

SAFETY - A. H. Sather

Occupational Injuries

<u>Injuries Treated</u>	<u>January</u>	<u>1981 Year to Date</u>	<u>1980 Year to Date</u>
First Aid	2	2	5
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	0	0	2
Compound Operations	1	1	2
Maintenance	1	1	1
Laboratory	0	0	0
Receiving and Warehouse	0	0	0
Office	0	0	0

Injuries by Type

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

As of January 31, 1981, the Plant operated 573 days or 742,348 manhours without a disabling injury. Also, the Plant operated 164 days without an injury which required medical treatment.

Safety Meetings

The topics for January Safety Meetings were "Hazards of Winter Operations" and "Fork Lift Truck Safety". The discussion of these topics included use of the sand and salt drums, repair of leaks, avoidance of water covered areas, and the effects of winter on fork lift truck operation.

New Employee Orientation

A total of four (4) new casual employees received new employee orientation.

Health Testing Orientation

T. G. Grumbles - Chemicals, Houston, and Dr. W. W. Massad - Medical Division, Ponca City conducted an orientation about the new health testing program. The new program will use Health Examintetics from White Plans New York for the clinical work and Dr. Massad will conduce the physicals.

SAFETY - (continued)

First Aid Training

V. A. Belk, Plant Nurse, conducted a review first aid course for the Laboratory Off Shift First Aid Staff during the reporting period.

OSHA Compliance

Activity for the reporting period was limited to routine dosimetry and a Lead Standard Compliance Status Meeting. The results of the dosimetry and overexposures are shown below.

Results

<u>Chemical</u>	<u>Less Than PEL</u>		<u>Greater or Equal to PEL</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
VCM	67	100	0	0
Lead	4	67	2	33
Antimony	6	100	0	0
Total Particulates	5	100	0	0

Overexposures

Overexposures to lead occurred to compounders in the Compound Department. One occurred during the charging of blenders while the other occurred in the Color Weigh Room. "Airhat" respirators were being worn at the time of sampling.

VINYL - P. E. Markey

	<u>Month</u>	<u>Year to Date</u>
1. Total Production, MM Lbs.	27.8	27.8
2. Production Rate, M Lbs./C.D.	897	897
3. Charges, Reactor Batches/C.D.	21.1	21.1
4. Total Charges	654	654
5. Reactor Stream Factor, %	87.7	87.7
6. Dryer Rates, Average Lbs./Hr. (on-stream)	5947	5947
7. Dryer Stream Factor	89.8	89.8
8. Accounting Days	31	31

Vinyl Department production for January was 108% of budget at 27.8 MM pounds.

Reactor and dryer stream factors were 87.7% and 89.8% respectively. The major items affecting stream factor and production were:

1. Maintenance on reactor seals resulted in a 2.1% reactor stream factor penalty.
2. Condenser cleaning work on 743 and 744 reactors resulted in a 1.4% reactor stream factor penalty.
3. Maintenance on reactor gearboxes resulted in a 0.9% reactor stream factor penalty.
4. During the above mentioned reactor downtimes, excess dryer capacity was used to perform maintenance on dust collectors and debug off-grade resin. The resulting dryer stream factor penalty was 2.0%. A number of smaller stream factor penalties comprised the balance of dryer downtime.

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	1,868,591	-	54,750	6.9
5385	14,632,479	181,450	35,250	71.6
5425	4,606,263	13,500	123,000	17.1
5465	955,130	-	-	3.5
Sifter Overflow	-	-	246,605	0.9
TOTAL	27,062,463	194,950	459,605	100.0

Quality performance for January was 97.7% customer grade with 0.7% "BC" and 1.6% "H" grade.

VINYL - (continued)

Cost

The variable cost variance for January was favorable \$1,663 M with \$1,709 M due to price and (\$46 M) due to efficiency. The major price variance was \$1,714 M due to monomer pricing. Unfavorable efficiency variances of \$55.7 M for VCM and \$21.3 M due to off-grade production were partially offset by a favorable combined additive variance of \$28.8 M and \$2.5 M due to product mix.

The monomer raw material requirement for January was 1.02789 pounds VCM/ pound resin versus the 1.01936 standard.

General

1. Resin packaging for January totaled 5.9 MM pounds. Debugging activities upgraded 65 M pounds to customer grade resin.
2. A limited test run was conducted to determine the feasibility of using 3% Methocel concentration versus the current 1.5% concentration levels. No problems were encountered.
3. Testing was started to determine the potential cost savings of double flushing initiator to the reactors.

COMPOUND - J. R. McCrimon

<u>Compound Production</u>	<u>Month</u>	<u>Per Day</u>	<u>Year to Date</u>
Line I, M Pounds	1,341	48	1,341
Line V, M Pounds	153	51	153
Line III, M Pounds	3,010	97	3,010
Total, M Pounds	4,504	145	4,504
Accounting Days	31		31

Line I operated 28 days during January at an average rate of 48 M pounds per day. Major items affecting production efficiency were: Dicers (36.1 hours), product changes (36.0 hours), conveyor bucket (22.3 hours), quality control (16.0 hours), bag charging resin (12.9 hours), skip hoist (7.9 hours), Banbury (6.5 hours), and mill (5.3 hours).

Line V operated 3 days during January at an average of 51 M pounds per day. Major items affecting production efficiency were: quality control (8.5 hours), and putting up raw materials (5.1 hours).

Line III operated 31 days during January at an average rate of 97 M pounds per day. Line III production was affected by: product changes (55.2 hours), mill (18.5 hours), and quality control (12.0 hours).

Quality performance for flexible compounds was 3.4% off-grade of which 70.2% was due to mill scrap. "BC" production was 1.9%.

The raw material requirement for flexible compounds was 1.00194 pounds of raw material per pound of compound versus a 1.01301 standard. (Y.T.D. is 1.00194).

The variable cost variance for compound was \$58.6 M with \$37.3 M due to price and \$21.3 M due to efficiency. The variance due to product mix was \$20.3 M. There were no major efficiency variances. The only major price variance was \$10.4 M for DIDP which is due to DIDP cost less than budget by about \$0.02 per pound.

<u>Dry Blend</u>	<u>Month</u>	<u>Per Day</u>	<u>Year to Date</u>
Production, M pounds	3,470	158	3,470
Accounting Days	31		31

Dry Blend operated 22 days during January at an average rate of 158 M pounds per day. Production included 80174, 80273G, and 90171. Dry Blend production was affected by: quality adjustments (46.6 hours), boxing limited (17.3 hours), transfer line pluggages (10.0 hours), product changes (5.6 hours), and scale vibrator (5.4 hours).

Quality performance for the month was 99.98% customer grade.

COMPOUND - (continued)

Dry Blend - (continued)

The raw material requirement for dry blend was 1.01364 pounds of raw material per pound of dry blend versus a standard of 1.00580. (Y.T.D. is 1.01364.)

The variable cost variance for dry blend was \$34.9 M with \$12.0 M due to price and \$22.9 M due to efficiency. The variance due to mix was \$33.9 M. There were no major price or efficiency variances for January.

Dry Blend raw material, AC-629-A was found to produce long fusion times and low torque. A new raw material, Epolene E14P was substituted for the AC-629-A to resolve quality problems in 80273G.

<u>Plasticizer</u>	<u>Month</u>	<u>Per Day</u>	<u>Year to Date</u>
Production, M Pounds	1,126	59	1,126
Accounting Days	31		31

Plasticizer operated 19 days during January at an average rate of 59 M pounds per day. Production included: DIDP, 610P, and DOP.

VRP production totaled 143 M pounds (11.3%). Production was limited by: safety disc change (R-2) and steam restrictions (boiler repairs). VRP production was higher due to implementing a new method of filtering rag layer to recover more plasticizer (VRP) from the rag layer.

The raw material requirement for plasticizer was 1.12580 pounds of raw materials per pound of plasticizer versus a 1.10500 standard. (Y.T.D. is 1.12580.)

The variable cost for plasticizer was \$43.2 M with \$41.1 M due to price and \$2.1 M due to efficiency. Major price variances were: \$15.5 M for 2 ethyl-hexanol and \$13.2 M for phthalic anhydride. Major efficiency variances for the month were \$11.4 M for isodecyl and (\$17.8 M) for phthalic anhydride. The variance due to product mix was (\$0.95 M).

General

Total customer grade compound inventory increased from 5.8 to 6.2 MM pounds during January.

MAINTENANCE - S. J. Vincent

Vinyl

There were two large reactor gearbox failures. Four reactor seals failed and two reactor condensers were cleaned in this period. The gearbox failures were on the D-500 reactor in the old module and on the 741 reactor in the new module. Two seal failures were on the D-500 reactor in the old module and two on the 742 reactor in the new module. Both condensers were cleaned in the new module on 743 and 744 reactors. The safety valves were tested on 743 reactor and all safety discs were replaced. The actuator on 744 reactor dump valve sheared its retaining bolts and had to be repaired.

There were six pump and compressor seals replaced this period. All seals replaced were in the old module - the "A" recovery compressor outboard seal, "B" water charge pump, rinse pump, RVCM charge pump and twice on the west RVCM return pump.

Drum heater enclosures were fabricated for both modules. A new level controller was installed in the new module blowdown tank. In the vinyl unloading area both 490 Corken compressors were overhauled.

Repairs to vinyl drying equipment included P.M. inspections that were completed on #2 and #6 dryer trains. The stack was replaced on the #4 exhaustor, the #2 day collector star valve was rebuilt, the north 407 slurry pump was overhauled and the large 281 transfer blower was replaced. Belts were replaced on the #1 and #6 Birds. Several blend tank level transmitters were calibrated. The remote lighting system was repaired on #2 and #5 dryer controls.

Compound - Plasticizer - Dry Blend and Resin Storage

Major repairs to the compounding equipment included replacing the conveyor drive gearbox on line I and repairing steam leaks on line III. The line III orifice gate temperature was calibrated.

Projects in the compound area were to fabricate three tote bin racks, build a platform to pull the twin screws on line V and to replace the 36" conveyor belt on the automatic bag stacker.

In the plasticizer unit new seals were installed in the Schenk filter and steam leaks were repaired. The safety discs were replaced on R-1, 3 and 4 reactors.

Repairs in the dry blend unit were to patch the #2 Welex bowl and weld cracks on the south Kason unit. The dry blend product transfer blower was replaced, along with, the star valve under "A", "B" and "D" blenders. Bearings were replaced in the "B" blender gearbox and new supports were installed to reanchor "A" and "D" blender gearboxes. During the repair work on the Welex bowl, panel wiring changes were completed and all motor starters were placed in the switchgear room.

MAINTENANCE - (continued)

Utilities and Service

There were five repairs to the plant air compressors. Valves were repaired in the #5 and #6 compressors, the low stage end on #8 compressor was overhauled and leaking inter cooler tubes plugged. The oil pump was replaced on the west Joy compressor. The outlet valves were replaced on the Deltech air dryer.

Four pumps were overhauled in the utility area. The #2 boiler was down to repair a tube. Oxygen analyzers were installed on all three boilers. The 350 HP expansion cooling tower motor was installed and is performing satisfactorily.

Planner

There were 103 work orders planned and material ordered for 28 projects. eighteen invoice registers were closed and twenty new registers were issued. eighteen statements were processed for payment. The equipment history and safety valve records were updated.

Miscellaneous

Two 1000 KVA transformers that had previously been removed were returned to the city of Aberdeen.

MECHANICAL ENGINEERING - J. A. Dixon

AFE's Submitted, Approved, and Closed

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

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9511	Miscellaneous Projects Under \$10,000	\$170,000
9521	New VCM Railspur	11,000
9531	Vinyl Initiator Charge Pots	165,000
9541	VCM Tank Farm Modifications	90,000

A completion report was issued for the following AFE:

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9148	Plasticizer Chemical Exposure Abatement	\$152,000

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

<u>AFE No.</u>	<u>Title</u>	<u>Authorized</u>
9559	Color Weigh Room Modifications	\$ 25,000
9010	Centrifuge Rotor Repair	20,000

Design

Design work is in progress on the following projects:

- Fixed Point Monitor Data Computer and Warning Lights
- Spare Inert Incinerator
- Batch Water Stripping
- Resin Reclaim System
- Reactor Pressure Relief Modifications
- Emergency AMS Kill System
- Plasticizer Irritant Control
- Breathing Air Modifications

AFE Activity

1. AFE 9709 - Facilities for Multigrade Resin Production - G. Kreutzer

Design is complete. Painting and insulation bid packages are being issued. Construction is in progress.

2. AFE 9729 - Fire Protection Improvements - Phase II - M. Ingle

Underground piping is complete. The contract has been let for construction of the pump building.

MECHANICAL ENGINEERING - (continued)

AFE Activity - (continued)

3. AFE 9530 - Spare Incinerator - J. L. White

Overall project design is 75% complete. The concrete package is out for bids.

4. AFE 9590 - Critical Spare Equipment - J. P. McKee

The condenser is on order and delivery is June, 1981.

5. AFE 9630 - Water Stripping - M. Ingle

Design work is complete. The piping and equipment erection work has been let and construction is in progress.

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

Design is 70% complete and we are awaiting details on the computer to gas chromatograph wiring. Software development is in progress.

7. AFE 80-395 - Interplant Communications - Phase III - R. B. Harned

Construction has continued in a limited way during January. Weather conditions have slowed the trenching for conduit runs. All material has been received for this project.

8. AFE 9690 - Breathing Air Modifications - J. L. White

The vessel has been placed on order and plan drawings are being reviewed.

9. AFE 9760 - Emergency AMS Kill System - J. L. White

Quotes have been received on long lead items. A vessel drawing is being circulated for approval.

10. AFE 9770 - Reactor Pressure Relief Modifications - J. L. White

The relief valves, safety head, rupture discs and studding outlets are on order. Drawings of studding outlet locations are being circulated for approval.

Construction - G. A. Morgan

The alcohol unloading spill prevention project was completed the last week in January.

Fifteen contracts were let during January. Nine of these were for annual time and material contracts. Six contracts were let for the following:

MECHANICAL ENGINEERING - (continued)

Construction - (continued)

1. Fire Protection Improvements Phase II Pump Building
2. New Air Dryer Shed
3. PVC Resin Expansion Piping, Equipment and Structural Installation
4. Batch Water Stripping Piping, Equipment and Structural Installation
5. Disposal of Hazardous Chemical Waste
6. Plant Vegetation Control

The following projects became operational in January:

1. The Alcohol Unloading Spill Prevention Project
2. The API Clean Water Bypass Project

Thirty-six register tickets were issued during January.

(1) Thru December, 1980 Actual Accounting
(2) Thru January, 1981

ABERDEEN AUTHORIZATIONS REPORT

<u>AUTH. NO.</u>	<u>CAPITAL DESCRIPTION</u>	<u>DATE APPROVED</u>	<u>AUTH. AFE AMT.</u>	<u>(1) EXPENDED TO DATE</u>	<u>(2) COMMITTED TO DATE</u>	<u>FINAL TOTAL EST. COST COMP.</u>	<u>UNDER (OVER) AUTH. AMT.</u>	<u>EST. COMP. DATE</u>	<u>EST. CLOS. DATE</u>	<u>REMARKS</u>
9237	Heated Plasticizer Addition System	10/11/77	37,000	15,098	34,992	37,000	0	12/80	3/81	Closed to field charges.
9519	Critical Spare Equipment	2/6/79	175,000	163,081	166,465	166,465	8,535	12/80	3/81	Closed to field charges.
9559	Color Weigh Room Modifications	4/19/79	25,000	18,853	20,268	25,000	0	1/81	4/81	Closed to field charges.
9589	Instrument Air Dryer	5/30/79	110,000	91,967	99,888	110,000	0	2/81	5/81	Revisions in progress.
9609	Reactor Inert Vent System	6/28/79	90,000	14,541	14,541	90,000	0	12/81	3/82	Project on hold.
9629	Air Compressor	7/9/79	340,000	276,563	283,077	340,000	0	3/81	6/81	Revisions in progress.
9639	Revisions to Emission Recovery System	7/12/79	100,000	74,587	78,517	100,000	0	3/81	6/81	Revisions in progress.
9649	Double Block Valves for VCM Charge	7/18/79	182,000	168,083	168,083	168,083	13,917	12/80	3/81	Closed to field charges.
9669	New Air Header	8/15/79	25,000	18,008	19,369	25,000	0	2/81	5/81	Revisions in progress.
9689	Diking of Sphere & Curbing of Drum Storage Areas	9/15/79	170,000	127,567	132,748	170,000	0	3/81	6/81	Construction in progress.
9699	Plant Dryer Debottlenecking	9/15/79	80,000	16,570	58,430	80,000	0	8/81	11/81	Construction in progress.
9709	Facilities for Multiple Grade Resin Production	9/20/79	870,000	81,840	548,075	870,000	0	8/81	11/81	Construction in progress.
9719	Aberdeen PVC Resin Expansion	9/10/79	850,000	11,421	860,000	860,000	(10,000)	8/81	11/81	Reactors to ship 3/4/81.
9729	Fire Protection Improvements - Phase II	10/1/79	490,000	135,698	237,623	490,000	0	6/81	9/81	Construction in progress.
9739	Methocel Charge Revision	10/3/79	66,000	39,374	41,642	66,000	0	2/81	5/81	Project operational.
9759	Aberdeen PVC Resin Expansion	12/10/79	11,150,000	2,959,579	7,232,300	11,150,000	0	9/81	12/81	Piping contract let.
9510	Miscellaneous Projects Under \$10,000	1/3/80	150,000	115,378	156,110	150,000	0	12/80	3/81	Closed to field charges.
9530	Spare Incinerator	1/23/80	650,000	15,392	279,537	650,000	0	6/81	9/81	Engineering in progress CED.
9550	P. A. Handling Improvement	3/3/80	63,000	28,030	33,964	63,000	0	12/81	3/82	Project on hold.
9560	Safety Equipment	3/12/80	25,000	7,846	11,185	25,000	0	3/81	6/81	Evaluating bids.
9570	Replace T-100 P.A. Tank	3/27/80	119,000	58,147	62,366	119,000	0	12/81	3/82	Project on hold.
9580	Boiler Economizers	3/26/80	140,000	144,695	144,701	144,701	(4,701)	12/80	3/81	Closed to field charges.
9590	Critical Spare Equipment	3/26/80	59,000	10,798	60,386	60,386	(1,386)	3/81	6/81	Condenser to ship 6/81.
9600	Calcium Stearate Addition System	4/2/80	84,000	429	11,062	84,000	0	5/81	8/81	Engineering in progress.
9610	API Clean Water Bypass	4/15/80	23,000	14,467	17,690	23,000	0	3/81	6/81	Project operational.
9630	Water Stripping	4/30/80	810,000	71,708	322,202	810,000	0	6/81	9/81	Construction in progress.
9650	Miscellaneous Projects Under \$10,000	5/30/80	150,000	95,844	171,918	150,000	0	12/80	3/81	Closed to field charges.
9660	Hot Water Charge Tank Replacement	6/4/80	160,000	52,368	136,155	160,000	0	2/81	5/81	Project operational.
9670	Laboratory Equipment	7/9/80	32,000	31,587	32,447	32,447	(447)	12/80	3/81	Closed to field charges.
9680	Fixed Point Monitor Data Computer and Warning Lights	9/4/80	113,000	708	38,020	113,000	0	9/81	12/81	Engineering in progress.
9690	Breathing Air Modifications	9/9/80	21,000	1,264	5,265	21,000	0	3/81	6/81	Engineering in progress.
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	190,890	420,000	0	10/81	1/82	Agitators to ship 5/81.
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	13,947	200,000	0	10/81	1/82	Engineering scheduled.
9750	Rotary Dryer Insulation (Energy)	11/10/80	22,000	0	27,391	27,391	(5,391)	2/81	3/81	Insulation in progress.
9760	Emergency AMS Kill System	11/15/80	335,000	0	0	335,000	0	8/81	11/81	Engineering in progress.

(1) Thru December, 1980 Actual Accounting
 (2) Thru January, 1981

ABERDEEN AUTHORIZATIONS REPORT

AUTH. NO.	CAPITAL DESCRIPTION	DATE APPROVED	AUTH. 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
9770	Reactor Pressure Relief Modifications	11/25/80	560,000	0	226,194	560,000	0	12/81	3/82	Engineering in progress.
9780	Centrate Heat Recovery	12/8/80	300,000	0	0	300,000	0	3/82	6/82	Engineering scheduled.
9790	Resin Reclaim System	12/14/80	727,000	0	0	727,000	0	3/82	6/82	Engineering in progress CED.
9800	Plasticizer Irritant Control (Air)	12/15/80	80,000	0	0	80,000	0	9/81	12/81	Engineering in progress.
9810	Replacement Gearbox for Farrell Mixer	12/18/80	73,000	0	69,400	73,000	0	9/81	12/81	Gearbox to ship 9/81.
9511	Miscellaneous Projects Under \$10,000	1/9/81	170,000	0	3,829	170,000	0	12/81	3/82	Three projects approved.
9521	New VCM Railspur	1/30/81	11,000	0	0	11,000	0	5/81	8/81	Engineering in progress.
9531	Vinyl Initiator Charge Pots	1/21/81	165,000	0	0	165,000	0	11/81	2/82	Engineering scheduled.
9541	VCM Tank Farm Modifications	1/21/81	90,000	0	0	90,000	0	1/82	4/82	Engineering scheduled.
80-395	Interplant Communication - Phase III	1/22/80	55,000	0	21,683	55,000	0	6/81	9/81	Construction in progress.
<u>EXPENSE</u>										
9010	Centrifuge Rotor Repair	9/19/80	20,000	16,650	16,650	16,650	0	1/81	4/81	Closed to field charges.
9020	Repairs to Line I Compounder	11/24/80	38,000	0	0	38,000	0	11/81	2/72	Parts ordered in January.

J. L. Carter - Personnel

EMPLOYMENT

Charles E. Morris - General Helper
William J. Davis - General Helper
James Curlee - Casual Labor
Callie Tallie - Casual Labor
Craig Miller - Casual Labor
Homer Awtry - Casual Labor

TO/FROM LEAVE OF ABSENCE

Steve C. Hillman - Process Engineer

TRANSFER/PROMOTION

Donald G. Bennett promoted from Lab Trainee to Lab Technician "A"

RETIREMENT

Quinton Thompson, General Mechanical "A"

TERMINATION

Lexie Williams, Casual Labor

OTHER

During December there were 21 casual labor employees on payroll.
Total hours worked were 2726.75.

CONOCO CHEMICALS
Aberdeen, Mississippi

January 1981
MONTHLY PERSONNEL REPORT

Salaried Employees	<u>80*</u>							Minority Employees	#	%
Hourly Employees	<u>156</u>							Salaried	<u>6</u>	<u>7.5%</u>
Total Employees	<u>236*</u>							Hourly	<u>58</u>	<u>37%</u>
Employees (Hourly)								Total	<u>64</u>	<u>27%</u>
New Employees	<u>2</u>					Hourly Min. Hired	<u>0</u>			
Terminations	<u>0</u>					% Min. Hired	<u>0</u>			
						Hourly Min. Term.	<u>0</u>			
						% Min. Term.	<u>0</u>			

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>12</u>	<u>3</u>	<u>25%</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Maintenance	<u>46</u>	<u>45</u>	<u>7</u>	<u>15%</u>	<u>0</u>	<u>0</u>	<u>1**</u>	<u>1**</u>	<u>0</u>	<u>0</u>
Laboratory	<u>22</u>	<u>21</u>	<u>3</u>	<u>14%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Compound	<u>37</u>	<u>33</u>	<u>27</u>	<u>82%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Vinyl	<u>32</u>	<u>32</u>	<u>13</u>	<u>40%</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 8 Year to Date 8

APPLICANT BREAKDOWN:

Minority 2 % Minority 25%

Female 0 % Female 0

Hires (Hourly) :

Month 2 Year to Date 2

Terminations (Hourly) :

Month 1** Year to Date 1**

Overall Turnover 0

Projected Annual Turnover 0

*Includes three (3) temporary employees.

**Includes one (1) retirement (effective December 1980) and is not counted in turnover rates.

OVERTIME AND ABSENTEEISM

January 1981

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	1797.75	174.25	24.00	11%	0	0	0	0
Maintenance	6665.00	540.75	16.00	8%	408	100%	0	6%
Laboratory	3927.50	398.25	104.00	13%	176	100%	0	4%
Compound	6403.00	289.50	188.25	7%	208	96%	4%	3%
Vinyl	6701.75	520.25	192.00	11%	128	94%	6%	2%
Plasticizer	714.00	73.75	2.75	11%	0	0	0	0
Utility Boiler House	756.00	61.75	24.00	11%	0	0	0	0
General Plant	1005.00	1.50	0	.1%	80	100%	0	8%
Total	27970.00	2060.00	551.00	9%	1000	98%	2%	3.6%

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

The mechanical contract for the project was awarded to Energy Plant Constructors of Houston, Texas. A set-up crew for the contractor is already on site. Concrete work in all areas continues with the reactor areas and slurry blend tank area nearing completion. Review of V-11 chem wash system piping, electrical and instrumentation has begun.

B. Reactor Emergency Cooling System

Process Engineering is continuing to provide assistance to PED on this project.

C. Donnelly Mirror Compound Testing

A test run was held at B.A.G. Corporation to determine the size of the discharge opening needed for the "Super Sac" containers. Work has begun on a process design for filling the containers.

D. Plasticizer Initiator Handling System

A review meeting was held on this design. Process Engineering is planning a test run using a solid initiator as a replacement for the liquid PTSA presently used.

E. Capacity to Receive OKC Resin

The class "A" process design to handle pond resin from the Oklahoma City plant was issued. A review meeting on the design was held and comments are being incorporated in the design.

F. Rigid Pelletized Compound Production - Line V

The class "A" design to produce rigid compounds on Line V is underway.

G. Compound Line I Modernization

The class "A" design on this project is underway.

H. Reactor Agitator Replacement - D-300 and D-400

A review meeting on this project was held and review comments were incorporated in the design.

I. Line III Mill Temperature Control

Work on the process design to provide a new mill heating system continued.

J. Plasticizer Spill Containment

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

PROCESS ENGINEERING - (continued)

K. Cooling Tower Blowdown Bypass

The class "A" design to divert any cooling tower blowdown directly to number six pond was issued.

L. Recovery System Revisions

The class "A" design on this project is in progress. Revisions include increasing knockout pot water circulation, rate improving solids removal, and recovery system instrumentation.

M. Dry Blend Production Rates

Recommendations on improving dry blend-rates were issued. Follow-up on these items continues.

N. Rag Layer Reduction

A test run using sodium borohydride instead of carbon black to remove color in plasticizer has been planned. Process Engineering is working with production to complete the test.

O. Rag Layer Filtration

Filtration of Rag layer to produce VRP was successful. Rag layer will continue to be filtered as allowed by the plasticizer production schedule.

P. Explosive Mixture Monitor

The class "A" design to monitor the dryer burner area for explosive mixtures of natural gas is being prepared.

Q. Slurry Delumper

The class "A" design to install a delumper to reduce oversize material from coarse batches is being prepared.

R. Normal Kill Solution Addition System

The class "A" design for this project was issued.

S. Compound Sewer Revisions

A design to eliminate the possibility of spilled plasticizer entering the storm sewer is being prepared.

T. VCM Flexible Hose Evaluation

An evaluation of flexible hoses used in VCM service is being prepared.

U. Variability Test Run

Process Engineering is providing support for the variability test run.

PROCESS ENGINEERING - (continued)

V. Sifter Overflow System

Process Engineering assisted the Mechanical Group in the design of a temporary sifter overflow system.

ENVIRONMENTAL - V. E. Messick

Particulates

One dryer was sampled for particulates in January and was within allowable limits.

Water

Effluent parameters for BOD exceeded allowable limits on January 14 and January 21 due to high loadings on the waste treatment system. Sludge was removed from the API separator to allow more residence time for the organics to separate.

The suspended solids from storm water effluent 002 exceeded allowable limits. This settling pit was cleaned out to allow more residence time for solids to settle.

The Quarterly NPDES Discharge Monitoring Report was issued.

VCM

The comprehensive VCM survey was completed and issued.

Hazardous Waste Management

A total of 232 drums of waste material was shipped to Chemical Waste Management's Alabama site for disposal. Waste material profile sheets for plasticizer filter cake were sent to Chemical Waste Management in order to receive approval to dispose of this waste at their site.

The RCRA Contingency Plan is being prepared.

Other

The Aberdeen Chemical Plant Pollution Control Manual is being prepared.

The updated OSHA Engineering and Work Practice Control Plan was issued.

TABLE I
WATER COMPLIANCE WITH
NPDES PERMIT PARAMETERS

	Flow GPM	BOD		COD		Sus. Solids		Diss.	ph
		PPM	LB./DY.	PPM	LB./DY.	PPM	LB./DY.	O ²	
Jan. - Ave.	1069	39	504	69	888	7	93	8.5-10.4	7.4-7.8
Max.	1297	57	887	106	1650	9	114		
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 - J. F. Perez-Velasco

I. Plant Operations

Total energy consumption for January was 119.383 MMM BTU's. The energy consumption per pound of product increased to 3209 BTU/lb. as compared with 3131 BTU/lb. for December.

II. Plant Energy Conservation Program

Steam Leaks

Fifteen (15) steam leaks were repaired in January.

Dryer Insulation

Installation of additional insulation on the rotary dryers was started in January.

ENERGY CONSERVATION DATA

<u>ITEM</u>	<u>1981</u>	<u>1980</u>
	<u>January</u>	<u>January</u>
<u>Production, MM Lbs.</u>		
Resin	27.8	30.3
Dry Blend	3.5	1.9
Compound	4.7	3.0
Plasticizer	<u>1.3</u>	<u>0.3</u>
TOTAL	37.2	35.5
<u>Natural Gas</u>		
Consumption, MSCF	67042	59554
Conversion, BTU/SCF	1020	1020
Energy Consumption, MMM BTU	68.383	60.745
<u>Electricity</u>		
Consumption, MM KWH	5.0888	5.1456
Conversion, BTU/KWH	10000	10000
Energy Consumption, MMM BTU	50.888	51.456
<u>Propane</u>		
Consumption, M Gal.	1.224	20.544
Conversion, BTU/Gal.	92000	92000
Energy Consumption, MMM BTU	0.113	1.890
<u>Total</u>		
Energy Consumption, MMM BTU	119.383	114.091
Energy Consumption , BTU/Lb.	3209	3214
<u>Boiler Operating Data</u>		

	<u>Avg. Stack Temp.</u>		<u>Avg. % Excess Air</u>	
	<u>1981</u>	<u>1980</u>	<u>1981</u>	<u>1980</u>
No. 1	264	389	26	19
No. 2	304	413	29	20
No. 3	260	418	25	22

LABORATORY - R. D. Jackson

CUSTOMER COMPLAINTS

<u>Customer</u>	<u>Product</u>	<u>Complaint</u>	<u>Report By</u>
Master Fence	45541 Natural	Burning During Processing	RDJ

WAIVERS RECEIVED

<u>Date</u>	<u>Identification</u>	<u>Product</u>	<u>Customer</u>	<u>Reason</u>	<u>Waived By</u>
1/20	PTLX 41856	5305	Intex	Viscosity	RDJ
1/20	CONX 45737	5465	3M	Contamination	ELK

PRODUCT SERVICE AND DEVELOPMENT

Sample Shipments

<u>Ship Date</u>	<u>Product</u>	<u>Amount (Lbs.)</u>	<u>Customer</u>	<u>Requested By</u>
1/6	5305	50	Genova, Inc.	JFN
1/8	5425	5	Product Specialties	KJQ
	5465	5		
1/9	VRP	3 gal.	Heritage International	WR
1/9	5385-1	200	Conoco Inc.	PAS
1/13	5385-3	1000	Certain Teed	COEDS
1/15	DIDP	1 gal.	Diamond Shamrock	SKS
1/16	5385-1	100	Anderson Corp.	MED
1/17	35441 Nat.	50	Lenz Electric Mfg. Co.	MFM
1/18	5425-1	10	Bata Shoe	RNG
1/20	5385-1	200	General Binding	COEDS
1/20	5385-1	4	Conoco Inc.	PAS
1/21	DIDP	3 x 55 gal.	Conoco Inc.	MG
	DOP	2 x 55 gal.		
1/21	27121 Nat.	50	Conoco Inc.	LW
	44461 Blk.	50		
	48562 Blk.	50		
1/22	5425-1	4500	Essex Wire & Cable	JFN
1/30	5385	1000	Conoco Inc.	PEM

LABORATORY - (continued)

PRODUCT DEVELOPMENT AND SERVICE - (continued)

Special Compound Testing

Complete specification tests were run on 2 samples of 36861 Natural, 1 sample of 648-B Natural and 2 samples of 34861 Gray 546 for Western Electric. Plasticizer content and flammability were tested on another railcar of 34861 Gray 546. Tests were run on one sample of 34533 Natural for Packard Electric.

New Compound

Specifications were established and standards were prepared for a new compound (4184-82), proposed as a replacement for 38551.

Dry Blend Development

Welex batches of 80174 were prepared for use as a quality control standard.

QUALITY CONTROL TESTING

Resin

Regular Samples = 387
Bag Samples = 149
Other In-Process Samples = 3428
Bulk Shipments = 183 (Railcars = 79; Trucks = 104)

Dry Blend

Blenders Produced = 393
Blenders Tested = 328
Blenders Adjusted = 10.9%
Other In-Process Samples = 519
Bulk Shipments = 50 (Railcars = 11; Trucks = 39)

Compound

Blenders Produced = 734
Blenders Adjusted = 1.5%
Line V Production = 18 skids; 126 boxes
Other In-Process Samples = 834
Bulk Shipments = 20 (Railcars = 9; Trucks = 11)

Resin Heat Stability

Fifty seven (57) resin samples were tested for oven heat stability.

5385	23 Samples
5425	21 Samples
5305	11 Samples
5465	2 Samples

The 5385 resin averaged slightly poorer than the control; the other resins averaged slightly better. 5305 resin was inconsistent with respect to heat stability.

LABORATORY - (continued)

QUALITY CONTROL TESTING - (continued)

RVCM of Shipments

A total of 145 shipment samples were tested for residual VCM in January. Only one shipment, a 5305 truck, was found to be greater than 10 ppm and had to be off loaded. A summary by product is below.

<u>Product</u>	<u>5305</u>	<u>5385</u>	<u>5425</u>	<u>5465</u>	<u>Dry Blend</u>
Average RVCM, ppm	2.7	1.4	0.4	0.1	0.4
Number of Samples	66	49	15	5	10

Inherent Viscosity

The viscosity sample load continued to be high in January. A total of 709 samples were tested.

MISCELLANEOUS PROJECTS

Plasticizer Analysis

Routine analysis of plasticizer tank samples revealed severe cross contamination of the DIDP. Much work was done to identify where the contamination started and stopped in finished compound.

Raw Material Testing

One hundred two (102) lots of raw material were tested during January. The SP-33 clay continues to give problems with low volume resistivity, and two truck loads were rejected. One truck load of Hydral 710 was rejected because it did not disperse properly. One lot of Ongard 2 was also rejected for poor dispersion.

A sample of Satintone No. 2 clay was tested and compared with SP-33. Results indicate that Satintone No. 2 will give a higher volume resistivity than current SP-33, and it was recommended that the plant buy some of this clay. The SP-33 is slightly better in color.

The oiled version of DS-207 (dibasic lead stearate) disperses satisfactorily and appears to perform as well as the unoiled version. Due to the high dust levels of unoiled DS 207, the oiled version will be purchased in the future.

Samples of epoxidized soybean oil from two suppliers (Union Carbide Flexol EP0, Viking Vikoflex 7170) were tested and found equivalent to the ES0 currently used in compounds.

RVCM of Slurry

A total of 657 slurry batches were tested for RVCM in January. The overall average was 188 ppm. There were no daily averages over 400 ppm.

LABORATORY - (continued)

MISCELLANEOUS PROJECTS - (continued)

Residual VCM of Blowdown Tank Water

A total of 144 samples of water from the blowdown tanks were tested for VCM. The January average was 2.8 ppm, only 3 samples exceeded 10 ppm.

Personnel Dosimetry

A total of 108 carbon badge samples were tested for VCM in January.

Water Quality

A total of 59 COD's were run in January due to problems with the plant outfall.

L & N Microtrac

The problem of very cold water experienced in December was solved by installing a warm water line. Since 1/23/81 each reactor batch has had the particle size measured on the Microtrac. The reactor to reactor variation has been measured. QC people are running parallel analysis on regular sample using Microtrac and screens. The data will be used to obtain necessary information to set plant guidelines for the Microtrac.

TRANSPORTATION - J. E. Stark

Shipment by Product - M/Lbs.

	<u>January</u>	<u>Year to Date</u>
Resin	23,131	23,131
Plasticizer	122	122
Dry Blend	3,099	3,099
Compound	4,339	4,339
TOTAL	<u>30,691</u>	<u>30,691</u>

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	74	34			60			168
- Package			3		3		10	16
- Export		1	166					167
Plasticizer							3	3
Dry Blend - Bulk	8	5			10		21	44
- Package			2					2
- Export			9					9
Compound - Bulk	9	8			4			21
- Package			20	2	14		21	57
	<u>91</u>	<u>48</u>	<u>200</u>	<u>2</u>	<u>91</u>	<u>0</u>	<u>55</u>	<u>487</u>
Backhauls for January			35	2	7			44

Number of Shipments by Month - Year to Date

	<u>R/C</u>	<u>O.T. Bulk</u>	<u>O.T. Van</u>	<u>C.O.T.</u>	<u>C.C.</u>	<u>TOFC</u>	<u>CPU</u>	<u>TOTAL</u>
January	91	48	200	2	91	0	55	487

Material Handling Report

	<u>M/Lbs.</u>	<u>T/L</u>
Packaged Resin From Production	5,791	143
Packaged Compound, Dry Blend From Production	3,726	92
Transferred From Main to Prairie	2,795	69
Transferred From Prairie to Prairie	40	1
Reverse Transfer Resin to Plant	446	11
Reverse Transfer Compound to Plant	162	4
Shipment From Warehouses	9,801	242
Special Packaging	7,087	175
Transferred From Prairie to Main	3,321	82
	<u>33,169</u>	<u>819</u>

TRANSPORTATION - (continued)

Off-Grade In Storage

<u>Material</u>	<u>M/Lbs.</u>	<u>T/L</u>
Sifter Overflow	857	21
Resin "BC"	2,907	72
Resin "H"	910	22
Mill Scraps	183	5
Compound "B"	1,262	31
Compound "H"	86	2
Dry Blend "O.G."	161	4
	<u>6,366</u>	<u>157</u>

ABERDEEN WAREHOUSE

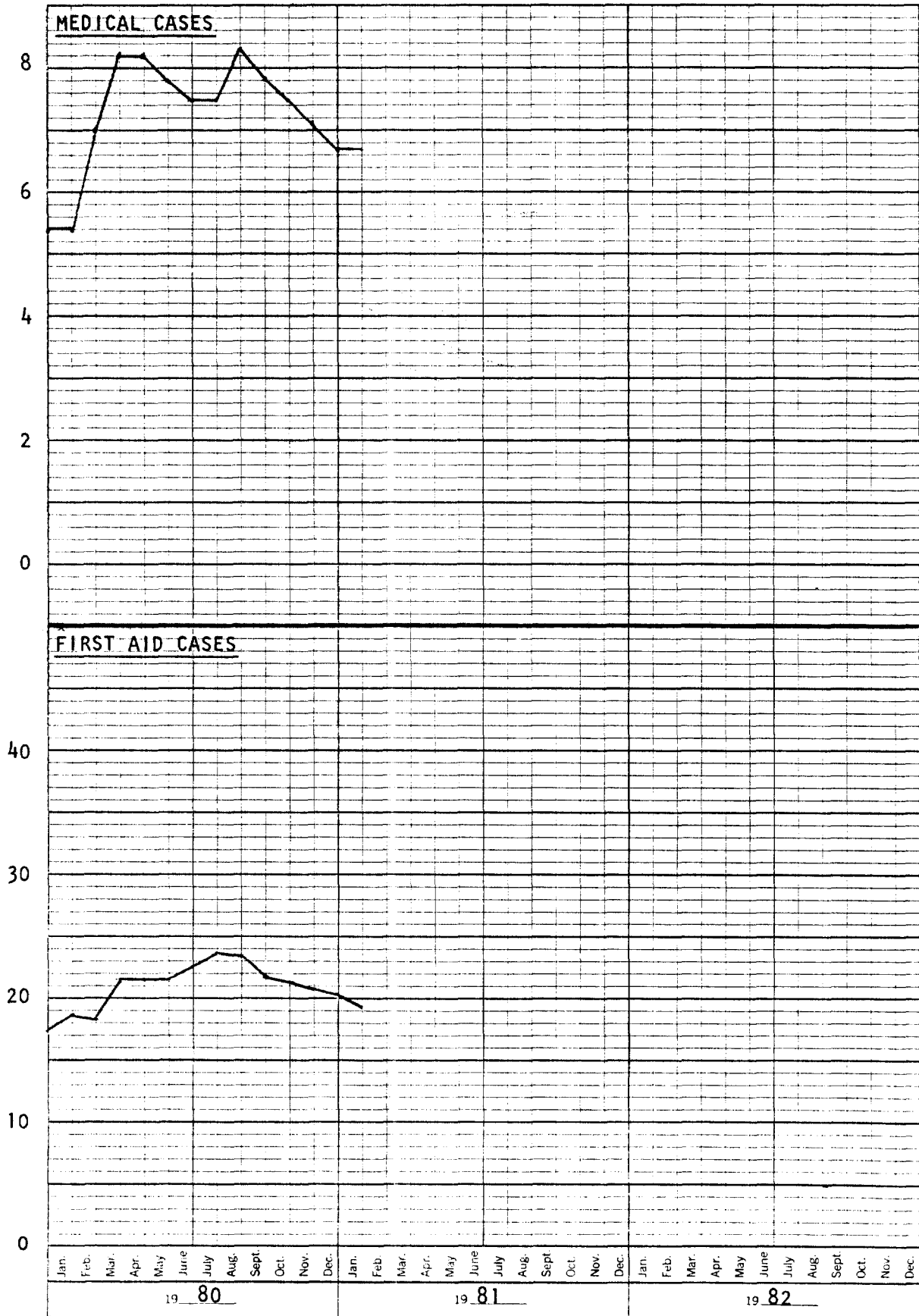
<u>LOCATION</u>	<u>TOTAL M SQ. FT.</u>	<u>CONTENTS</u>	<u>ESTIMATED MM POUNDS</u>		
			<u>ON FLOOR</u>	<u>OPEN</u>	<u>TOTAL</u>
MAIN-East	48	Compounds	4.3		
		Dry Blend	.5		
		Export Resin	.5		
		Conoco Resin	.4	5.7	4.3 10.0
Prairie 12-1	12	HDPE	.3	.5	1.0 1.5
		Dry Blend	.2		
12-2	22	Conoco Resin	3.8	3.8	. 3.5
12-3	21	Conoco	.2		
		Export Resin	.9		
			.	1.1	2.4 3.5
12-4	22	Conoco Resin	4.4		
		Resin O.G.	.	4.4	. 3.5
12-5	21	Mill Scraps	.1		
		Compd O. G.	1.0		
		Dry Blend O. G.	.1		
		Sifter Overflow	.7		
		Resin O. G.	.8	2.6	. 2.5
12-6	21	Compound	.1		
		Resin	3.0		
		Raw Material	.2	3.3	.2 3.5
12-7	21	Resin O. G.	3.4	3.4	.1 3.5
12-8	21	Conoco Resin	4.5	4.5	. 3.5
12-9	21	Conoco Resin	3.1	3.1	. 4 3.5
12-12	21	Conoco Resin	.	.8	2.7 3.5
		S.O.	.4		
		Comp. O. G.	.4		
		Sub-Total			42.0
		(Plug-Aisles)			2.3
Total	251	Total Conoco	33.2	11.1	44.3

DTH 000048776

ABERDEEN CHEMICAL PLANT

INJURY PERFORMANCE

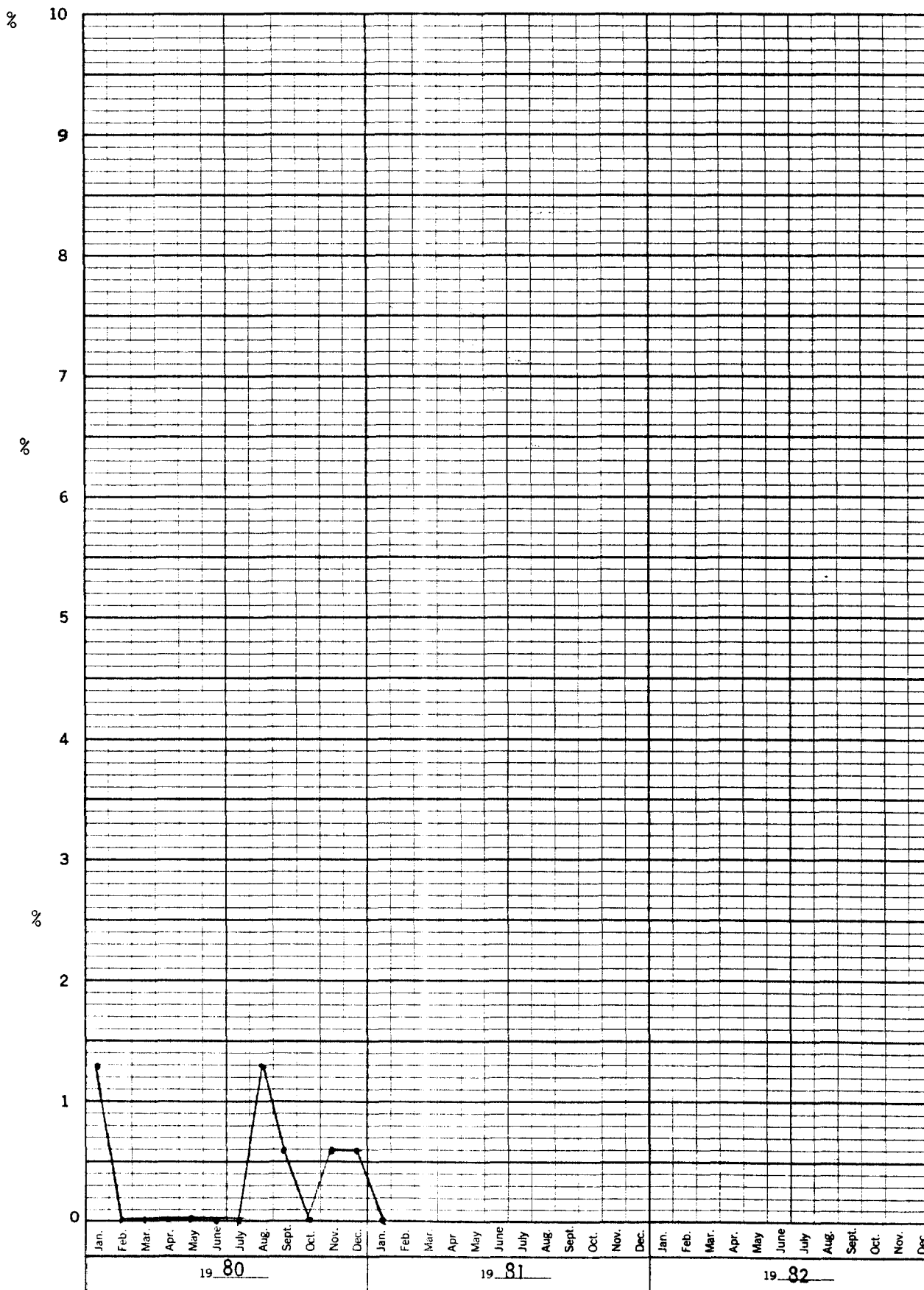
INJURY FREQUENCY X 100



$$\text{FREQUENCY} = \frac{\text{TOTAL INJURIES (FA OR MC)} \times 12}{\text{TOTAL EMPLOYEES}}$$

DTH 000043777

MONTHLY HOURLY TURNOVER

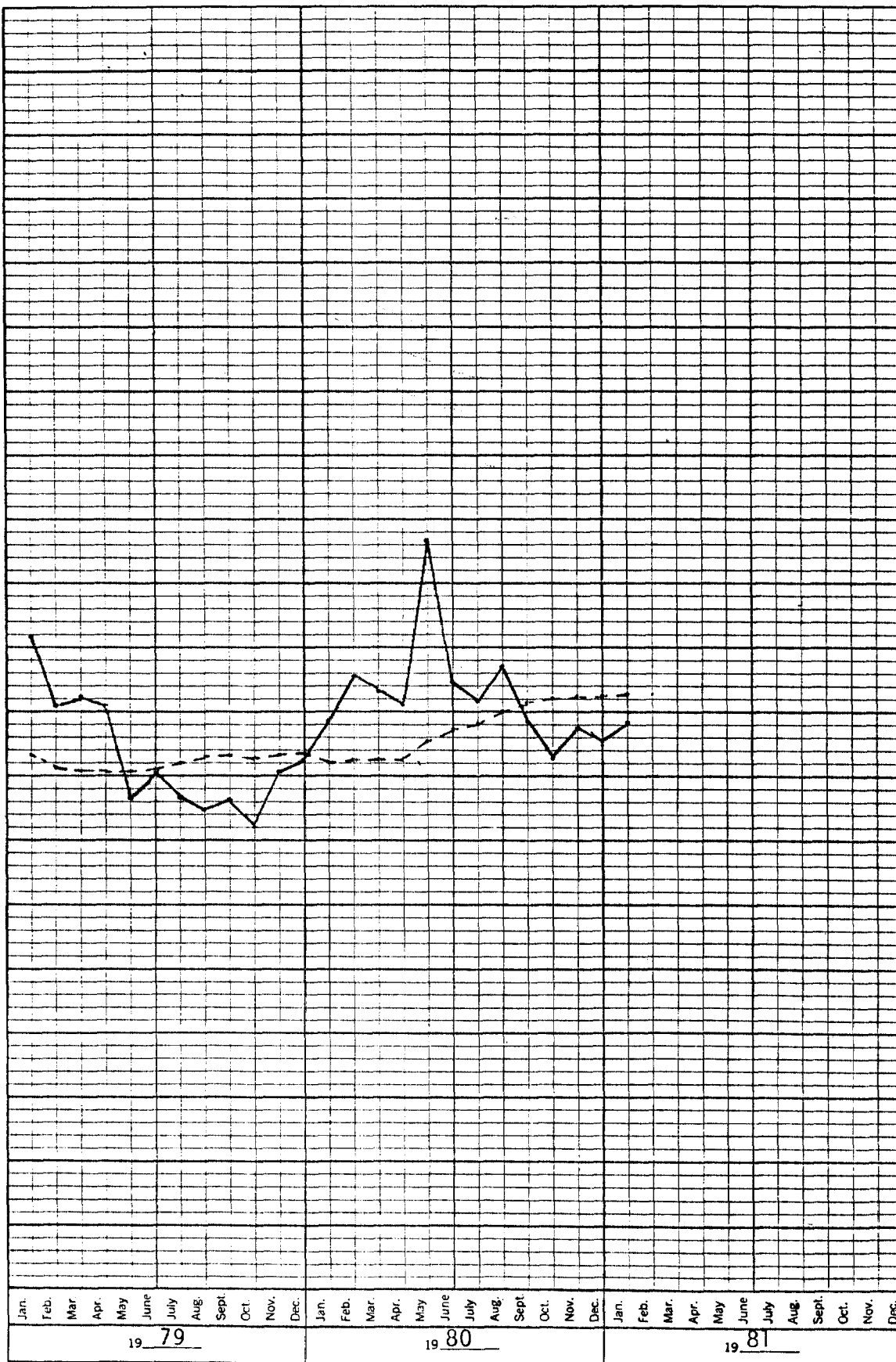


46 3290

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

ENERGY USAGE

BTU/Lb.



DTH 000043779

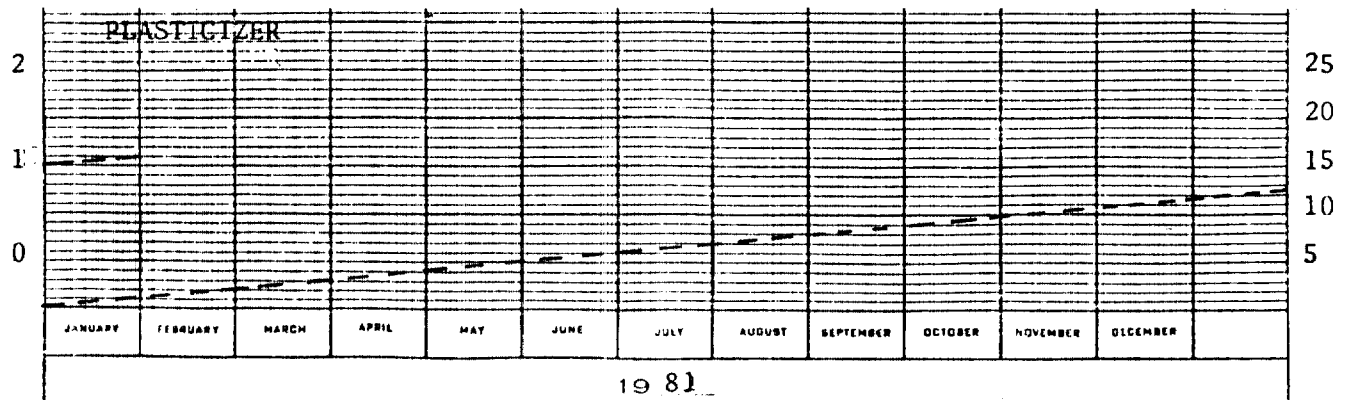
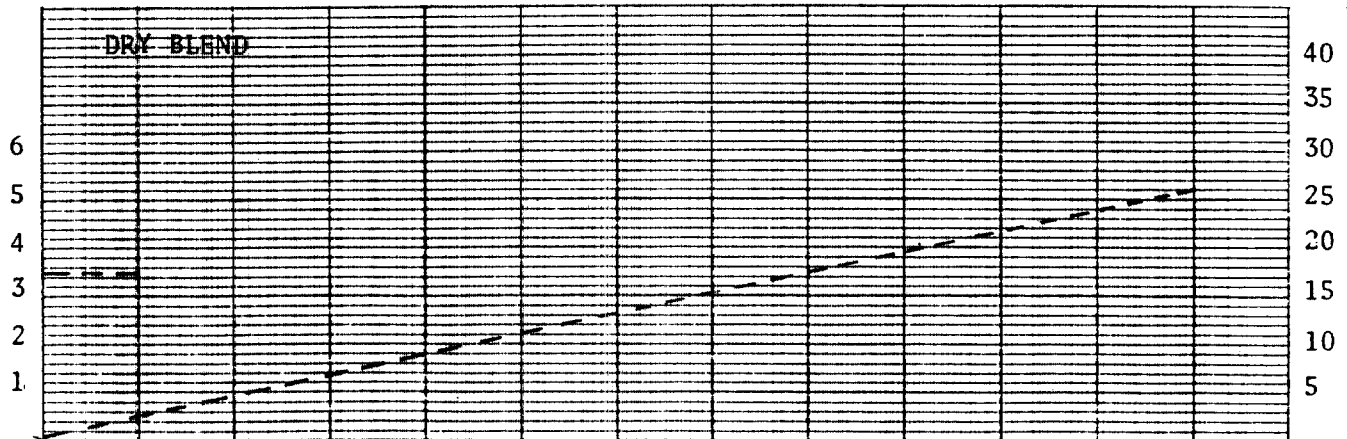
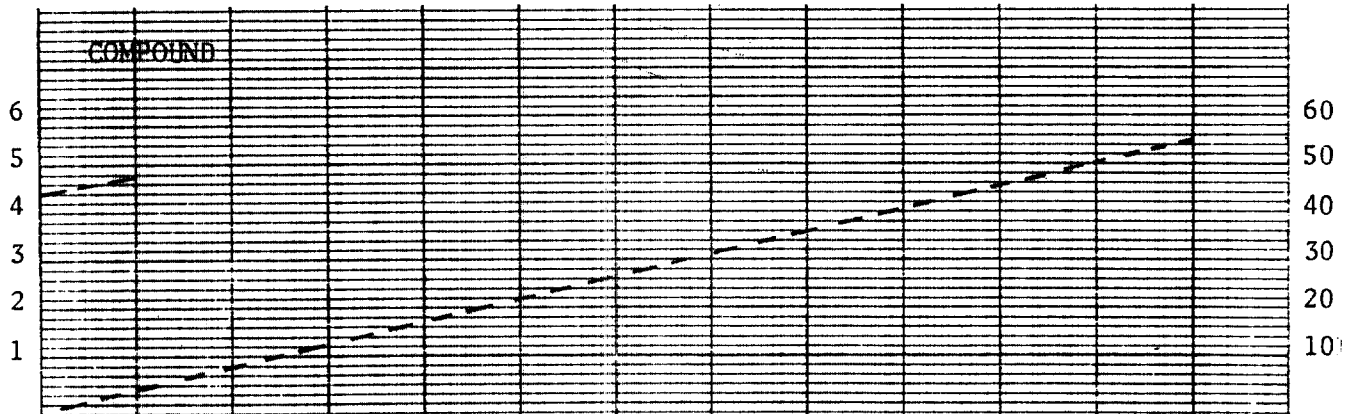
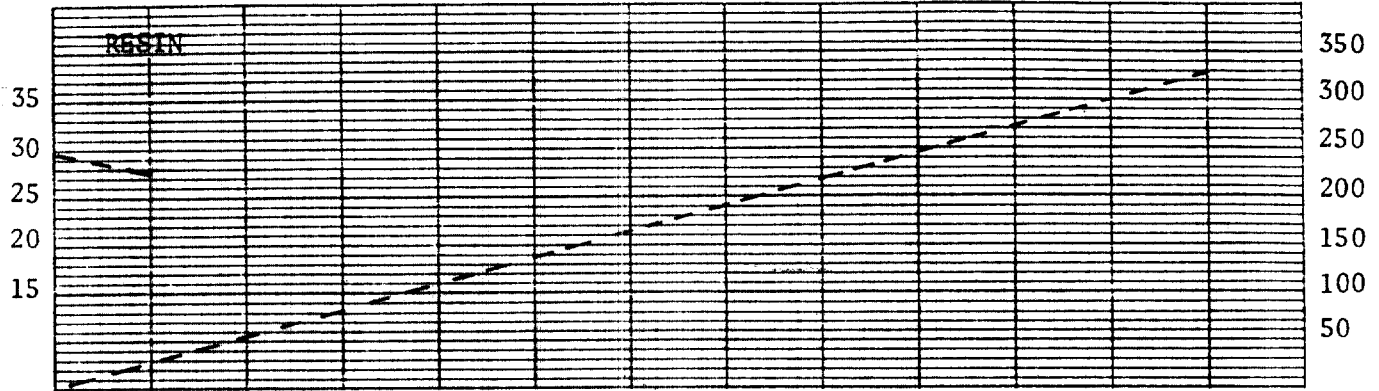
_____ Monthly
 - - - - - 12 Month Moving Average

MM POUNDS
MONTHLY

ABERDEEN PLANT PRODUCTION

1981

MM POUNDS
CUMULATIVE



19 81

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

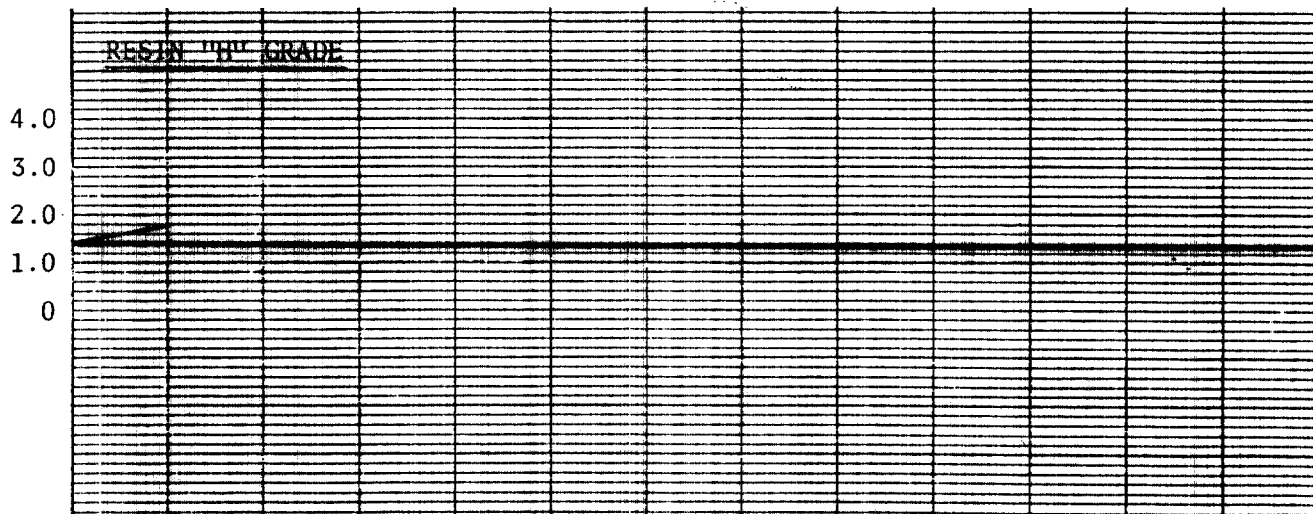
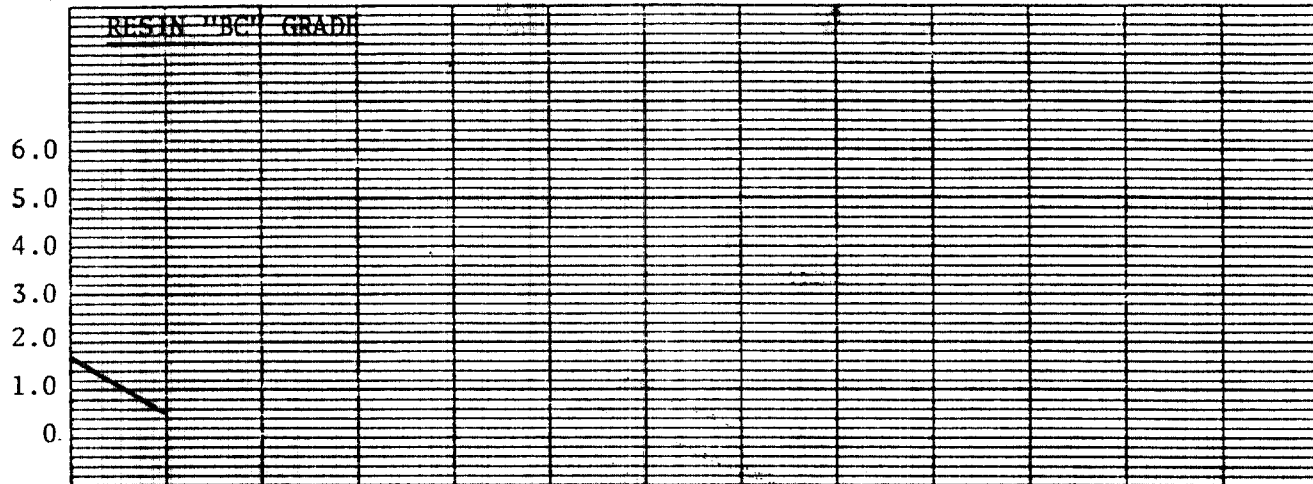
DTH 000043730

ABERDEEN PLANT QUALITY PERFORMANCE

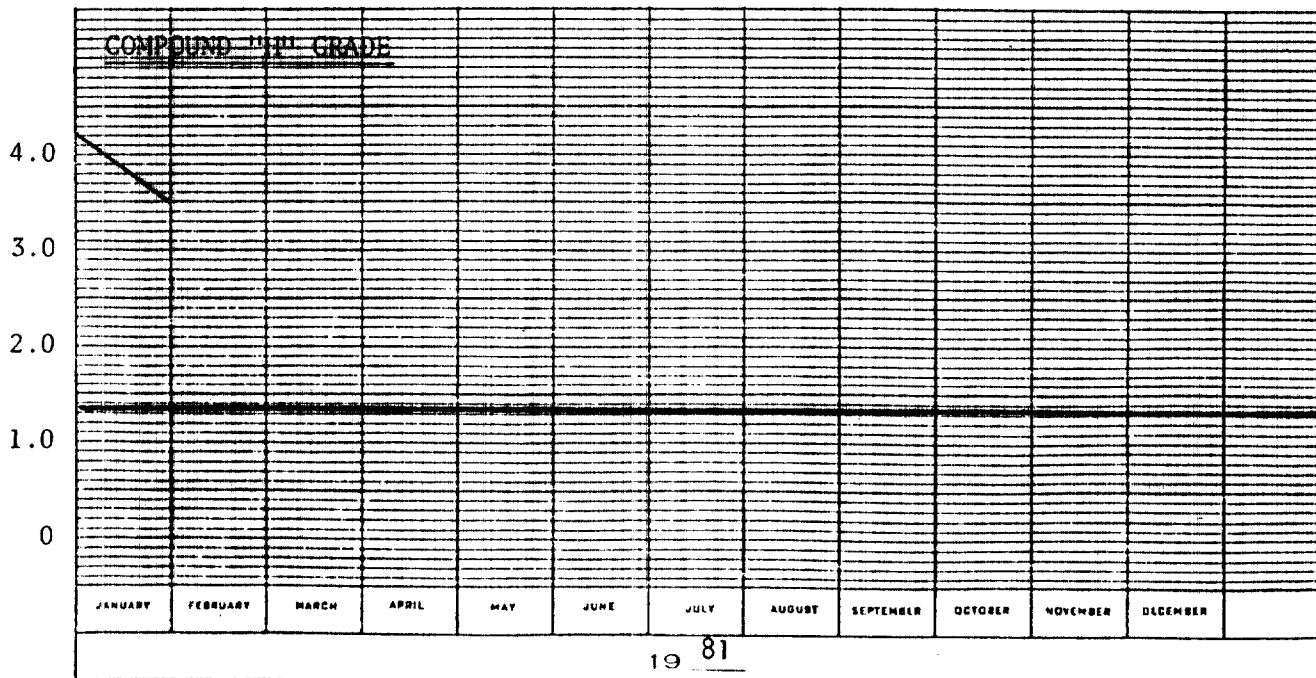
1981

%

OFF-GRADE



STANDARD
1.33



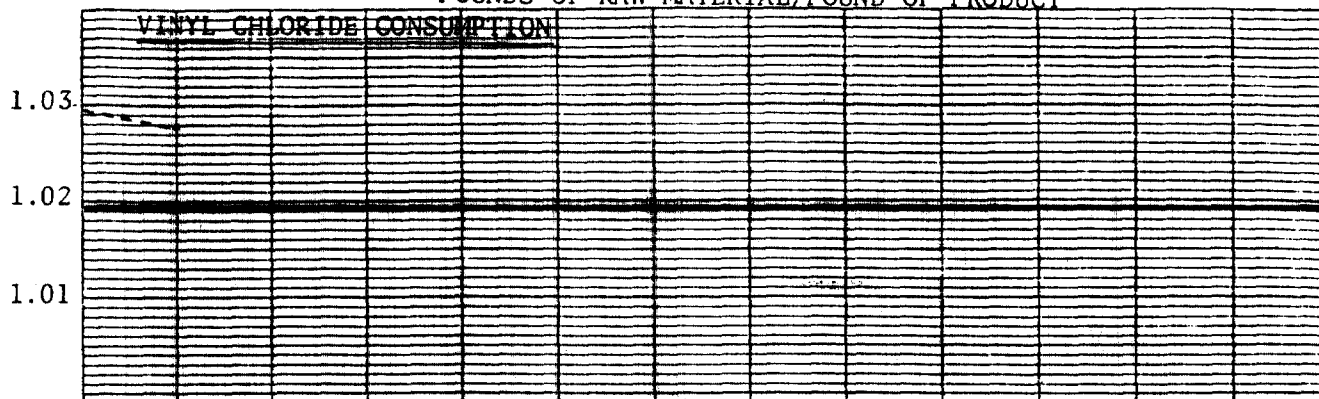
STANDARD
1.35

19 81

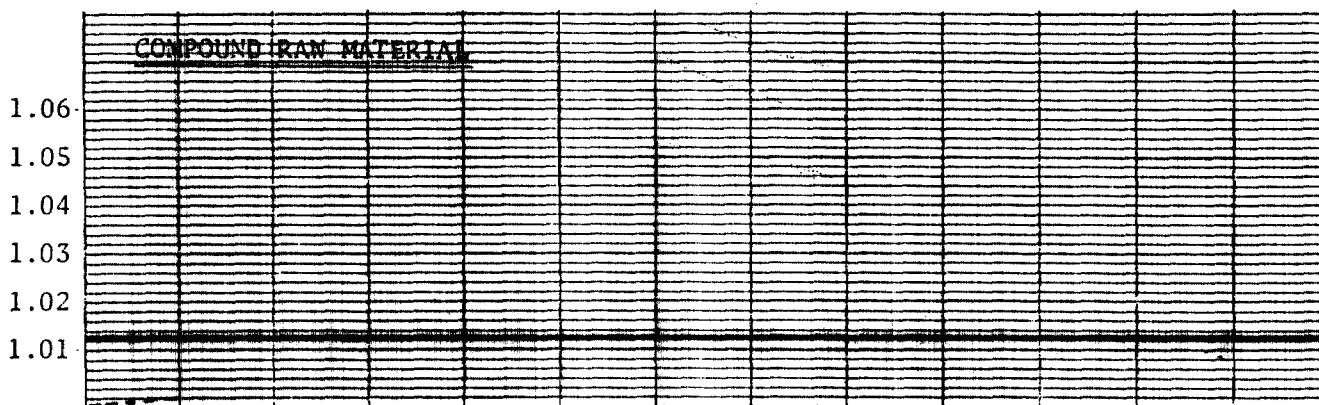
ABERDEEN PLANT EFFICIENCY

1981

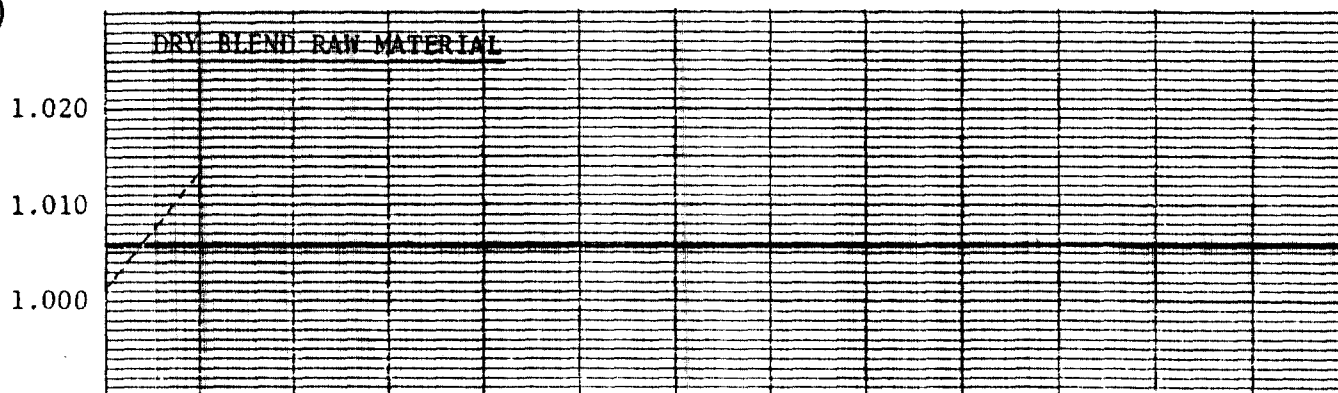
POUNDS OF RAW MATERIAL/POUND OF PRODUCT



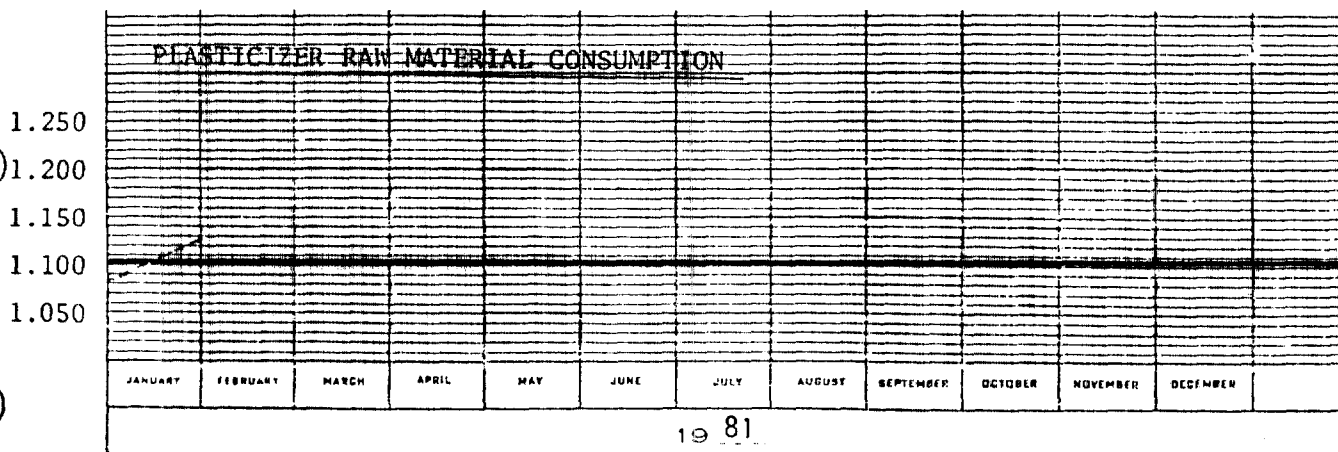
STANDARD
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STANDARD
1.01300



STANDARD
1.00580



STANDARD
1.10500

19 81

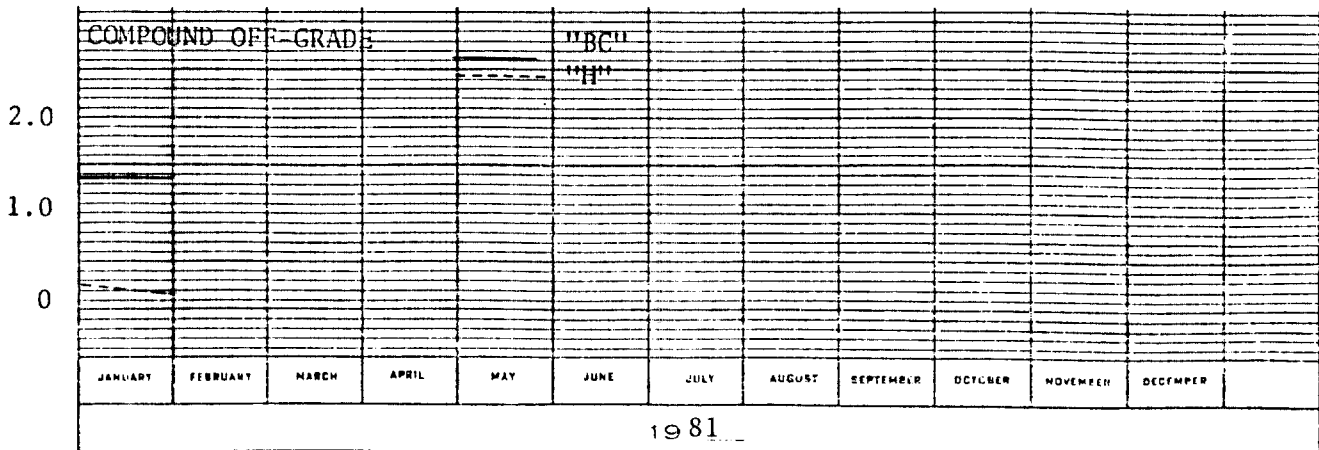
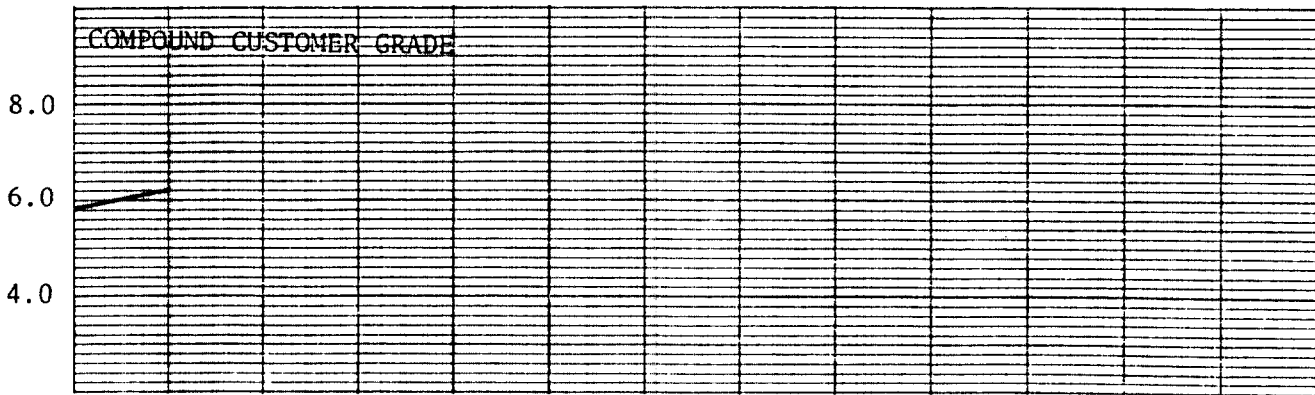
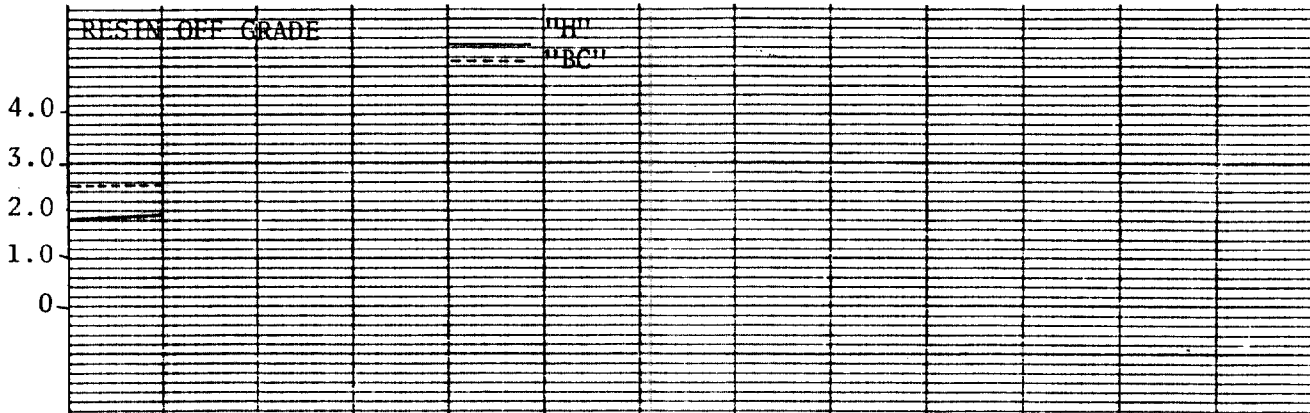
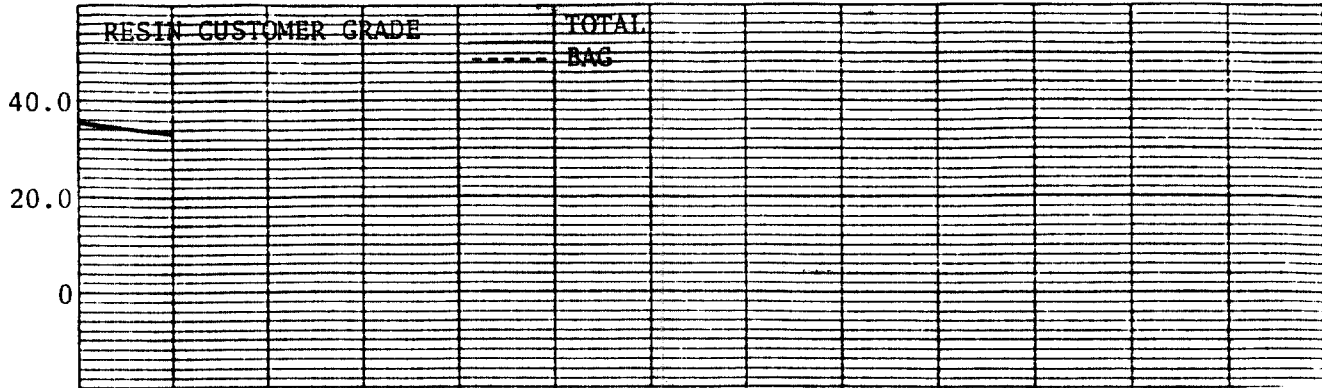
----- MONTHLY
_____ CUMULATIVE

DTH 000043782

ABERDEEN PLANT INVENTORIES

1981

MM
POUNDS



1981

DTH 000043783