

SAFETY - A. H. Sather

Occupational Injuries

<u>Injuries Treated</u>	<u>September</u>	<u>1980 Year-to-Date</u>	<u>1979 Year-to-Date</u>
First Aid	1	38	29
Medical Cases	0	14	6
Restricted Workday Cases	0	2	2
Restricted Workdays	0	23	29
Lost Time	0	0	1

Injuries By Department

Vinyl Operations	0	12	13
Compound Operations	1	15	3
Maintenance	0	23	18
Laboratory	0	3	0
Receiving and Warehouse	0	0	0
Office	0	1	2

Injuries By Type

Cuts and Abrasions	0	27	11
Eye Injuries	0	4	5
Burns	0	6	12
Bruises	1	11	7
Strains and Sprains	0	4	5
Other	0	4	1

As of September 30, 1980, the plant operated a total of 450 days or 579,320 manhours without a disabling injury.

Safety Meetings

The topic for safety meetings during the reporting period was "Eye Safety". Several of the plant safety rules regarding eye and face protection and the film "Don't Push Your Luck" were reviewed.

New Employee Orientation

Six (6) new employees were given new employee orientation during the reporting period. Of the six (6) new employees, five were casual laborers and one was the new Vinyl Operations Superintendent, P. E. Markey.

Training Programs

Initial comments were given to M. S. Reynolds, Houston, regarding the expanded health effects of VCM exposure and medical records for the revised VCM slide and tape program. Several additional photographs were taken to complete the Employee Safety Responsibilities Program.

SAFETY - (continued)

Corporate Safety Meeting

A. H. Sather attended the Corporate Safety Meeting held in Houston September 28 through October 1, 1980.

Departmental Supervisors Meetings

Initial plans were made to conduct Departmental Supervisors Meetings to discuss areas of need and methods to improve safety performance. The meetings will be conducted during October, 1980.

Chemical Exposure

Activity for the month included monitoring for VCM and Lead exposure. Also, the results of the Aberdeen PVC Dust Sampling were compiled and reported. Monitoring results and overexposure explanations are noted below.

VCM

A total of 92 samples were taken with 5 indicating overexposure.

<u>Range (ppm VCM)</u>	<u>Number</u>	<u>Percent</u>
0.0-0.5	85	92.39
0.5-1.2	2	2.17
1.0-5.0	4	4.35
5.0+	1	1.09
	<u>92</u>	<u>100.00</u>

Of the 5 VCM overexposures, 2 occurred to Mechanics who were blinding and opening the south knockout tank in the new unit and were wearing air line respirators; 1 occurred to a Mechanic who was changing gaskets in a VCM compressor and was wearing an air line respirator, 1 occurred to a Vinyl "A" Operator who was changing VCM filters and was wearing an air line respirator; the remaining overexposure occurred to a Vinyl Shift Supervisor who was not wearing a respirator. The source of the last overexposure is under investigation.

Lead

	<u>Number</u>
Less than PEL*	2
Greater than PEL	0
	<u>2</u>

* Permissible Exposure Limit

PVC Dust Sampling

A total of 41 samples were taken and analyzed. Of these samples, the first 5 were checked for particle size distribution, one was a blank, and the remaining 36 were analyzed for sample weight using matched-weight filters. The results of particle size analysis and time weighted average exposure

SAFETY - (continued)

PVC Dust Sampling - (continued)

analysis are shown below.

Particle Size

	<u>Size Range, Microns</u>			
	<u><2</u>	<u>2-5</u>	<u>5-10</u>	<u>>10</u>
Percent, Total Particles*	4.5	26.1	26.9	42.5

* Particles were counted and sized using a scanning electron microscope. All particles were counted.

Time Weighted Average Exposure (TWA)

<u>Range (Milligrams/M³)</u>	<u>Number</u>	<u>Percent</u>
0.0-0.5	29	80.56
0.5-1.0	4	11.11
1.0-1.5*	3	8.33
	<u>36</u>	<u>100.00</u>

* The largest TWA result was 1.4 mg/m³. The respirable dust standard (OSHA) is 5.0 mg/m³.

VINYL - P. E. Markey

<u>Production</u>	<u>Month</u>	<u>Y.T.D.</u>	<u>Budget</u>
1. Total Production, MM Pounds	23.4	187.9	
2. Production Rate, M Pounds/C.D.	780	686	900
3. Charges, Reactor Batches/C.D.	19.1	16.5	
4. Total Charges	573	4526	
5. Reactor Stream Factor, %	80.6	71.9	
6. Drying Rates, Average Pound/Hr.	5699	4082	
7. Dryer Stream Factor, %	81.5	72.1	
8. Accounting Days	30	274	

Vinyl Department production for September was 86.6% of budget at 23.4 MM pounds. Production levels continued to be reduced as part of the inventory control program.

Reactor and dryer stream factors were 80.6% and 81.5% respectively. The major item affecting those stream factors and the overall production rates are as follows:

1. Inventory control programs continued to represent the majority of reactor and dryer stream factor penalties (10.3% and 10.2% respectively).
2. A total of 5 reactor condenser brushings were performed, resulting in a 2.8% reactor stream factor penalty.
3. Debugging operations were undertaken towards the end of September, resulting in a 2% dryer stream factor penalty.

Testing of extended Methocel addition times was begun in September. Additional testing is planned for October.

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	1,604,190	(50)	-	6.9
5385	18,268,239	203,250	-	79.2
5425	2,880,505	13,500	(286,450)	11.2
5465	404,400	-	-	1.7
Sifter Overflow	-	-	244,900	1.0
TOTAL	23,157,334	216,700	(41,550)	100.0

Quality performance for September was 99.2% customer grade with 0.9% "BC" grade and (0.1%) "H" grade. Debugging operations upgraded 286 M pounds to prime quality resin.

VINYL - (continued)

The variable cost variance for the Vinyl Department was \$339.3 M with \$314.1 due to price and \$25.2 M due to efficiency. The variance due to product mix was \$8.6 M. The major price variance was \$320.2 M for VCM. The major efficiency variance was (\$57.7 M) for VCM, but was partially offset by a favorable \$51.3 M in processing additives.

The raw material requirement for September was 1.03200 pounds VCM/pound PVC versus the 1.01960 standard. (Y.T.D. is 1.01876)

General

Resin packaging for September totaled 2,827,885 pounds. Resin debuggng totaled 286,450.

COMPOUND - J. R. McCrimon

<u>Compound Production</u>	<u>Month</u>	<u>Day</u>	<u>Y.T.D.</u>
Line I, M Pounds	1,127	51	10,048
Line V, M Pounds	214	31	834
Line III, M Pounds	2,831	98	23,517
Total, M Pounds	4,172	144	34,400
Accounting Days	30		274

Line I operated 22 days during September at an average rate of 51 M pounds per day. Major items affecting production efficiency were: product changes (35.5 hours), adjusting and repairing scales (30.2 hrs.), dicers (16.0 hours), conveyor clutch and bucket repairs (15.8 hours), and maintenance on the pull roll gearbox.

Line V operated 7 days during September at an average rate of 31 M pounds per day. Major items affecting production efficiency were: putting raw materials in use bins (19.9 hours), product changes (15.0 hours), maintenance on the Orbitran (7.1 hours) and maintenance on the plasticizer scale system (5.5 hours).

Line III operated 29 days during September at an average rate of 98 M pounds per day. Line III production was affected by: product changes (41.4 hours), repairs to FCM and conveyor (19.9 hours), and quality control (11.1 hours).

Quality performance for flexible compounds was 3.0% off-grade of which 92.6% was due to mill scrap. "BC" production was 1.3%.

The raw material requirement for flexible compounds was 1.03410 pounds of raw material per pound of compound versus a 1.01303 standard. (Y.T.D. is 1.01994)

The variable cost variance for compound was (\$8.0 M) with \$44.1 M due to price and (\$52.2 M) due to efficiency. The variance due to product mix was (\$4.8 M). The only major efficiency variance was (\$12.9 M) for resin which was due to an inaccurate inventory count on bagged resin. There were no major price variances for September.

<u>Dry Blend</u>	<u>Month</u>	<u>Day</u>	<u>Y.T.D.</u>
Production, M Pounds	1,645	84	15,328
Accounting Days	30		274

Dry Blend operated 19 days during September at an average rate of 84 M pounds per day. Production included 80172B, 80273G, 80274G, 80175 and 3948-43A. Dry Blend production was affected by: inventory control, No. 2 Welex blade change (16.0 hours), maintenance on product blower (15.6 hours), quality control (14.2 hours), boxing dry blend (11.5 hours), dust collector/use bin repairs (9.7 hours), and product changes (8.3 hours).

Quality performance for the month was 99.99% customer grade.

COMPOUND - (continued)

Dry Blend - (continued)

The raw material requirement for dry blend was 1.02031 pounds of raw material per pound of dry blend versus a standard of 1.00319. (Y.T.D. is 1.00890)

The variable cost variance for dry blend was \$26.0 M with \$8.5 M due to price and \$17.5 M due to efficiency. The variance due to product mix was \$32.9 M. There were no major price or efficiency variances for the month.

<u>Plasticizer</u>	<u>Month</u>	<u>Day</u>	<u>Y.T.D.</u>
Production, M Pounds	1,026	51	7,030
Accounting Days	30		274

Plasticizer operated 20 days during September at an average rate of 51 M pounds per day. Production included: 610P, DIDP, and DOP.

VRP production totaled 68.2 M pounds (6.7%). Production was limited by: R-2 cooling coil acid cleaning and rupture disc replacement (twice).

The raw material requirement for plasticizer was 1.12148 pounds of raw materials per pound of plasticizer versus a 1.07823 standard. (Y.T.D. is 1.11325)

The variable cost for plasticizer was (\$55.7 M) with (\$34.2 M) due to price and (\$21.6 M) due to efficiency. The only major price variance was (\$17.0 M) for 2-Ethylhexanol and there were no major efficiency variances.

The variance due to product mix was (\$0.9 M).

General

Total customer grade compound inventory decreased from 7.2 to 6.7 MM pounds during September.

MECHANICAL - S. J. Vincent

Vinyl

There were no large reactor seals or gearbox failures in this period. There were five condensers cleaned this month with three condensers being cleaned in the new module and two in the old module. Those condensers cleaned in the new module were on the 742, 743, and 744 reactors. In the old module, condensers were cleaned on the D-300 and D-400 reactors.

The safety valves were tested on 741 and 744 reactors. New safety discs were installed on these reactors also. New agitator blades were installed in the new module reactors 741, 742 and 743.

Several major valves were repaired or replaced in the vinyl production area in this time period. The slurry dump valves on 742 and D-300 reactors were replaced. The recovery system bypass and inlet valve to the north knock-out drum were replaced. The evacuation and recovery valves were replaced on 741 reactor and rewired for panel control, along with both steam stripping valves. The D-400 chemical wash valve was replaced. The polarity was reversed on the new module large reactor control valves. This was done to prevent the possibility of these valves failing open should there be a wiring problem.

There were seven seal failures to pumps and compressors in this period. One failure was in the new module and six were in the old module. In the new module the seal was replaced in the east VCM return pump. In the old module seals were replaced in the south emission recovery return pump, the emission recovery compressor, the inboard and outboard seal on "B" recovery compressor, the inboard seal on the "A" recovery compressor and the inboard seal on "B" vacuum pump.

In the old module the rinse pump was overhauled and a new seal water pump was installed. Two Corken compressors were removed to repair case leaks. New safety discs and safety disc holders were installed under the VCM sphere safety valves.

The Bird centrifuge and gearbox were changed twice in the #5 dryer unit. The Bird centrifuge and gearbox were changed in the #4 unit. The Sweco feeder valve was changed on #2 dryer and the exhaust damper was reworked on the #6 exhauster. A separate power source was installed to the large silo lights. The lights previously were shut off whenever a blower was locked out.

Compound, Dry Blend, Plasticizer, and Silo Storage

The compound lines I, III, and V were operated this month with line I and V alternating. The bulk of the repairs to the compounding equipment were dicer maintenance, along with minor steam and process leaks. The resin diverter valve to line I and V was replaced and the line I scales were overhauled. Repairs were made to #6 dicer motor. The compound cooling tower level control was repaired. The line one product blower was relocated and rewired.

MECHANICAL - (continued)

Compound, Dry Blend, Plasticizer, and Silo Storage - (continued)

In dry blend, the blades were changed in the #2 Welex. The dump gate was rebuilt on #1 Welex. The overflow dump valve was replaced on the south Kason screener. Isolation valves were installed on the bottom of the 412 and 413 silos. A blender motor was repaired due to a leaking oil seal.

A major problem was experienced with the north plasticizer blower that involved bearing failures, case leaks, and rotor problems. The unit has been completely overhauled and returned to service. The coil in R-2 reactor was chemically cleaned. Safety discs were replaced on all plasticizer reactors.

The safety valves were tested on the four fire pumps. One development lab mill was rebuilt. The new 800 horsepower Joy air compressor motor was installed along with the new control system. Power was run to three waste analysis trailers. The installation of two electric operated doors was completed on the warehouse.

Utilities and Service

There were three repairs to the plant air system this month. Valves were replaced in the #6 and #9 air compressors and the heater elements were replaced in the east tower of #3 air dryer.

The air conditioning and air compressor P.M. programs are proceeding. The compressor on the safety department air conditioning unit was replaced. The machinist repaired or completed machine work on 24 major items. The tool room mechanic maintained the tool room and rebuilt valves to be returned to stock and tested safety valves.

The well pump header safety valve was tested and reset to 120 psig. A new temperature control thermostat was installed in the I & E shop.

Planner

The planner estimated 87 work orders. Material was ordered for 35 projects. Closed 12 registers and issued 20. Processed 17 statements for payment. The equipment history and safety valve records were maintained.

MECHANICAL ENGINEERING - J. A. Dixon

AFE's Submitted, Approved, and Closed

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

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9680	Fixed Point Monitor Data Computer and Warning Lights	\$113,000
9690	Breathing Air Modifications	21,000
9010	Centrifuge Rotor Repair	20,000

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

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9098	New Compound Line	\$2,050,000
9549	Safety Equipment	15,000
9659	P. A. System Modifications	35,000
9520	Replacement Phthalic Anhydride Tank	75,000
9540	Laboratory Equipment	45,000
9640	Shed For Drum Storage Area	14,000

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

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9297	Automatic Plasticizer-Stabilizer Weigh-Up System	\$ 60,000
9148	Plasticizer Chemical Exposure Abatement	152,000
9258	Dryer Operations Improvements	315,000
9228	Dry Blend Silo Alarms	25,000
9248	Silo Isolation Valves	25,000
9769	Automatic Setback Thermostats	3,000

Design

Design work is in progress on the following projects:

- Replacement of Hot Water Charge Tank
- Methocel Charge Revisions
- Boiler Economizers
- Reactor Inert Vent System
- Walkway From 600 to 200 Series Silos
- Interplant Communications Phase II
- Spare Reactor Condenser
- Fire Protection Improvements - Phase II
- Spare Inert Incinerator
- Multigrade Resin Production Facilities
- Water Stripping

MECHANICAL ENGINEERING - (continued)

AFE Activity

1. AFE 9629 - Air Compressor - M. S. Richards
The new motor and control system for the new Joy air compressor were installed.
2. AFE 9689 - Diking of Sphere and Curbing of Drum Storage Area - J. L. White
Construction of the concrete wall is 80% complete.
3. AFE 9709 - Facilities for Multigrade Resin Production - CED (S. Krase)
Overall project design is 75% complete. All major electrical and instrumentation items have been purchased. Concrete bid packs were sent out for quotes.
4. AFE - 9729 - Fire Protection Improvements - Phase II - CED (M. Ingle)
Overall project design is 92% complete. Part I of the underground piping is out for bids. Bids are due 10/10/80.
5. AFE 9739 - Methocel Charge Revisions - J. L. White
Overall project design is 90% complete. The strahman ram valves have been received.
6. AFE 9530 - Spare Incinerator - CED (D. Haub)
Overall project design is approximately 45% complete. Structural design and pipe drafting are in progress. Concrete and plot plan drawings are being revised to reflect the new location of the incinerator.
7. AFE 9550 - P. A. Handling Improvements - J. P. Windham
Installation of the jacketed unloading line is 90% complete. Project completion is scheduled for 10/15/80.
8. AFE 9560 - Safety Equipment - J. P. McKee
Structural design of walkway between the 600 and 200 series silos has been reviewed and is ready for bidding.
9. AFE 9580 - Boiler Economizers - J. L. White
Structural steel and equipment installation contract has been let. The piping bid packs are out for bids.
10. AFE 9590 - Critical Spare Equipment - J. P. McKee
The drawing for the spare condenser is ready for bidding.

MECHANICAL ENGINEERING - (continued)

AFE Activity - (continued)

11. AFE 9610 - API Clean Water Bypass - M. S. Richards

The skimmer has been received. Sewer design is in progress.

12. AFE 9630 - Water Stripping - CED (M. Ingle)

Mechanical design is 74% complete. Quotes on structural steel have been received and tabulated. Concrete and sewer bid pack with the revised sewer location have been issued.

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

The concrete work has been let and is in progress.

Construction - G. A. Morgan

Bids were received for the D-300 reactor jacket repair. Construction has started on the new hot water charge tank.

The plant water wells were inspected for flow, mechanical condition and water quality. The foundations for the boiler economizers were completed. The new motor and controls for the new Joy air compressor were installed.

Bids have been requested for part I piping of the Fire Protection Improvements Phase II project. A smoke detection system was installed for areas which normally have no traffic during off hours.

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

1. Insulation of Vapor Emissions Recovery System
2. Insulation of New Phthalic Anhydride Unloading Line
3. Insulation of Piping for Double Block Valves for VCM Charge
4. Lease of the Amory Rail Lead for Car Storage
5. Repairs to Plant Trackage
6. Foundations for New Hot Water Charge Tank.

Thirty-two (32) register tickets were issued during September.

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

ABERDEEN AUTHORIZATIONS REPORT

AUTH. NO.	CAPITAL DESCRIPTION	DATE APPROVED	AUTH. AFE AMT.	(1) EXPENDED TO DATE	(2) COMMITTED TO DATE	FINAL TOTAL EST. COST COMP.	UNDER (OVER) AUTH. AMT.	EST. COMP. DATE	EST. CLOS. DATE	REMARKS
9237	Heated Plasticizer Addition System	10/11/77	37,000	13,090	13,589	37,000	0	12/80	3/81	Design in progress.
9297	Automatic Plasticizer-Stabilizer Weigh-Up System	12/14/77	60,000	56,263	59,163	60,000	837	9/80	12/80	Closed to field charges.
9148	Plasticizer Chemical Exposure Abatement	8/21/78	152,000	142,245	149,158	152,000	2,842	9/80	12/80	Closed to field charges.
9158	Fire Protection Improvements - Phase I	9/19/78	176,000	144,560	179,595	182,600	(6,600)	8/80	11/80	Closed to field charges.
9228	Dry Blend Silo Alarms	12/13/78	25,000	16,490	16,580	25,000	8,420	9/80	12/80	Closed to field charges.
9248	Silo Isolation Valves	12/14/78	25,000	21,629	22,577	25,000	2,423	9/80	12/80	Closed to field charges.
9258	Dryer Operation Improvements	12/14/78	315,000	287,749	325,140	326,000	(11,000)	9/80	12/80	Closed to field charges.
9519	Critical Spare Equipment	2/6/79	175,000	107,249	160,097	163,000	12,000	10/80	1/81	Revisions in progress.
9559	Color Weigh Room Modifications	4/19/79	25,000	17,849	18,552	25,000	0	11/80	2/81	Project operational.
9589	Instrument Air Dryer	5/30/79	110,000	90,134	90,645	110,000	0	11/80	2/81	Revisions in progress.
9609	Reactor Inert Vent System	6/28/78	90,000	13,245	17,895	90,000	0	12/80	3/81	Engineering in progress.
9629	Air Compressor	7/9/79	340,000	249,327	261,749	340,000	0	3/81	6/81	Revisions in progress.
9639	Revisions to Emission Recovery System	7/12/79	100,000	60,065	69,664	100,000	0	12/80	3/81	Revisions in progress.
9649	Double Block Valves for VCM Charge	7/18/79	182,000	135,479	147,290	182,000	0	10/80	1/81	Project operational.
9669	New Air Header	8/15/79	25,000	17,084	17,284	25,000	0	12/80	3/81	Revisions in progress.
9689	Diking of Sphere & Curbing of Drum Storage Areas	9/15/79	170,000	64,194	127,244	170,000	0	11/80	2/81	Construction in progress.
9699	Plant Dryer Debottlenecking	9/15/79	80,000	5,365	23,595	80,000	0	3/81	6/81	Engineering in progress CED.
9709	Facilities for Multiple Grade Resin Production	9/20/79	870,000	23,380	271,080	870,000	0	3/81	6/81	Engineering in progress CED.
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	15,994	99,465	490,000	0	6/81	9/81	Bids requested on Part I piping.
9739	Methocel Charge Revision	10/3/79	66,000	7,096	20,621	66,000	0	12/80	3/81	Engineering in progress.
9759	Aberdeen PVC Resin Expansion	12/10/79	11,150,000	1,033,079	4,897,400	11,150,000	0	9/81	12/81	Foundation work in progress.
9769	Automatic Setback Thermostats	12/31/79	3,000	2,419	2,557	3,000	443	9/80	12/80	Closed to field charges.
9510	Miscellaneous Projects Under \$10,000	1/3/80	150,000	89,303	119,290	150,000	0	12/80	3/81	Forty-Eight projects approved.
9530	Spare Incinerator	1/23/80	650,000	164	213,578	650,000	0	3/81	6/81	Engineering in progress CED.
9550	P. A. Handling Improvement	3/3/80	63,000	23,982	28,927	63,000	0	12/80	3/80	Construction in progress.
9560	Safety Equipment	3/12/80	25,000	1,711	7,703	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	2,019	109,663	140,000	0	12/80	3/81	Installation in progress.
9590	Critical Spare Equipment	3/26/80	59,000	0	11,486	59,000	0	12/80	3/81	Engineering in progress.
9600	Calcium Stearate Addition System	4/2/80	84,000	0	1,148	84,000	0	11/80	2/81	Engineering scheduled.
9610	API Clean Water Bypass	4/15/80	23,000	3,216	4,727	23,000	0	11/80	2/81	Engineering in progress.
9630	Water Stripping	4/30/80	810,000	6,270	38,509	810,000	0	4/81	7/81	Engineering in progress.
9650	Miscellaneous Projects Under \$10,000	5/30/80	150,000	47,699	107,524	150,000	0	12/80	3/81	Thirty-three projects approved.
9660	Hot Water Charge Tank Replacement	6/4/80	160,000	200	40,243	160,000	0	12/80	3/81	Foundation contract let.
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	0	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.
<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

Phil Carson, Casual Labor
William Davis, Casual Labor
Charles Morris, Casual Labor
Randy Otts, Casual Labor
Stevie Troupe, Casual Labor

TO/FROM LEAVE OF ABSENCE

None.

TRANSFER/PROMOTION

John Coffman, Plant Accountant, promoted to Management Information System Analyst, Houston.
Pete Markey, Assistant to the Vice President-Operations, Houston, promoted to Operations Superintendent, Aberdeen.
Vernon Thornhill, Process Engineer, promoted to Senior Process Engineer.
Earnest Randle, General Helper, promoted to Compound Utility.
Hansel Baughn, Lab Trainee, transferred to Compounder.

RETIREMENT

None.

TERMINATION

Lester Danner, Compound Operator

OTHER

During September there were five casual labor employees on payroll.
Total hour worked were 702.25.

CONOCO CHEMICALS
Aberdeen, Mississippi

September 1980
MONTHLY PERSONNEL REPORT

Salaried Employees 77*
Hourly Employees 156
Total Employees 233*
Employees (Hourly)
New Employees 0
Terminations 1

Minority Employees # %
Salaried 6 7.8%
Hourly 59 38%
Total 65 28%

Hourly Min. Hired 0
% Min. Hired 0
Hourly Min. Term. 1
% Min. Term. 100%

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

Number of Applicants:

Month 2 Year to Date 116

APPLICANT BREAKDOWN:

Minority 1 % Minority 50%

Female 0 % Female 0

*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 1 Year to Date 6**

Overall Turnover .6%

Projected Annual Turnover 5%

OVERTIME AND ABSENTEEISM

September 1980

Department	Straight Time Hours Worked	Overtime Hours Worked		Overtime as of Straight Time	Absence Hours		Absence as a % of Straight Time	
		Controllable(1)	Non-Controllable(2)		Lost	Other	Sickness	Total Year to Date
Warehouse	1477.50	82.50	32.00	7.7%	0	0	0	.3%
Maintenance	5632.00	307.00	8.00	5.6%	488	0	100%	4%
Laboratory	2974.50	283.00	72.50	12%	192	0	100%	3.9%
Compound	4590.75	519.25	177.75	15%	424	0	100%	6.3%
Vinyl	4898.25	578.00	95.75	14%	472	0	100%	3.7%
Plasticizer	555.00	10.00	0	1.8%	88	0	100%	8.9%
Utility Boiler House	612.00	37.50	24.00	10%	0	0	0	0
General Plant	758.25	8.00	0	1%	176	0	100%	3.2%
Total	21498.25	1825.25	410.00	10%	1840	0	100%	4%

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 second concrete package which includes the silos, cooling towers, initiator storage freezer, and slurry blend tanks were issued to contractors. In the V-11 area the reactor pad and piers are in place. In the CRD area the reactor piers have been placed. Construction of the electrical substations is underway. Review of piping and electrical layout continues with plant assistance to Litwin field personnel as needed.

B. Agitator Replacement

The AFE request for this project was submitted.

C. Modifications to Make Profile Dry Blend

The revised class "A" design for this project was issued and the AFE request was submitted.

D. Compound Fines and Streamer Removal

The revised class "A" design for this project was issued and the AFE request was submitted.

E. Resin Reclaim System

The class "A" design was issued, a review meeting was held and the revised class "A" design incorporating comments from the review meeting was issued.

F. Heat Recovery System

The class "A" design was issued and a review meeting was held. Comments from the review meeting are being incorporated.

G. Automatic Cooling Tower Fan Controls

The AFE request for this project was submitted.

H. City Water Usage

City water usage is down as a result of starting the forth well water pump and resetting the setpoint on the well water relief valve.

I. Emission Recovery System Compressor Problem

Several trouble shooting tests were run on the Nash compressors as suggested by Nash with negative results. A Nash Service Representative will be here in October to determine why the compressors will not put up the proper head.

PROCESS ENGINEERING - (continued)

J. Process Water Filter Replacement

This design to reduce filter element expenses will be issued in October.

K. Fire Protection Improvements - Phase III

The AFE request for this project was submitted.

L. API Clean Water Bypass

Revised drawings routing the clean water from the plasticizer building around the API were issued and reviewed.

M. Cooling Water Blowdown Bypass

The class "A" design to bypass cooling water blowdown around the bioponds is being prepared.

N. Rotary Dryer Insulation

An evaluation of energy savings by insulating various sections of the rotary dryers is being prepared.

O. Kemp Air Dryer Modifications

The class "A" design to add coalescing filters, replace purge piping and electrical, and make other modifications in order to correct the dew point problem in the Kemp air dryers is being prepared.

P. VCM Tank Farm Revisions

A design to correct problems and allow for better unloading of VCM is being prepared.

Q. Biopond Aerator Replacement

The class "A" design to replace existing aerators with smaller submerged ones to reduce the aerosol effect is being prepared.

R. Compound Sewer Revisions

The design to eliminate process contact streams from the compound area that now enter the storm water sewer is being prepared.

S. Emergency AMS Kill System

PED completed the class "A" design for this project and a review meeting was held at the plant.

T. Double Rupture Disc Replacement

A review meeting of PED's class "A" design for replacing the double rupture disc/relief valves systems was held at the plant.

ENVIRONMENTAL - V. E. Messick

Particulates

Two dryers were tested for particulates in September.

Water

Effluent BOD and COD concentrations were within NPDES limitations in August.

The Quarterly NPDES Discharge Monitoring Report was issued.

The pilot study of the biodisc is proceeding on schedule. Preliminary results show about 65% COD reduction with the biodisc.

Hazardous Waste Management

The plant is negotiating with Chemical Waste Management about contract language for disposal of six items.

Work has begun on the Part A of the Permit Application which is due November 19.

TABLE I
WATER COMPLIANCE WITH
NPDES PERMIT PARAMETERS

		Flow	BOD		COD		Sus. Solids		Diss.	
		GPM	PPM	LB./DY.	PPM	LB./DY.	PPM	LB./DY.	O ²	ph
Jan.	- Ave.	810	43	436	86	851	11	103		
	Max.	941	131	1342	216	2214	13	143	6.8-8.5	7.7-8.0
Feb.	- Ave.	645	6	42	15	116	10	79		
	Max.	802	8	56	24	171	13	125	6.7-7.9	7.1-7.8
Mar.	- Ave.	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.									
	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 September was 97.1 MMM BTUs. The energy consumption per pound of product decreased from 3425 BTU/lb. to 3215 BTU/lb. in September.

II. Plant Energy Conservation Program

Steam Leaks

Nineteen steam leaks were repaired in September.

Other

R. A. Conrad, Carl Spangler, and Bob Vrugink were here to survey the plant for potential energy savings projects. Recommendations will be made by the survey team to the plant for evaluation.

ENERGY CONSERVATION DATA

<u>ITEM</u>	<u>1979</u>	<u>1980</u>
	<u>September</u>	<u>September</u>
<u>Production, MM Lbs.</u>		
Resin	28.3	23.3
Dry Blend	3.7	1.6
Compound	3.0	4.2
Plasticizer	<u>1.1</u>	<u>1.1</u>
TOTAL	36.1	30.2
<u>Natural Gas</u>		
Consumption, MSCF	54285	49322
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	55.371	50.380
<u>Electricity</u>		
Consumption, MM KWH	4.7232	4.680
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	47.232	46.800
<u>Propane</u>		
Consumption, M Gal.	21.095	0
Conversion, BTU/Gal.	92000	92000
Energy Consumption, MMM BTU	1.941	0
<u>Total</u>		
Energy Consumption, MMM BTU	104.544	97.108
Energy Consumption , BTU/Lb.	2896	3215
<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	377	382	26	29
No. 2	413	464	28	22
No. 3	409	421	33	22

LABORATORY - R. D. Jackson

CUSTOMER COMPLAINTS

<u>Customer</u>	<u>Product</u>	<u>Complaint</u>	<u>Report By</u>
Rehau Plastiks	5385	Contamination - Fused Resin	CRM
Charlotte Pipe	5385	Contamination - Fused Resin	CRM
O'Sullivan Corp.	5385	Contamination - Fused Resin	JRW

WAIVERS RECEIVED

<u>Date</u>	<u>Identification</u>	<u>Product</u>	<u>Customer</u>	<u>Reason</u>	<u>Waived By</u>
9/16	PTLX 41657	5385-3	Charlotte Pipe	Particle Size	JRW
9/22	CONX 45298	5385-3	Charlotte Pipe	Particle Size	CJM

PRODUCT DEVELOPMENT & SERVICE

<u>Ship Date</u>	<u>Product</u>	<u>Amount (Lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
9/3	38601 Natural	2	Wilson Products Co.	ERC
9/10	34641 Black	50	Eaton Corp.	JTW
9/10	34641 Natural	50	Eaton Corp.	JTW
9/10	5385-1	50 x 4	Fritz Airfreight	JPM
9/16	14952 Natural	100	Runzel Cord & Wire	MAS
9/16	15241 Natural	100	Runzel Cord & Wire	MAS
9/16	18161 Natural	100	Formtech	JTW
9/16	35851 Natural	50	Dielectric Materials	MM
9/16	34431 Natural	50	Dielectric Materials	MM
9/16	38551 Natural	20	Norton Company	JTW
9/17	Unitane OR-450	5	Conoco Inc.	JAP
9/16	36861 Natural (EXP)	5	Conoco Inc.	ERC
9/16	34861 Gray (EXP)	5	Conoco Inc.	ERC
9/24	5305	50	Uniroyal Chemical Div.	NTH
9/24	34501 Black	200	Lorraine Ind. Cable	WBS
9/24	34501 Black	250	Superior Cable	PM
9/24	5305	50	Amoco Chemicals	MAS
9/24	5425	50	Mitsui & Co., Inc.	JPM
9/24	5305	50	Morton Chemical Co.	MFM
9/24	5385-1	50	Morton Chemical Co.	MFM
9/24	5425	50	Morton Chemical Co.	MFM
9/24	5465	50	Morton Chemical Co.	MFM
9/26	48562 Black	2	Conoco Inc.	ERC
9/26	38601 Natural	5 kg	Fritz Airfreight	JPM
9/26	34431 Natural	5 kg	Fritz Airfreight	JPM
9/26	5425	5 kg	Fritz Airfreight	JPM

LABORATORY - (continued)

PRODUCT DEVELOPMENT & SERVICE - (continued)

Special Compound Testing

Complete specification tests were run on 2 production lots of 34861 Gray 546 and 1 lot of 36861 Natural for Western Electric. In addition, critical property test are run on every shipment. Specification tests were also run on an experimental lot of Western Electric 646-B.

U. L. oven aging tests were run on 2 lots of 35851 Natural and 1 lot of 38601 Natural shipped to Phelps-Dodge. Two lots of 34641 black for Kaiser were subjected to U. L. oven aging tests.

QUALITY CONTROL TESTING

Resin

Regular Samples = 301
Bag Blend Samples = 73
Other In-Process Samples = 2351
Bulk Shipments = 138 (Railcars = 94, Trucks = 44)

Dry Blend

Blenders Produced = 220
Blenders Tested = 184
Blenders Adjusted = 13.2%
Other In-Process Samples = 126
Bulk Shipments = 31 (Railcars = 3, Trucks = 28)

Compound

Blenders Produced (Line 1 & 3) = 515
Blenders Adjusted = 5.4%
Line 5 Production = 120 skids; 9 boxes
Other In-Process Samples = 295
Bulk Shipments = 28 (Railcars = 14, Trucks = 14)

Resin Heat Stability

Forty (40) lots of resin were tested for oven heat stability.

5385	16 lots
5425	11 lots
5305	9 lots
5465	4 lots

The 5425 and 5465 resin were consistently good; however, the 5385 and 5305 samples gave a wider range of results with occasional samples being marginal to poor in heat stability.

Heat stability tests are now run in the Metrastat oven.

LABORATORY - (continued)

QUALITY CONTROL TESTING - (continued)

RVCM of Shipments

A total of 139 shipment samples were tested for VCM. Below is a summary of this data.

<u>Product</u>	<u>5305</u>	<u>5385</u>	<u>5425</u>	<u>5465</u>
Average RVCM	1.3	0.7	0.1	0.1
Number of Samples	61	69	7	2

Viscosity

The Schott viscosimeter continues to function well. A total of 619 resin samples were checked for inherent viscosity.

Raw Material Testing

Forty-eight (48) lots of plant raw materials were tested. Dispersion quality of Hydral 710 continues to be erratic, and 1 truckload (2 lots) were rejected. We have finally obtained cooperation of the supplier in solving the problem.

Dry Blend Development

Quality control standards were prepared for monitoring production of 80172B, 80175, 80273G, 80274 and 90171.

SPECIAL PROJECTS

Metrastat Oven

The initial Metrastat oven development program has been completed and a report is being prepared. Other potential applications will be investigated.

Compound Property Verification

The compound property verification program is approaching completion for 1980.

Blown Film Tower

Additional runs have been made with the extruder blown film tower. Progress has been made, but additional work is required before the unit can be considered operational.

RVCM in Slurry

A total of 542 slurry samples were tested in September for residual VCM. The overall average was 205 ppm. There were no days where the daily average exceeded 400 ppm.

LABORATORY - (continued)

SPECIAL PROJECTS - (continued)

EPA Testing - RVCM

A special test on slurry was done to generate data for an EPA variance request on storage of samples prior to analysis for RVCM.

Personnel Dosimetry

A total of 80 personnel dosimetry tests were run in support of the Safety Department.

RVCM of 5305 Regular Samples

A total of 39 samples of 5305 taken from the regular drier sample was checked for RVCM. The overall average was 5.8 ppm. One sample tested 67 ppm.

RVCM of Blowdown Tank Water

A total of 134 water samples were tested for RVCM. The overall average was 4.5 ppm. In September, 94% of the samples were below 10 ppm RVCM.

TRANSPORTATION - J. E. Stark

Shipments by Product - M/lbs.

	<u>September</u>	<u>Year-to-Date</u>
Resin	15,768	138,722
Plasticizer	80	646
Dry Blend	2,506	17,700
Compound	4,723	32,092
TOTAL	23,077	189,160

Number of Shipments by Mode

	<u>R/C</u>	<u>O.T. Bulk</u>	<u>O.T. Van</u>	<u>C.O.T.</u>	<u>C.C.</u>	<u>TOFC</u>	<u>CPU</u>	<u>TOTAL</u>
Resin - Bulk	89	37			4			130
- Package			2		1		9	12
- Export			1					1
Plasticizer							2	2
Dry Blend - Bulk	5	4					25	34
- Package			12				1	13
- Export			1					1
Compound - Bulk	8	12						20
- Package			34		2	2	16	54
- Export			10					10
Other - Antifreeze			2					2
TOTAL	102	53	62	0	7	2	53	279
Back Hauls for September			16		1			17

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

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

Material Handling Report

	<u>M/Lbs.</u>	<u>T/L</u>
Packaged Resin from Production	3,038	75
Packaged Compound, Dry Blend from Production	2,308	57
Transferred from Main to Prairie	3,038	75
Transferred from Prairie to Prairie	0	0
Reverse Transfer Resin to Plant	446	11
Reverse Transfer Compound to Plant	364	9
Shipment from Warehouses	3,402	84
Special Packaging	486	12
Transferred from Prairie to Main	769	19
	13,851	347

TRANSPORTATION - (continued)

Off-Grade In Storage

<u>Material</u>	<u>M/Lbs.</u>	<u>T/L</u>
Sifter Overflow	218	5
Resin "BC"	4,768	118
Resin "H"	1,392	34
Mill Scrap	127	3
Compound "BC"	922	23
Compound "H"	39	1
Dry Blend "O.G."	106	3
	<u>7,572</u>	<u>187</u>

D. F. Operation

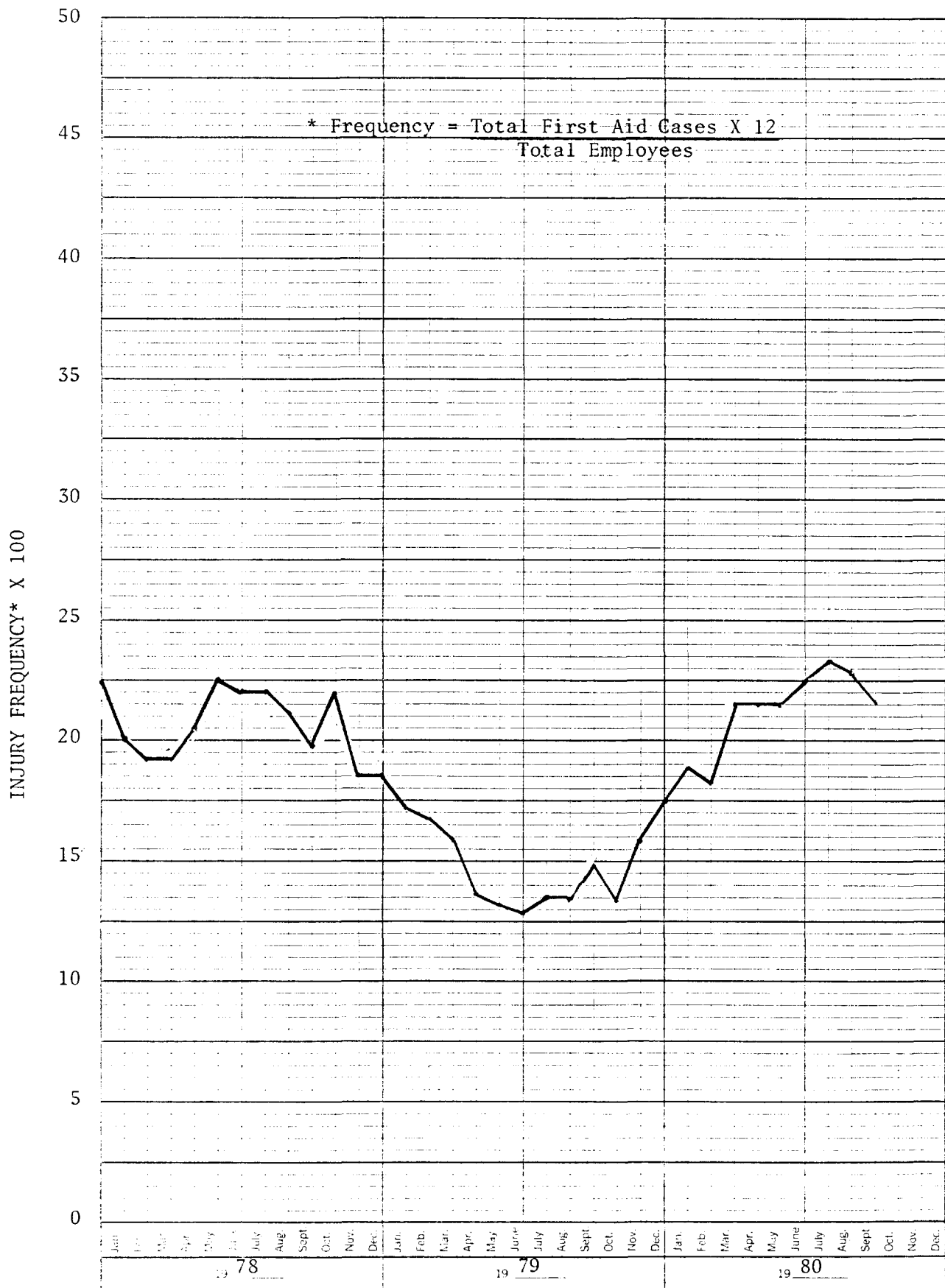
Total packaged inventory for the month increased approximately 1.2 MM pounds during September. Compound shipments for the month were above average. We had a decrease in compound inventory by approximately .5 MM pounds. Bagged resin inventory gained approximately 1.2 MM pounds. Export shipments for the month were extremely low.

CONOCO TRANSPORTATIONABERDEEN WAREHOUSE

<u>LOCATION</u>	<u>TOTAL M SQ. FT.</u>	<u>CONTENTS</u>	<u>ESTIMATED MM POUNDS ON FLOOR OPEN TOTAL</u>		
MAIN-East	48	Compounds	3.6		
		Dry Blend	.4		
		Export Resin	.6		
		Conoco Resin	.9	5.5	4.5 10.0
Prairie 12-1	12	HDPE	.4	.4	1.1 1.5
12-2	22	Resin	2.2		
		Export Resin	.	2.2	1.3 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.	1.0		
		Dry Blend O. G.	.1		
		Sifter Overflow	.2		
		Resin O. G.	.7	2.2	. 2.5
12-6	21	Compound	.1		
		Resin	3.0		
		Raw Material	.2	3.3	. 2 3.5
12-7	21	Resin O. G.	4.0	* 4.0	. 3.5
12-8	21	Conoco	4.5	* 4.5	. 3.5
12-9	21	Conoco Resin	3.8	* 3.8	. 3.5
		Sub-Total			38.5
		(Plug-Aisles)		*	3.1
Total	209	Total Conoco	34.2	7.4	41.6

ABERDEEN FIRST-AID CASES

12 MONTHS MOVING AVERAGE



ABERDEEN OSHA RECORDABLE INJURIES

12 MONTH MOVING AVERAGE

INJURY FREQUENCY* X 100

20

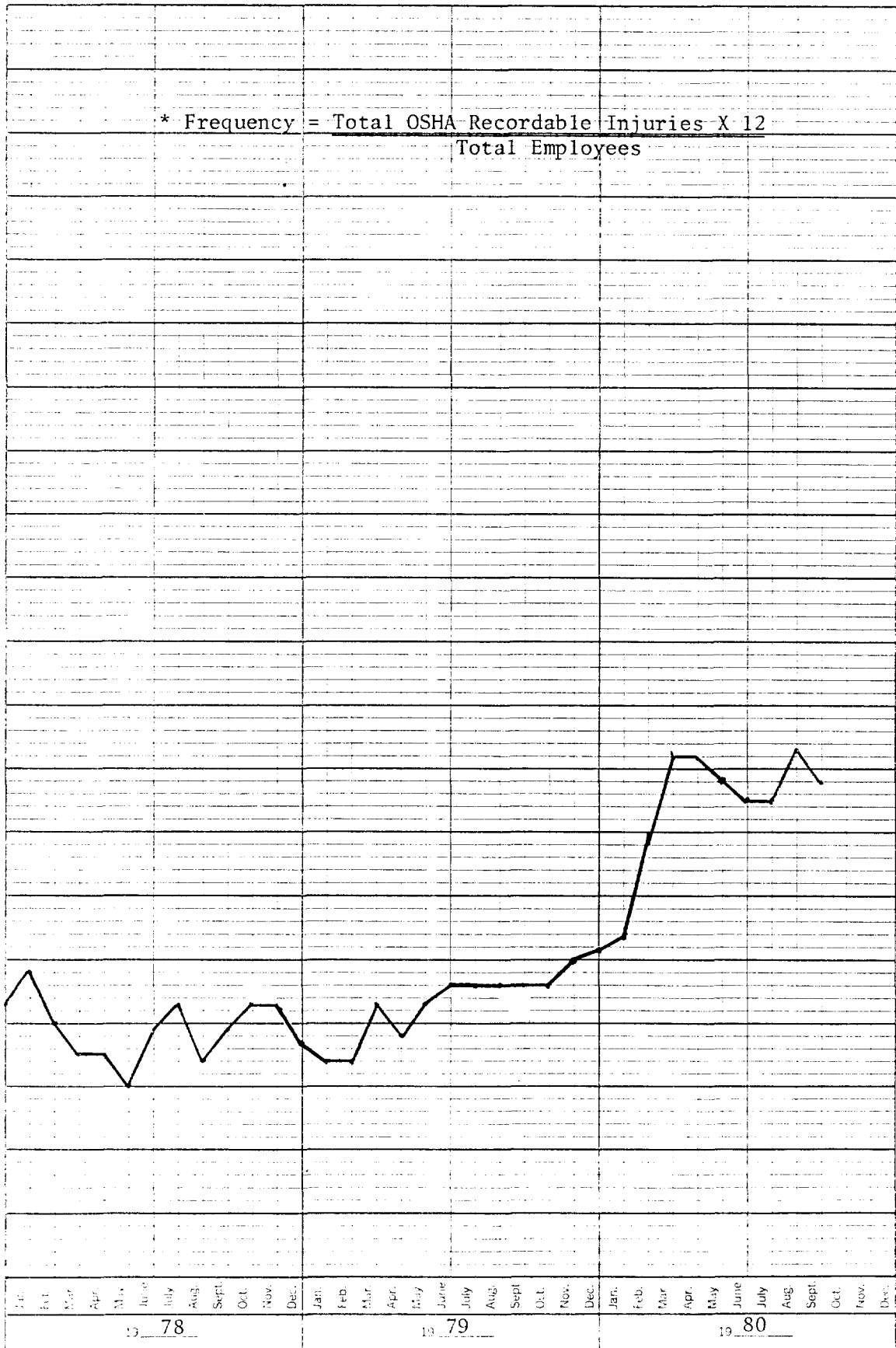
15

10

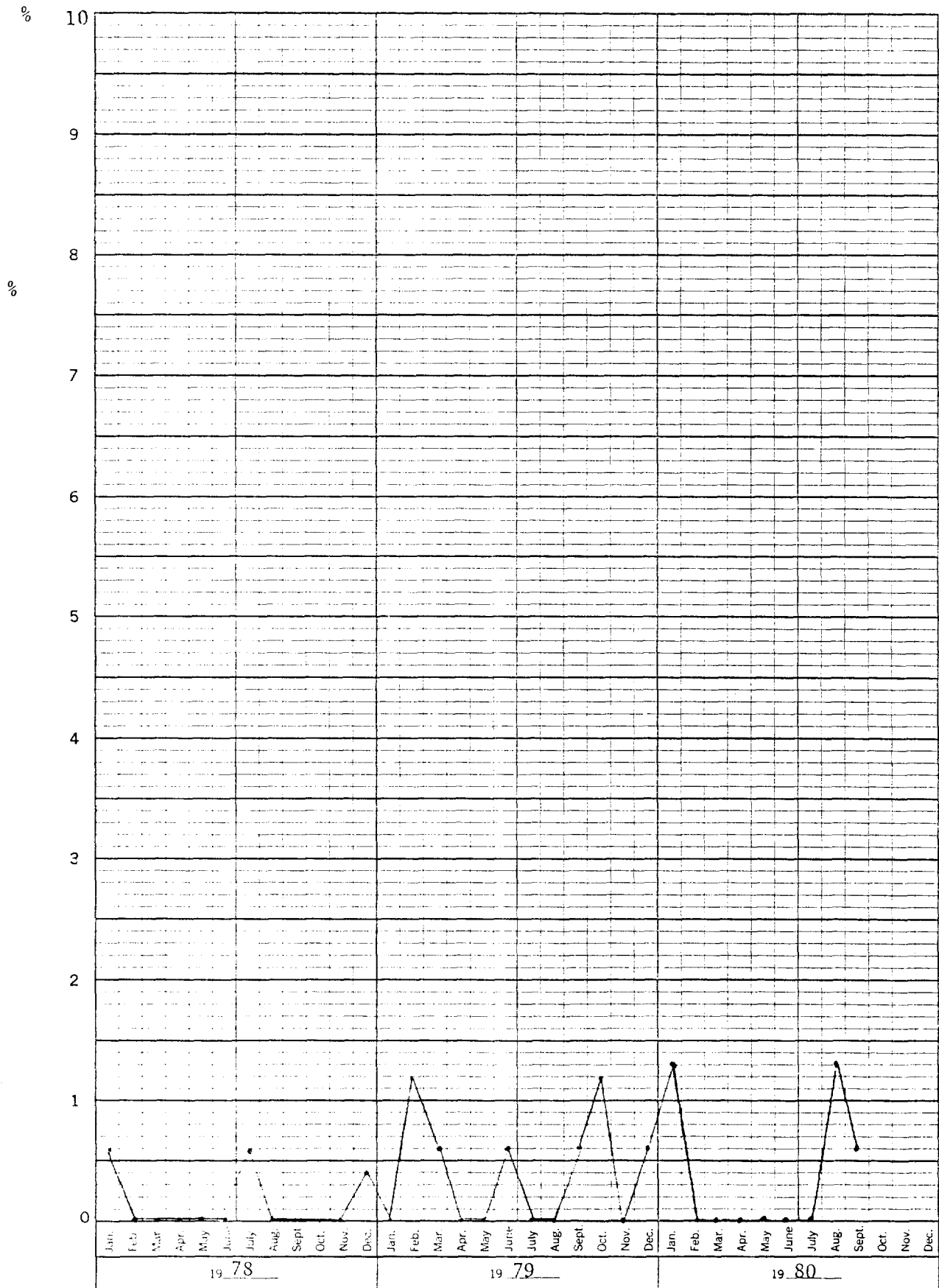
5

0

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



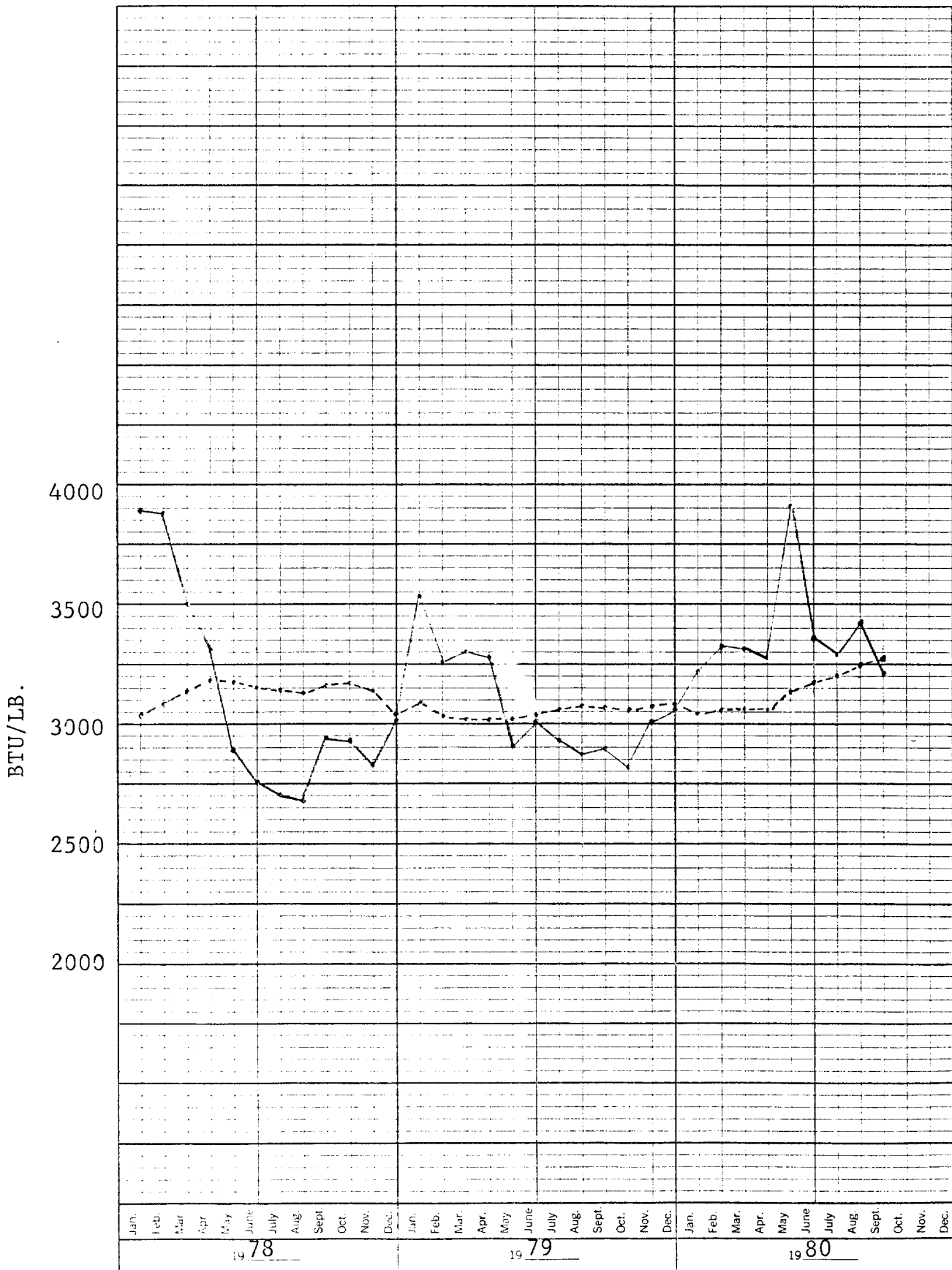
MONTHLY HOURLY TURNOVER



46 3290

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

ENERGY USAGE



Monthly

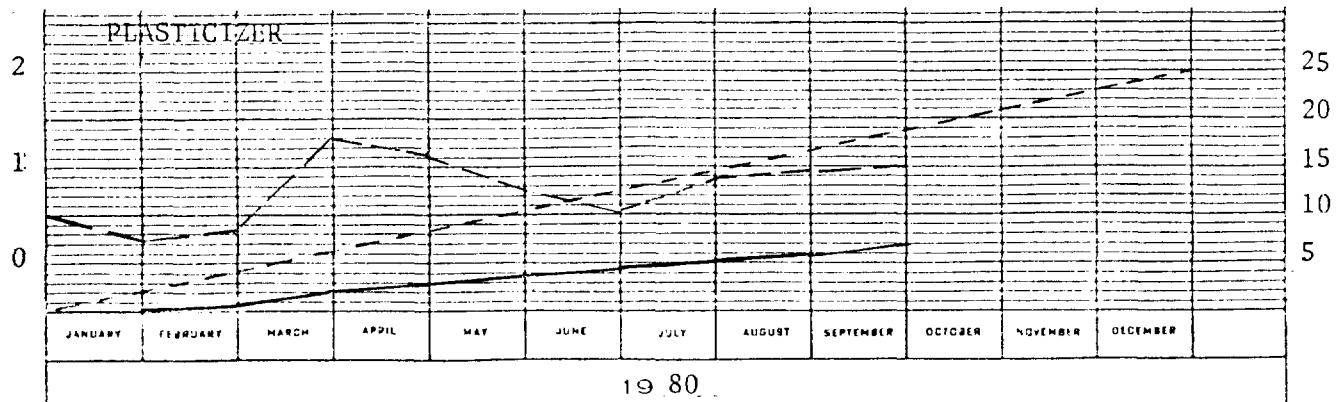
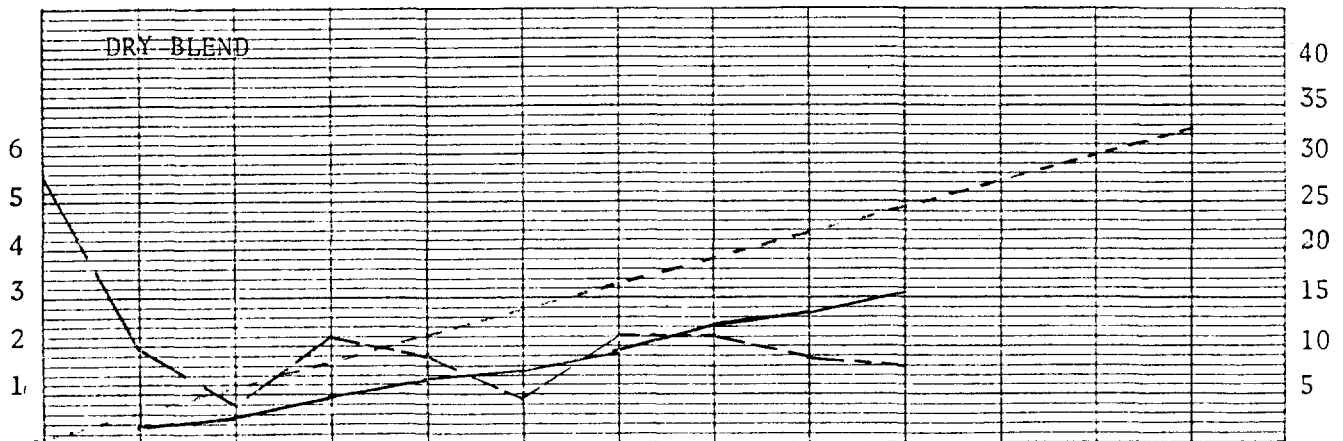
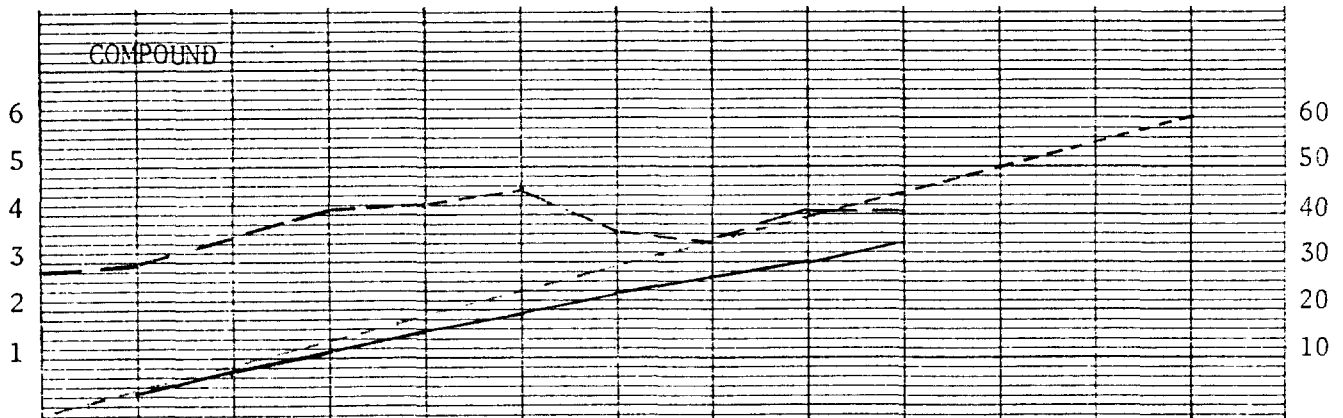
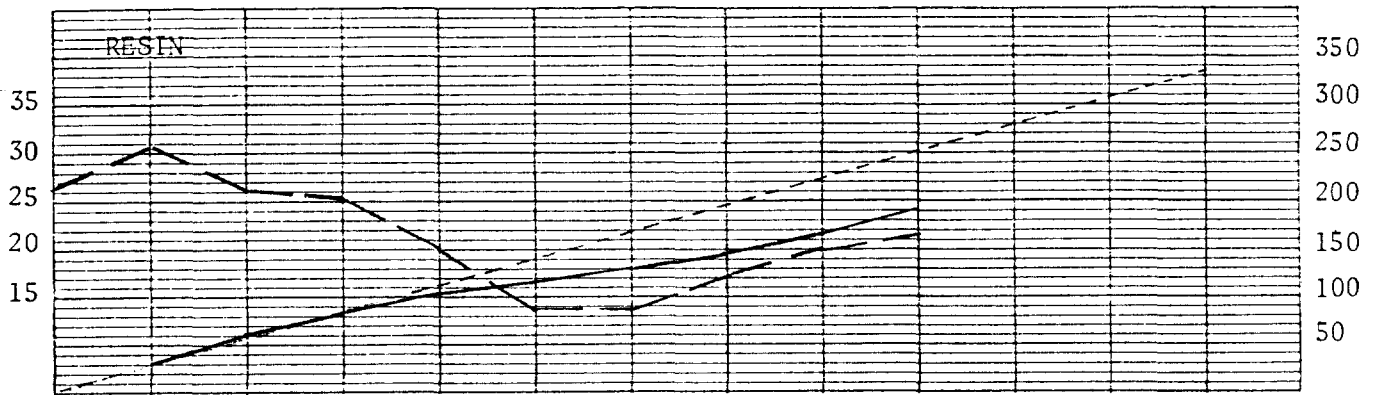
12 Month Moving Average

MM POUNDS
MONTHLY

ABERDEEN PLANT PRODUCTION

1980

MM POUNDS
CUMULATIVE



19 80

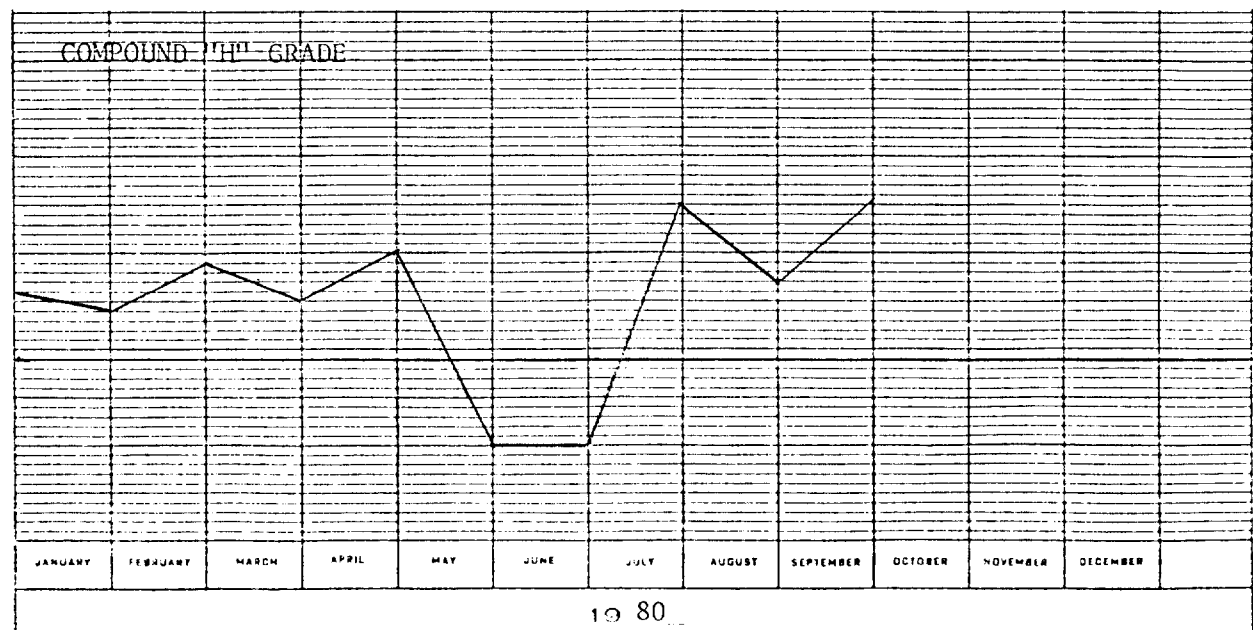
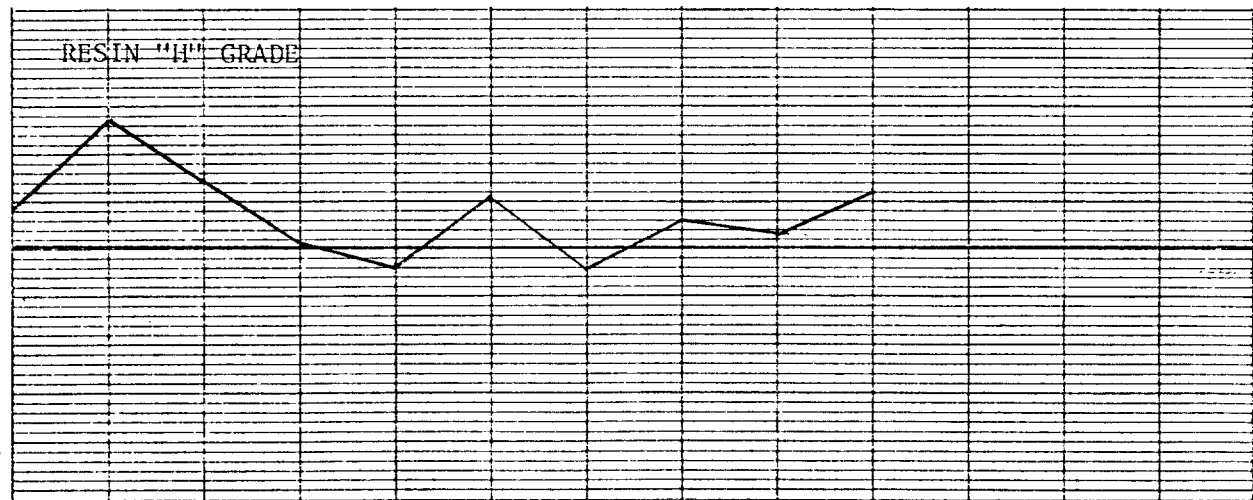
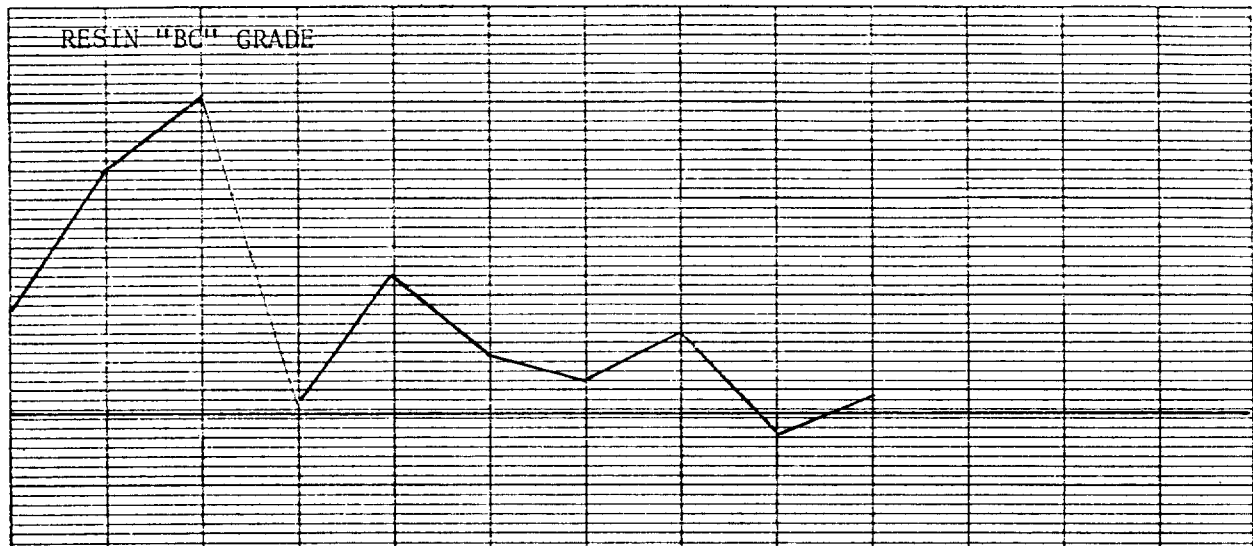
----- BUDGET
----- ACTUAL
----- CUMULATIVE

DTH 000021585

ABERDEEN PLANT QUALITY PERFORMANCE

1980

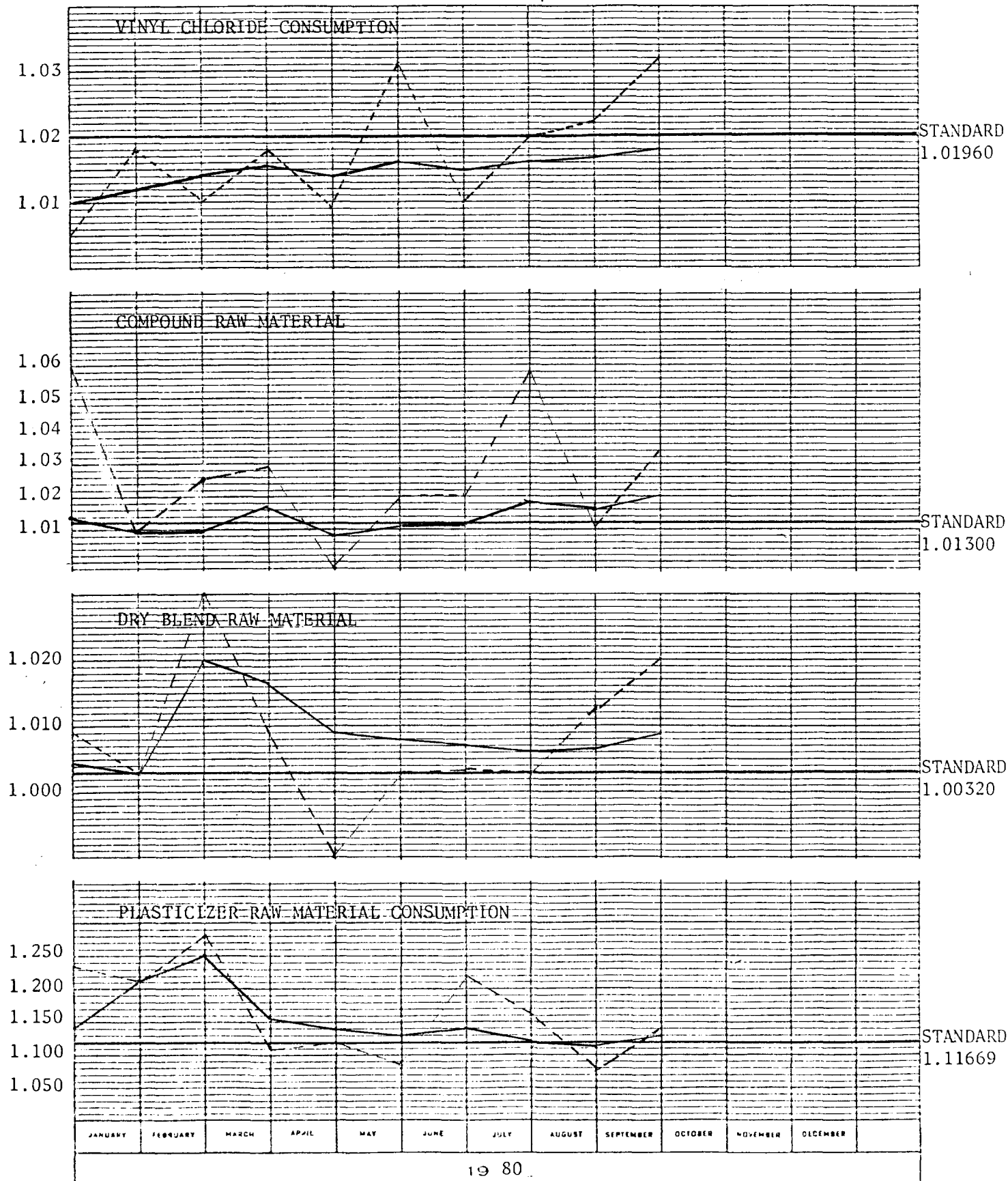
%
OFF GRADE



ABERDEEN PLANT EFFICIENCY

1980

POUNDS OF RAW MATERIAL/POUND OF PRODUCT



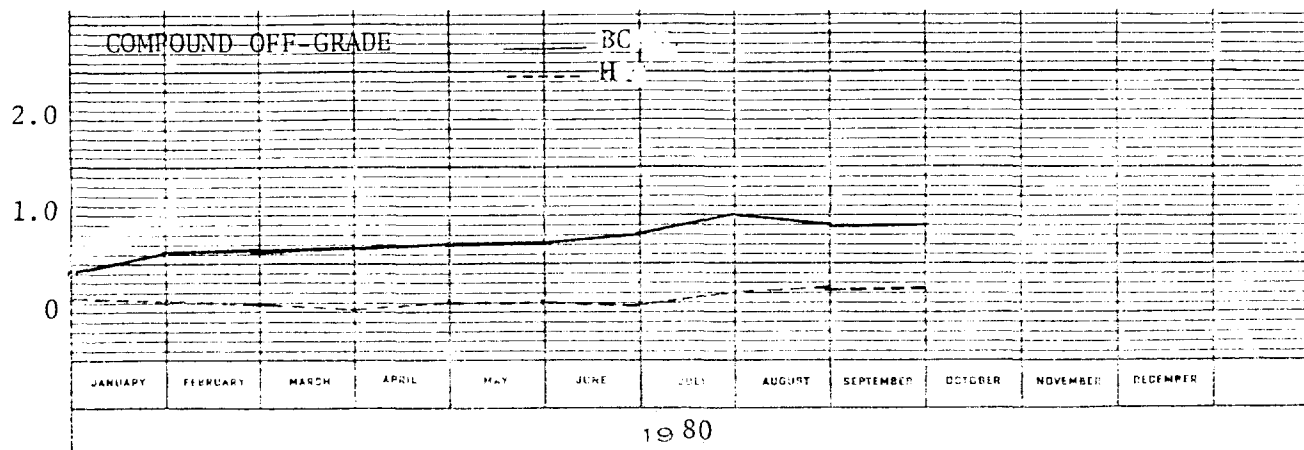
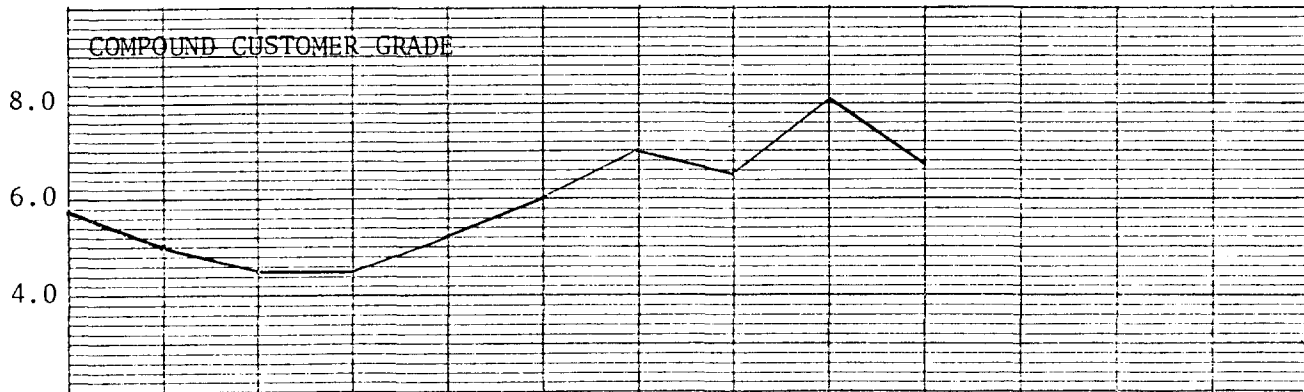
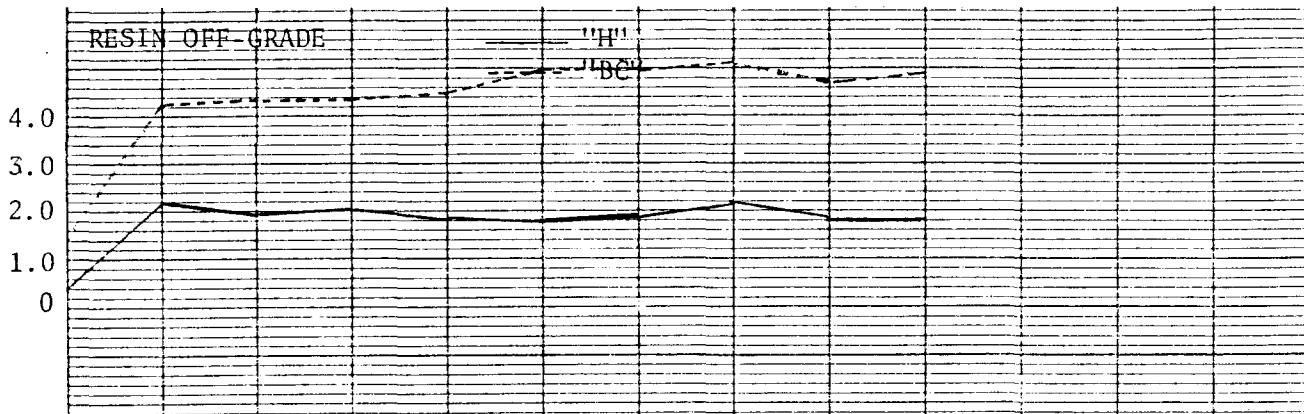
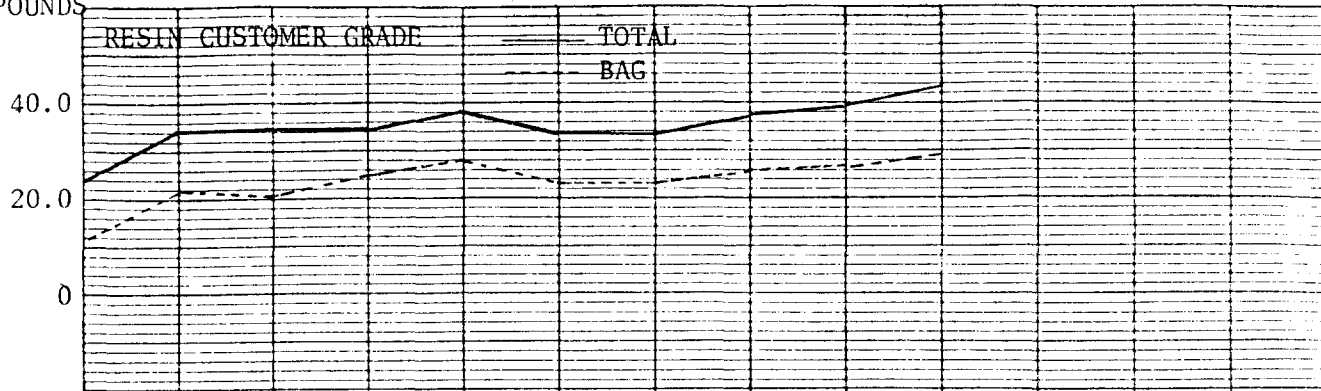
----- MONTHLY
 ————— CUMULATIVE

DTH 000021587

ABERDEEN PLANT INVENTORIES

1980

MM
POUNDS



1980