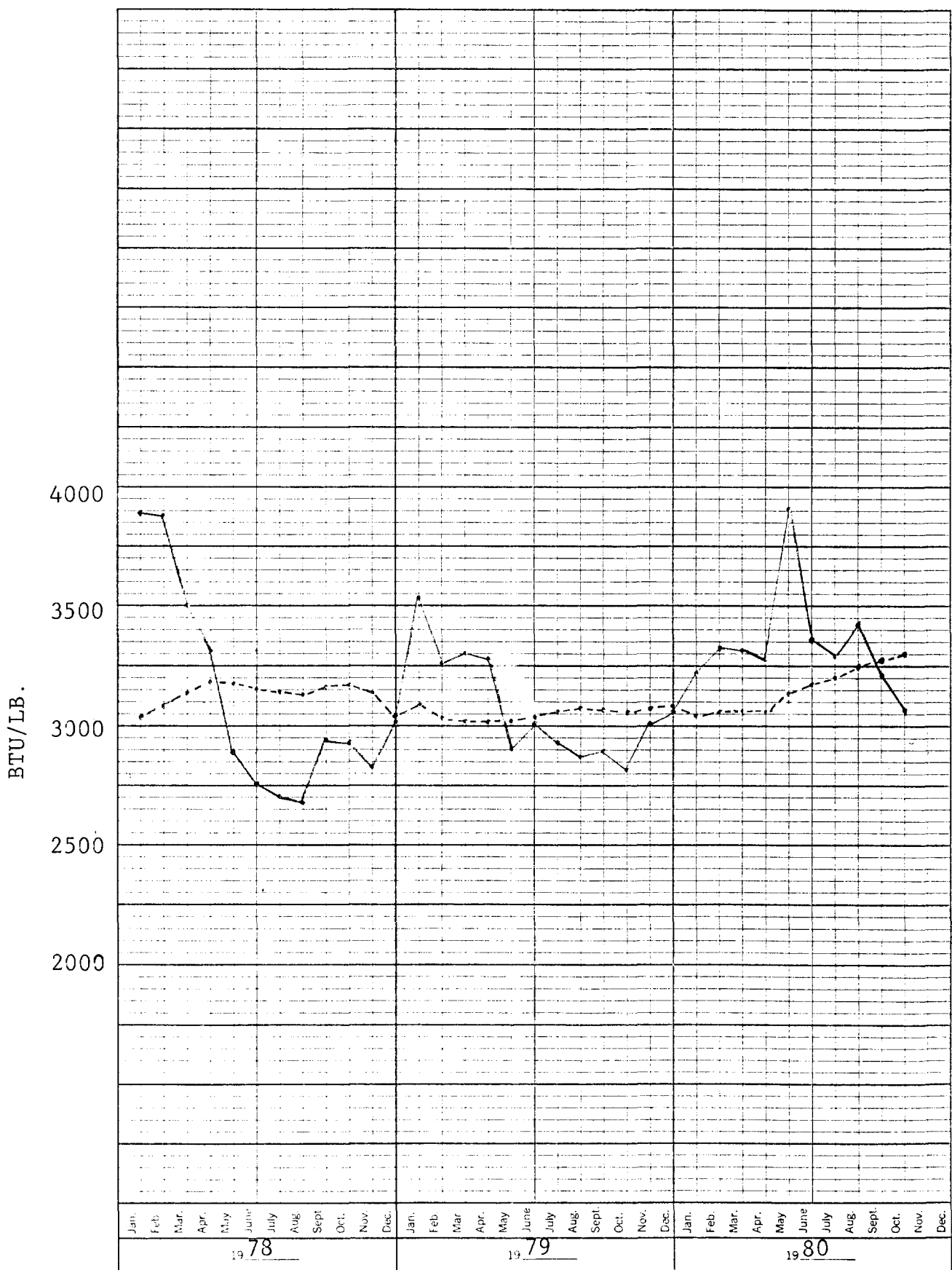
MONTHLY HOURLY TURNOVER



46 3290

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

ENERGY USAGE



Monthly

----- 12 Month Moving
Average

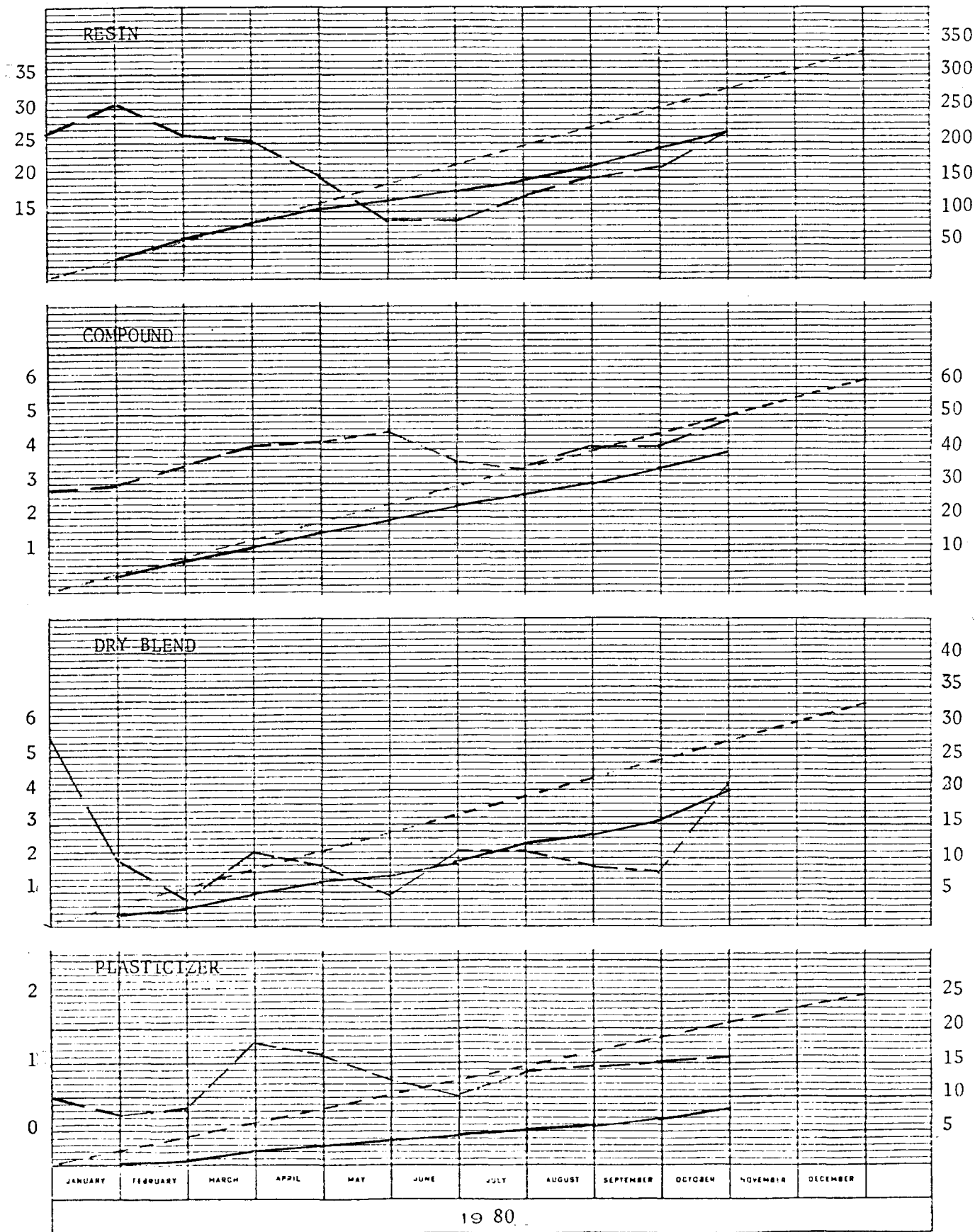
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MM POUNDS
MONTHLY

ABERDEEN PLANT PRODUCTION

1980

MM POUNDS
CUMULATIVE

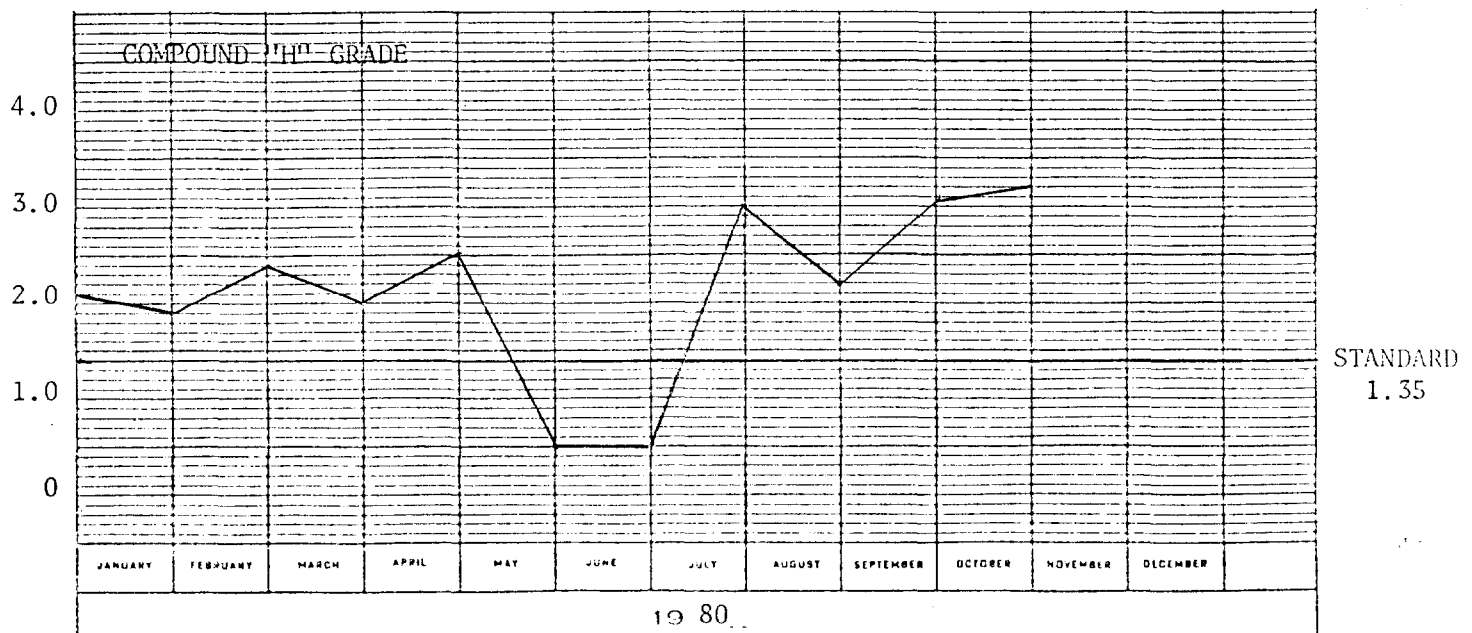
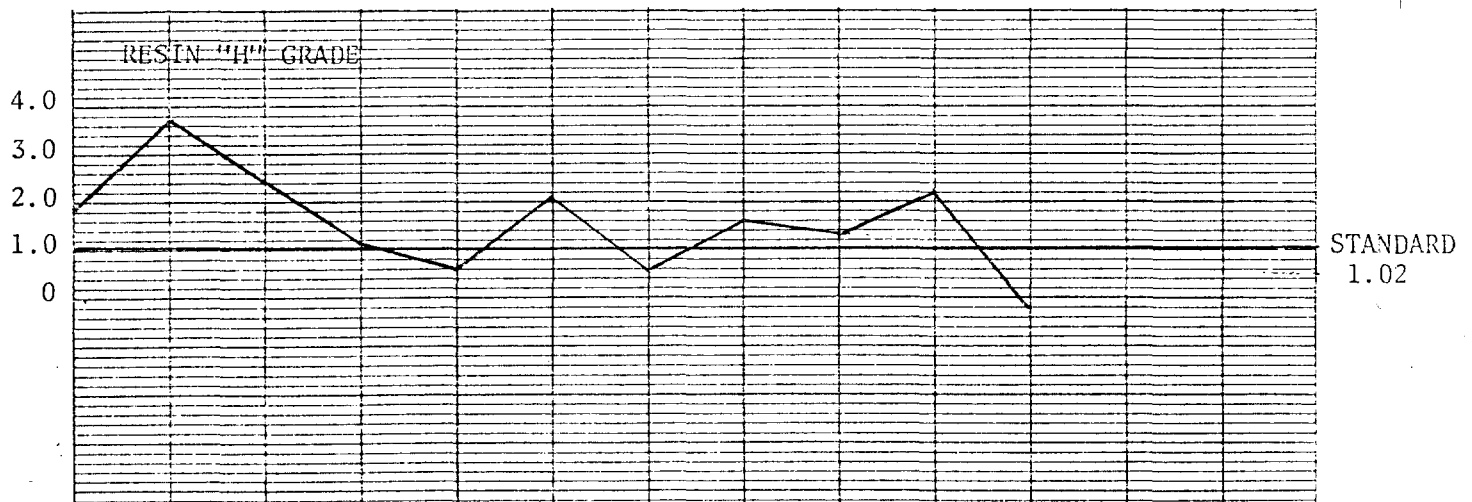
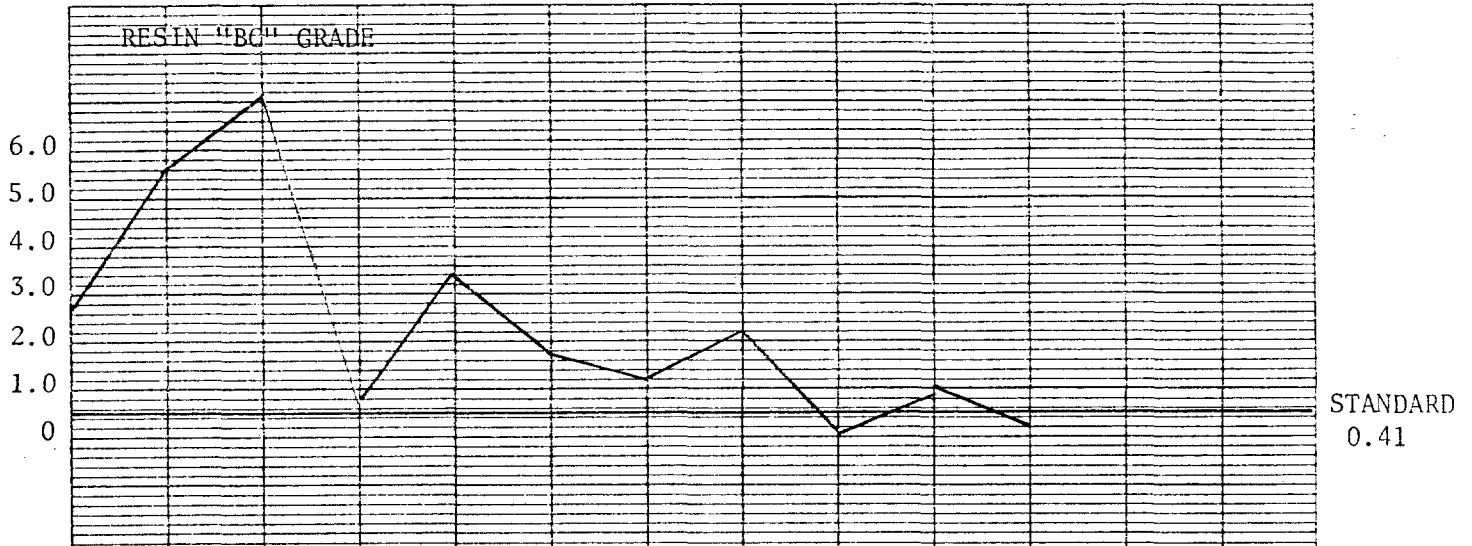


----- BUDGET
- - - ACTUAL
—— CUMULATIVE

ABERDEEN PLANT QUALITY PERFORMANCE

1980

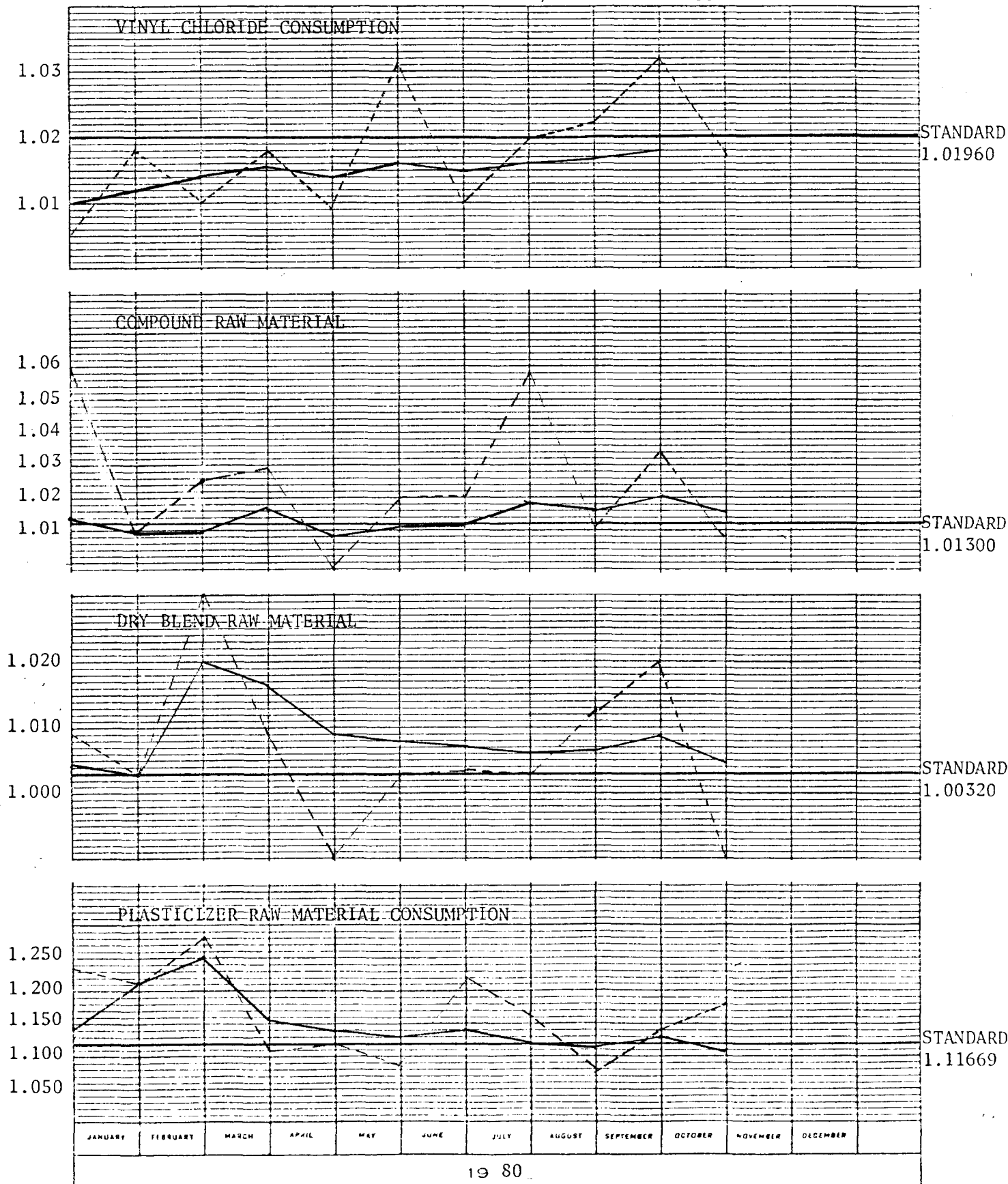
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OFF GRADE



ABERDEEN PLANT EFFICIENCY

1980

POUNDS OF RAW MATERIAL/POUND OF PRODUCT



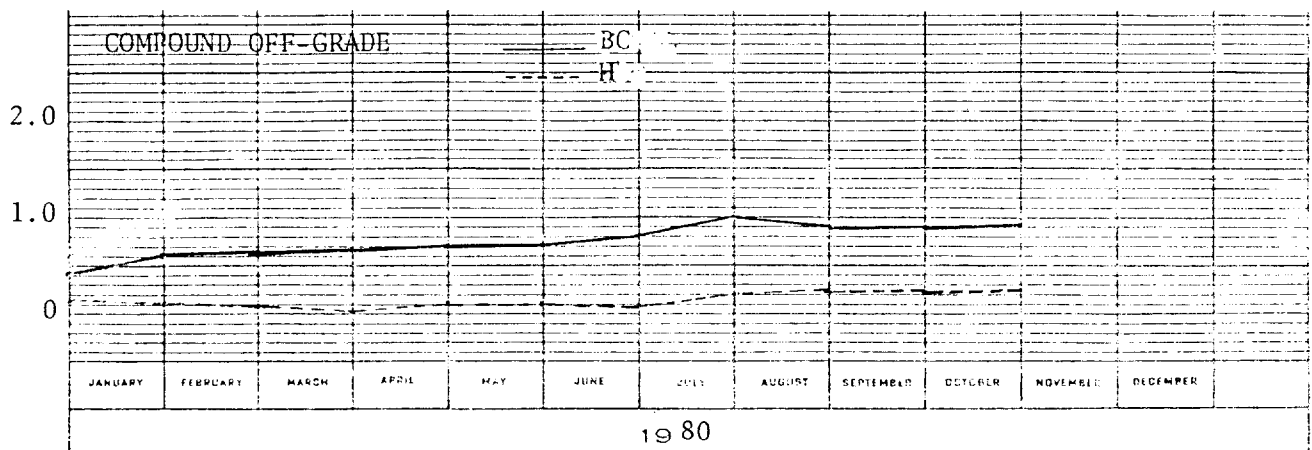
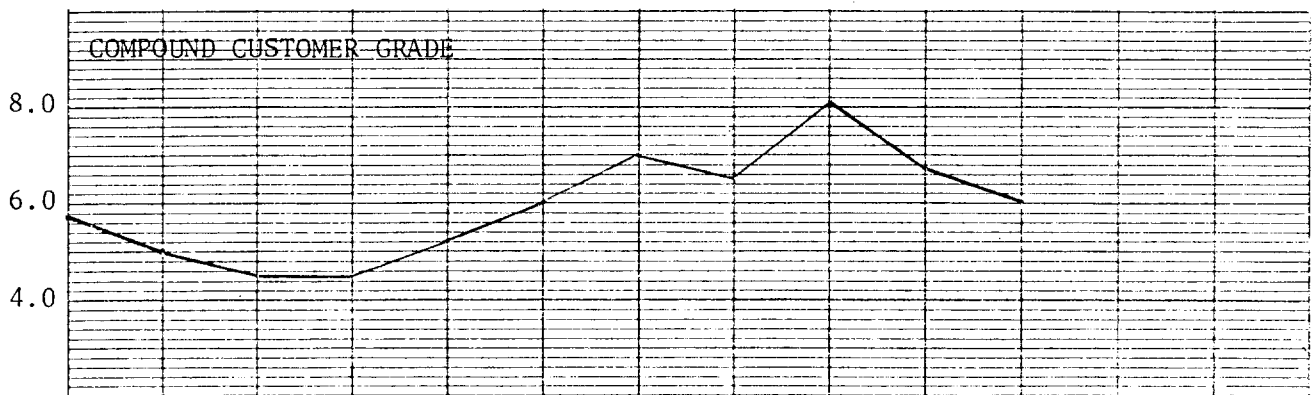
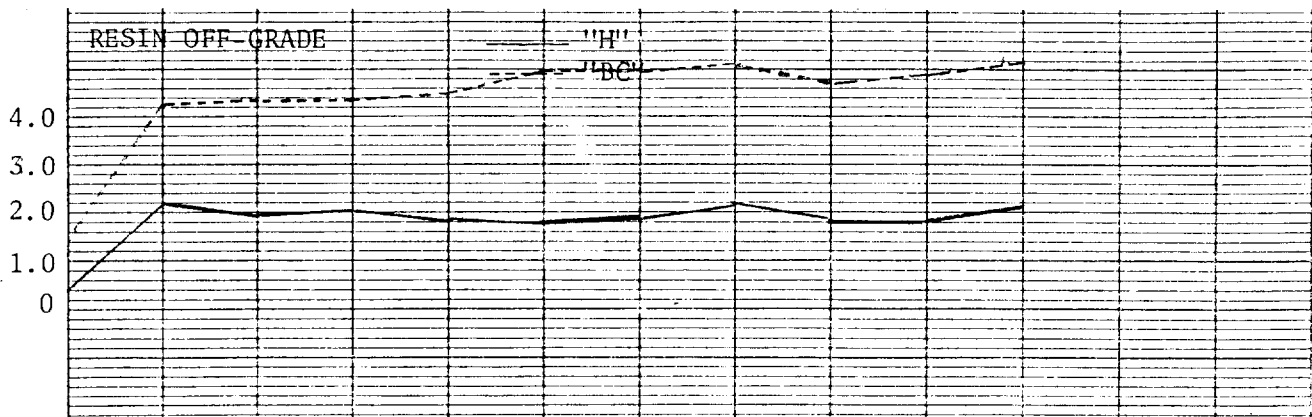
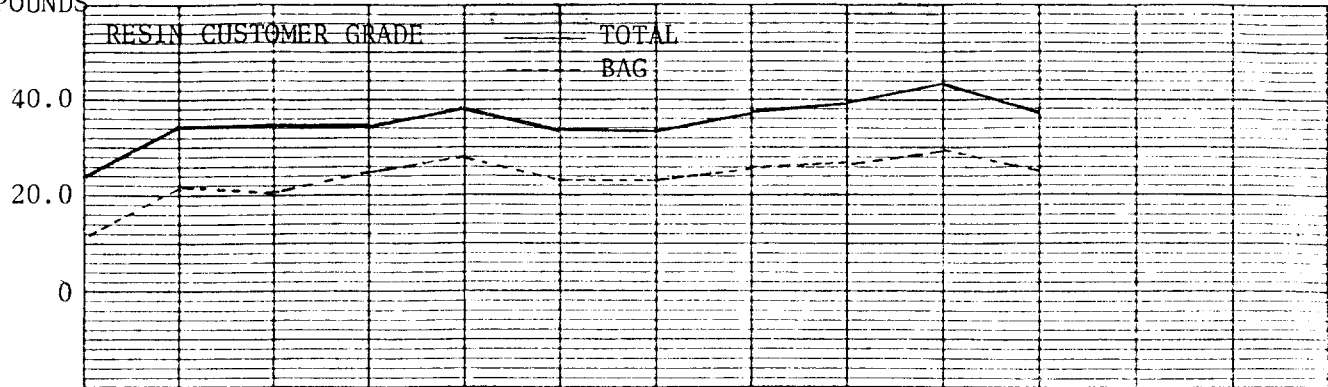
----- MONTHLY
 ————— CUMULATIVE

DTH 000021666

ABERDEEN PLANT INVENTORIES

1980

MM
POUNDS



19 80