

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: T. L. Carey **DATE** August 5, 1968
FROM: C. L. Wallace **COPIES**
SUBJECT: PVC Monthly Summary --
July 1968

Marketing

Sales for the month were again below budget, and preliminary results reflected a loss of \$43 M versus a forecast of \$59 M. The low sales volume of 3,655 M lbs. can be accounted for in part by the less than normal purchases of Robbins Floor Products and a slow comeback (as a result of belatedly meeting competitive price cuts) at ITT, Blane and Elm Coated Fabrics. Although Robbins has been slow for two months, orders at July month-end for August indicate an upswing.

The sales of specialties showed an improvement with 125 M lbs. of fusion and 84 M lbs. of extender resins being sold.

The Sales Order Department was relocated to Pensacola. To date customer reaction has not been negative as was initially feared by some sales personnel.

Sales for August are estimated at 4,100 M lbs. During the month, the sales force will be re-organized to cover the accounts handled by Mr. R. F. Porter who was transferred to Cast Optics. During August it is planned to have data bulletins drafted for all resins and a geographic analysis prepared for all current and potential business. This will be the first step in a planned reallocation of sales territories.

Research and Development

Research and Development work was centered around the production of Saran for Union Carbide Food Products Division and the move to Pensacola. A total of 10,500 Lbs. of Saran was produced and shipped to Carbide, completing the current order. All files, notebooks, etc. relative to R&D work were packed and shipped to Pensacola.

Technical Service

Visits were made to Armstrong Cork and Continental Can with respect to the bottle compound business. Armstrong was loaned our vacuum hopper to assist them around a moisture problem they have encountered with ours as well as competitive resins. Continental Can was supplied with samples of two FDA type dry blend compounds.

AP00045995

Technical Service (cont'd)

Robbins Floor Products was visited to assist them in the use of our plastisol extender resins. Cost savings in our proposed formulations were explained to Robbins' production and R&D executives.

Additional comparisons were made of Escambia plastisol extender resin with competition in plastisol foams. Escambia's PVC-8250 was inferior to Pliovic's M-90 and PVC-8200 was equivalent to Borden's VC-260-S. In a foam formulation using Firestone Exon 605, Escambia PVC-8200 was better than Diamond's 7-44, Pliovic's M-70, and Geon 106-F12. Escambia's large particle size extender resin, PVC-8185 was evaluated in a foam product. It produced a good foam product slightly better than Borden's 260-C, but not quite as good as Firestone's exon 666.

(NOTE: Vinyl foam, or sponge, is of current interest in the flooring trade as a backing for sheet flooring. All the major flooring houses are now marketing such products.)

All files, records and equipment to be moved to Pensacola have been packed for shipment.

Production

PVC production was 4,165 M lbs. of prime resin versus the budgeted 4,250 M lbs. Total production was 4,428 M lbs. Off-grade was exceptionally high this month, 5.9% due to homopolymer contamination of co-polymers and accounting for some off-grade material produced in June. The production run of the co-polymer, PVC-6180, was the first run made after the dust collecting modifications and without being preceded by a PVC-X6150F run. (The PVC-X6150F was not affected by cross-contamination and acted as a clean-up resin; however, this type has been discontinued). Clean-up producers will be expanded to reduce contamination.

Additional test variations were made in the PVC-3185 recipe to reduce the bulk density without affecting other properties. The tests were not successful.

The grinding of resin to produce PVC-41852S and 3S was highly successful this month. Only 7% of its production failed, apparently due to cross-contamination with non-fusion resins (tails) previously ground. None of the product had the mottled appearance that has often plagued production. The data is being reviewed to determine what we did right.

All general purpose resin production was routine and within specifications.

AP00045996

August 5, 1968

Production (cont'd)

A major maintenance problem was incurred during the month with the electrical circuit breakers in the main substation. Circuit breakers failed on six occasions. Two of the breakers are being replaced, and repair parts are being purchased to improve the reliability of the remaining breakers.

The replacement of the brass bearings in the dryer feed screws with nylon and a small water purge for lubrication seems to have reduced problems in this area. A possible alteration to eliminate the feed screw completely is being considered.

Cost variance for the month was \$487 unfavorable compared with the projected cost variance of \$0. Bulk production variance of \$4,160 favorable was offset by \$4,607 unfavorable in nonrecurring packaging costs. ?

Production for August is estimated at 4,080 M lbs. and cost variance at \$0 favorable.

General

The relocation of the R&D, Technical Services and Sales functions to Pensacola are proceeding on schedule. Mr. A. R. Dohaghy has relocated his Sales Order office. The ~~new~~ R&D and Technical Service building is on schedule for occupancy August 15. Messrs. Gabbett and Johnson have decided to leave Escambia and applicants to fill their vacancy have been interviewed.

Two preliminary interviews were conducted in a search for a commercial development minded R&D director to head the department. Each candidate will be interviewed in Pensacola in early August.

The 1969 PVC Business Component Budget was prepared and presented to management.

Agreement was reached with Allied Chemical in two cost areas: a 4.1¢ cost (starting October 1, 1968) for VC monomer, and an agreement to produce general purpose PVC resins for our account for 7.5¢ FOB Painesville, Ohio. Proposed contracts have been reviewed and, while modifications and clarification is in process, major problems are not presently evident. We were emphatic in stating that this relationship could be mutually beneficial; we intended no inroads

*Not altogether -
see later explanation*

AP00045997

T. L. Carey

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August 5, 1968

General (cont'd)

on their general purpose business and we expected a mutual treatment by them. We also discussed in a very preliminary manner the idea of some sort of trade of their plastisols for our extender resins.


C. L. Wallace

AP00045998

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: C. L. Wallace

DATE

August 5, 1968

FROM: D. W. Kloha

COPIES

SUBJECT: Monthly Summary -- Sales
July 1968

*What is our
off grade problem?
or is this a price
cutting device?*

I. Dynamics of the Business

<u>Type</u>	<u>July 1968</u>		<u>Year to Date</u>	
	<u>M Lbs. Budget</u>	<u>M Lbs. Sales</u>	<u>M Lbs. Budget</u>	<u>M Lbs. Sales</u>
Prime Resin	3780.0	3,507,300 ✓	25,520.0	28,117,312 ✓
Off-Grade Resin	122.5	157,750	857.5	1,754,800 2X
Total	3902.5	3,665,150	26,377.5	29,872,112
Compound (To May 31)			1,190.0	223,835
Total			27,567.5	30,095,947

*He could get
his ass down
to Reynolds!*

Because of the move of PVC Sales Service to Pace, I am handicapped in writing this month's report. As of this moment, I do not have a sales breakdown by accounts; therefore, I am only partially aware of the outages for the month, which put us below budgeted sales.

In spite of the fact that July, as anticipated, was below budget, we remain about 2.5 MM lbs. ahead of budget for the year to date. Our average month thus far this year has totaled 4.28 MM lbs., which is just about our production level.

*For much
reference on one
also from*

The principal outage in July occurred at Robbins. They purchased a mere 347 M lbs. against their projection of 850 M lbs. Naturally, had they taken their expectations, we would have met the budget with ease. Thus, Escambia's history in PVC repeats. When Robbins buys what they project they will buy, we can meet our sales volume. When they fail us, we fall on our faces because it is then too late to take corrective steps. Thus far, they have descended on us rather heavily for August; and we anticipate sales of 4 MM lbs. for the month.

*About
Budget*

AP00045999

C. L. Wallace

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August 5, 1968

what happened to budget didn't meet the business?

Also, we sold nothing to Blane in July; and lost ground at Elm and ITT -- where we have not, as yet, recovered from our attempts to raise the prices. Stan Anton will be working diligently on all three accounts in order to bring them back into the fold with good volume.

I f 80 why don't recognize in budget?

As stated above, we anticipated that July would be below budget. July is normally the vacation month in the PVC trade, and many companies in this industry close completely for one to two weeks. In addition, we lost the services of Bob Porter early in the month, and I am certain that this hurt our volume in New England. This hole in our sales force has now been plugged. We have hired Robert Weston, who will concentrate on the specialties; and Stan Anton will handle such accounts as USM, ITT, TAMI and Blane.

Specialties took on a rosier glow in July in spite of the vacation slow down. We sold 125 M lbs. of 4185 and 84 M lbs. of plastisol extenders. The latter will pick up substantially in September. We now have PVC-8200 approved at Pandel, where anticipated volume is around 50 M lbs. per month. Also, I have asked Bill Lyons for a projection on Chemical Sealing's requirements for 8200 and he stated that he expects 80 M lbs. per month starting in August or September. The Chemical Sealing account could buy from us 1-1/2 - 2 MM lbs. of plastisol extender next year.

Further East Coast Chemicals stated that they would need 1 MM lbs. of PVC-6240 in 1969 for sale to Essex Chemical. This will be used in a plastisol for the manufacture of automotive air filters.

6

During the month, Bob Johnson and I visited Robbins; and we are confident that we got things started there for our plastisol extenders. We had sent the Prescott plant trial quantities of 8200 and 1255. The first two were quoted at 17¢/lb. and the latter at 12¢/lb. in truck loads. PVC-8200 will be used to replace Borden's V-C-260-S in plastisols. (Our 17¢ price may not be competitive, but I'll worry about that after we are approved.) PVC-8285 and 1255 will be used to replace a plastisol resin in a calendered film which Robbins is making for their own use. They should be able to consume 60-80 M lbs. per month of these combined products, if all goes well in the tests.

II. Prices and Trends

Prices continue to soften in spite of our feeling that they can't get worse. Apparently, no one has told Allied Chemical and Ethyl that the prices are now on the floor.

We booked a car of 2225 to Wiman in July, but had to meet a 9.5¢ per pound price in order to do so. Both Allied and Ethyl gave them this price; and we had to meet it or walk away from the business. We found out in May that we can't walk away and keep our plant completely absorbed.

In addition, Paul Baker called last week and advised me that Allied quoted U. S.

this is new viewpoint on K.L.'s part!

AP00046000

August 5, 1968

Stoneware 8.5¢/lb. for general purpose resin in bags. This is unbelievable; but then most of Allied's recent performance in that business has been. I understand from some of my plastisol contacts that they are also softening the plastisol resin price to the 20¢/lb. area from 24¢. It is obvious that Allied can't make all of the resin consumed in the USA, but they don't seem to be interested in letting anyone else make money in this business. Where the general purpose price will end up is now anybody's guess. All we can do is hope that in the near future both Allied and Ethyl totally absorb their production capacity. We can then hope for some reason in this business once again.

D. W. Klohs

D. W. Klohs

12
0
Reason is
where allied
and Ethyl have
ended up!

This is trouble
with our PVC business -
rather than quality -

AP00046001

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: Mr. G. B. H. Speed **DATE** August 2, 1968
FROM: M. B. Rogers **COPIES**
SUBJECT: PVC Monthly Report - July 1968

SUMMARY

July production was 4,164,650 lbs. prime resin and 4,227,800 lbs. total, compared with a projection of 4,250,000 lbs. prime. Off-grade production of 173,000 lbs. included mostly PVC 6180 copolymer contaminated with homopolymer. Fourteen types were produced in 16 separate runs.

Vinyl chloride efficiency remained above budget at 94.9%. ✓

Additional PVC 3185 fusion resin recipe variations did not produce consistent results, although all the resin product was either sold as prime grade or ground to good PVC 4185-2S and 3S material.

Installation of the new controllers on the refrigeration machines has apparently reduced the cycling and improved the reliability of the machines.

Variance for July was \$487 net unfavorable. Bulk production variance of \$4,160 favorable due to monomer efficiency and high volume was offset by \$4,607 unfavorable in packaging due to grinding labor costs and exceptional supplies purchase and bulk car maintenance cost.

STATISTICS

	July		June	
	Actual	Budget	Actual	Budget
<u>Prime Production, M lbs.</u>				
Month	4,165	4,080	4,045	4,080
Year to Date	28,253	28,560	24,088	24,480
<u>Off-Grade Production, % of Total</u>				
Month	5.9 ✓	3.0	2.3	3.0
Year to Date	3.7	3.0	3.4	3.0
<u>Bulk Production, % of Prime</u>				
Month	54.6	57.5	32.6	57.5
Year to Date	51.6	57.5	51.2	57.5

all stated to be non-occurring earlier

AP00046002

August 2, 1968

STATISTICS (continued)

	July		June	
	Actual	Budget	Actual	Budget
<u>Shipments, M lbs.</u>				
Month - Prime	3,692	-	3,185	-
Month - Off Grade	158	-	194	-
Year-to-Date Prime	28,077	-	24,385	-
Year-to-Date Off Grade	1,592	-	1,434	-
<u>VCI Efficiency, %</u>				
Month	94.9	94	94.6	94
Year to Date	95.3	94	95.4	94
<u>Reactor Availability, % of Available Hours</u>				
Month	81.8%	-	79%	-
Avg. Year to Date	80.7%	-	80.5%	-
<u>Reactor Downtime, % of Available Hours</u>				
Mixing Solutions in Reactors	0.4	-	0.5	-
Cleaning & Washing Reactors	8.4	-	8.6	-
Scheduling Charges	3.2	-	5.7	-
Changing Types	1.2	-	1.2	-
Copolymer Production	0.0	-	0.1	-
Slow Recovery	0.3	-	0.2	-
Low Drying Rates and Dryer Line Cleanout	0.8	-	1.7	-
Hydraulic Motor Repairs	0.0	-	0.4	-
Misc. Reactor Maintenance	1.0	-	1.5	-
Dryer Maintenance	1.5	-	0.9	-
Electrical & Instr. Maint.	0.4	-	0.1	-
Miscellaneous	1.0	-	0.0	-
Experimental Batches	0.0	-	0.0	-
Total	18.2	-	20.6	-

12 pts of 18 due to variety of products? how cut?

bs? 1754

AP00046003

Product Mix, M lbs. Prime Resin

	July		June	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
Group I	2,405	2,154	1,799	2,154
Group II	1,165	1,010	1,120	1,010
Group III	229	603	513	603
Group IV	0	23	0	23
Group V	282	262	613	262
Group VI	84	32	0	32
Group VII	0	0	0	0
Total	4,165	4,084	4,045	4,084

Off-Grade and Tailings

<u>Off-Grade</u>		Quantity <u>Lbs.</u>	<u>Reason Off-Grade</u>	<u>% of Total Production</u>
<u>Type</u>	<u>Lot</u>			
3185	3284-1	11,350	Contamination 36	0.3
	3284-2	15,000	Contamination 36	0.3
		<u>26,350</u>		
6180	3310	32,800	Bulk Density 20.1	0.7
	3297	33,600	Sediment No. 100	0.8
	3295	36,000	Sediment No. 120	0.8
	3293	35,800	Sediment No. 150	0.8
	3292	8,550	Sediment No. 150	0.2
		<u>146,750</u>		
Total Off Grade		173,100		
<u>Tailings</u>		80,050		1.8
<u>Floor Sweeps</u>		<u>10,000</u>		<u>0.2</u>
Total		263,150		5.9

AP00046004

August 2, 1968

Payroll

	<u>July</u>	<u>June</u>
Regular Hours	6,750	7,815
<u>Unscheduled Overtime</u>		
Hours	1,014	497
Percent	13.0	6.0

PRODUCTION1000 Series

Types produced: 1200, 1217, 1225, 1230, and 1250.

All PVC 1000 series production was routine and within specifications.

One bulk rail car compartment of PVC 1250 shipped to Phillips was rejected on the basis of the Phillips wet contamination test. All samples taken during and after loading had checked excellent, but additional samples taken by Phillips were also judged unsatisfactory. The car has not yet returned to Pensacola for determination of the nature of the contamination found by Phillips. A replacement bulk truck shipment was accepted.

2000 Series

Types produced: 2170, 2225, and 2250.

Production was normal.

3000 Series

Types produced: 3185 and 3225.

The PVC 3185 recipe was tested in the following variations:

- (a) Various UY suspending agent and EZ salt buffer levels and ratios.
- (b) EZ in solution versus solid.
- (c) FE seed latex addition before and after the EZ salt addition.

AP00046005

The results were not consistent within each variation, but generally showed the following trends:

- (a) Bulk density was not controllable in any of the salt variations tested, including those when FE was added last and better control was expected. The lowest salt level was apparently too high for the set in which FE was added last.
- (b) Increasing the UY gave more excessive fines and did not reduce the bulk density.
- (c) Liquid solution of EZ salt gave a higher proportion of batches with the desired PVC 4185-SP properties, but the results were erratic. The variation is unexplained.

Most of the PVC 3185 has been ground to satisfactory PVC 4185-2S and 3S material for which a moderately higher fines content increases the grinding rate.

High fisheyes in PVC 3225 was corrected by increasing the UY level.

6000 Series

Types produced: 6180 and 6240.

The first 4 lots of PVC 6180 were off-grade because of high sediment number, a measure of homopolymer contamination. Another coarse copolymer, or at least a coarse homopolymer, must be scheduled before PVC 6180 in future runs; fine homopolymers cannot be adequately removed by physical cleaning to prevent contamination.

A problem with low bulk density and excessive oversize in PVC 6180 was corrected by adjusting the levels and ratio of suspending agent and buffer salt. A difference in a new batch of suspending agent made the standard recipe unsatisfactory.

PVC 6240 relative viscosity was satisfactorily adjusted to a customer's special requirements of 2.40 ± 0.05 .

AP00046006

8000 Series

Types produced: None

Ground Resin

Of 77,250 lbs. of ground 4185-2S and 3S fusion resin, only 5,250 lbs. did not pass the fusion test, and this failure was apparently from contamination with non-fusion types previously ground in the mill. None of the product had the mottled appearance so often a problem in the past.

MAINTENANCE

Both dryer feed screw bearings were changed from brass to nylon with small metered water purge for lubrication. Both nylon bearings appeared in good shape after 1/2 and 2 weeks service, respectively. Both feed scrolls were cut off at the trough discharge port to prevent forcing PVC into the bearings. It was learned that two other PVC manufacturers use gravity feed in place of feed screws to avoid this contamination and maintenance problem source. Measurements were taken for a chute to eliminate the feed screws in both dryers when shutdown time permits installation.

The major maintenance problem in July was six circuit breaker failures in the main substation. Two of the worst breakers are being replaced in conjunction with the PVC Research and Technical Service laboratory building, and repair parts were purchased to make the remaining breakers more reliable.

The refrigerated water strainers were cleaned 7 times this month to remove trash. The new temperature controller was installed on the east machine and is performing well in conjunction with the controller previously installed on the west machine.

The epoxy coating in the Alpine mill failed and was replaced.

The No. 4 reactor removed in January was sent to Glasco for reglassing and nozzle and baffle modifications.

Routine maintenance in July included the following:

Replace shaft seals, change valves, (north unit only)
and repair relief valves on recovery compressors.

Instrument calibrations on No. 4 and No. 7 reactors.

AP00046007

August 2, 1968

Drop valve repairs on No. 1 and No. 9 reactors.

Cleaning monomer purification still and miscellaneous vapor lines.

GENERAL

A Simco static electricity analyzer was obtained to study this phase of the low and sometimes variable screening capacity with some resin types. Initial readings show surprising variations in the size and sign of charges on the Rotex screens with and without humidifying steam. A non-hazardous Polonium radioactive static eliminator was received for trial in the Rotex screen cover and is to be installed in early August.

A Pfaudler representative recently suggested that the location of the reactor baffle adjacent to the thermowell would increase the fouling tendency at that point. The baffle in No. 10 reactor was moved opposite the thermowell, but there is no apparent effect on fouling.

Installation of a motor operator on the south stripper drop valve was completed this month. The automatic valve will reduce losses from overflowing the blend tank chip baskets and improves operator utilization.

The PVC Tech Service and Research lab building is nearing completion for occupancy August 15. A 50 gallon reactor for the PVC pilot plant is due the end of August, and quotes have been received for a 500 and 1000 gallon reactor to be selected for the pilot plant.

AUGUST 1968 PROJECTIONS

August projections are as follows:

	<u>Projection</u>	<u>Budget</u>
Production, M lbs.	4,080 ✓	4,080
Month-End Inventory, M lbs.	2,700 ✓	-
Production Cost Variance	(2,200)	-

*Pilot plant
operable
when?*

AP00046008

Mr. G. B. H. Speed

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August 2, 1968

VARIANCE ANALYSIS

July variance was as follows:

FAVORABLE		UNFAVORABLE	
<u>PRODUCTION</u>			
Monomer Efficiency	\$ 2,152	Volume Variance	\$ 156
By-product Credit	9,675	Monomer to Off-Grade	5,856 ✓
		Process Chemicals*	1,184
Process Costs		XA Monomer *	1,620
Salaries	4,007	Process Costs	
Misc., travel, comm.,	1,270	Laboratory	1,494
Rental and training	623	Taxes & Insurance	695
		Utilities	1,249
Other	62	Maintenance	1,415
	\$17,789	* Off-set by by-product credit.	\$13,669

NET PRODUCTION - \$4,120 favorable

PACKAGING

	Bags to Off-Grade, etc.	\$ 871
	Process Costs	
	Salaries (to Alpine Mill)	1,189
	Mat'ls & Supplies (large glue purchase)	1,186
	Maintenance (mis-charge from rail car repair)	1,203
	Miscellaneous	158
<u>TOTAL, NET PACKAGING</u>		<u>\$ 4,607</u>
<u>TOTAL NET</u>	Unfavorable -----	\$ 487

M. B. Rogers

AP00046009

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: C. L. Wallace

DATE August 1, 1968

FROM: R. E. Johnson

COPIES

SUBJECT: Monthly Summary -- Technical Service
July 1968

ARMSTRONG CORK

A Technical Service visit was made to Armstrong to assist them in the blow-molding of PVC bottles. It appears that Armstrong is having a definite moisture problem. They have had difficulty processing PVC-2185 as well as competitive resins and compounds. Armstrong has been loaned our vacuum hopper from the 2-1/2" extruder and has been instructed as to its use. The hopper is currently being installed on their Fischer molding machines. The results of this will be reported as soon as received. They anticipate their consumption of PVC for bottles will be 2 MM lbs. /month in another year or so.

CONTINENTAL CAN

As part of our efforts to supply Continental with resin for bottles on a contractual basis, we have supplied them with approximately 50 lbs. each of two FDA type dry blend compounds for use in their machines. Based on the results of these trials further dry blends will be provided incorporating any suggestions either of us feel should be made.

ROBBINS PRODUCTS, INC.

A Technical Service visit was made to Robbins to review the work that we had been doing for them. Plastisol extender resins and their use in Robbins' applications were discussed and samples using plastisol extender resins were presented. It was recommended that PVC-8250 be used in their foam applications. Robbins' vinyl asbestos program was also discussed. It is expected that this line will be in production by September 1. Unfortunately, at this time, Escambia does not have a copolymer that will meet Robbins' requirements.

PLASTISOL EXTENDER RESIN EVALUATIONS

- A. The main emphasis this month was placed on evaluation of our resins in plastisol foams.

A comparative evaluation of PVC 8200 vs. Borden VC-260-S and PVC 8250 vs. Pliovic M-90 was carried out in a formulation containing medium molecular weight paste resin. The

*when
will
it
have?*

AP00046010

August 1, 1968

experiment was repeated using a high molecular weight paste resin.

It was shown that the extender resin used should closely approximate the molecular weight of the paste resin to get the best results and that M-90 produces superior foam than PVC 8250, while VC-260-S and PVC 8200 are approximately equivalent.

- B. The large particle sized extender resins PVC 8185, Firestone's Exon 666 and Borden 260-C were evaluated in a foam formulation.

Escambia PVC 8185 produced a good foam product, but the Exon 666 formulation was slightly better. The particle size of the extender resin has little affect upon foam quality; the most important thing is the surface tension and melt viscosity of the formulation.

- C. Escambia PVC 8200 extender resin was compared to Daimond 7-44, Pliovic M70, Borden 260-S and Geon 106-F2 in a foam formulation containing Firestone Exon 605 paste resin and D.O.P. as plasticizer.

The best foam qualities were exhibited by the PVC 8200 formulation.

- D. Stabilizers; Nuostab V-1367, Mark 739 and Ferro 12-V-C were evaluated to determine their effect on the fusion of PVC 8200.

Nuostab V-1367 promotes much faster fusion.

- E. The quality of PVC 8200 extender resins lot 3231, 3234, 3236 and 3239 was investigated. All were deemed satisfactory.

- F. The following experiments were worked on but need further investigation in the designated areas because the equipment necessary for their completion was shipped to Florida.

Research Project 2758-51 (Resin Development)

Experimental Resins #5-148, 5-151, 5-153, 5-154, 3-789, 3-780 and 3-800 were evaluated in the standard paste formula vs. 8185.

AP00046011

August 1, 1968

Samples were made for the evaluation of tensile properties to be carried out at a later date.

Robbins Floors #2758-52

Evaluation of Properties contributed by various fillers.

The paste properties of a comparative formulation containing the fillers PIG #33 (clay), Surfex-mm, Atomite, Duramite, #1 White, #3 White and 40-40 White were evaluated.

Samples were prepared for comparative stain and tensile properties.

Relocation of Technical Service Laboratory

The equipment in the Technical Service Laboratory is all packed and crated for shipment to Pensacola.


R. E. Johnson

AP00046012

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: C. L. Wallace

DATE August 1, 1968

FROM: V. J. Grande
F. L. Riddle

COPIES

SUBJECT: Monthly Summary -- Product Development
July 1968

*why a
joint
report?*

I. PVC Research

A. Saran

The present Saran run being conducted in the pilot plant is due to be concluded on Friday, August 2. The following quantities of Saran will have been prepared and shipped to Union Carbide:

8000 lbs.	V1710E
500 lbs.	SBV 1710E
500 lbs.	SOV 1710E
500 lbs.	SV 1710E

The complete file of Saran technology is being obtained from Mr. Gabbett and sent to Pensacola.

B. Plastisol Extender Resins

Research efforts in this area have been terminated for 6-8 weeks. Prior to this, considerable laboratory and pilot plant activity was conducted which will be resumed in Pensacola. All of this data has been reported and is in our files.

C. Micropearls

to where?

Pilot plant runs were recently stopped. Such reaction variables as agitation, order of reagent addition, and temperature profiling were studied. Each variable significantly effected particle size and bulk density. Much information has been learned concerning the mechanism of this reaction. When the Pensacola pilot plant is in operation this effort can be continued.

D. Miscellaneous

Projects with a lower priority such as X-130 (isobutylene/ vinyl chloride co-polymer), solution, grade, flooring grade, and electrical grade resins are also dormant at the present time.

AP00046013

August 1, 1968

E. Move to Pensacola

All equipment has been packed and either shipped or waiting to be shipped, as have all notebooks and pertinent data.

II. Technical Service

The Technical Service Monthly Summary describes the customer request status on PVC bottle programs and plastisol extenders. It is apparent that added technical effort will be required in each area.

A. Project Status1. Resin for Bottles Contract

*5/9 June,
what is
plan?*

R. E. Johnson is presently reviewing the entire blow molding program and will provide New Product Development with the best available information for a technical presentation including resin specifications, compounding equipment, formulations, physical properties, dry blending and pelletizing procedures, etc. This handwritten information will be available from Technical Service late the week of August 5 for review by New Product Development. All records in this area will be under P. R. Browne subsequent to shipment.

2. Plastisol Extenders

The analytical procedures for evaluating extender resin production have already been transmitted to Pensacola. Quality Control Technical Service has provided its complete file on plastisol extenders to New Product Development for future reference. Generally, the acceptability of each plastisol extender resin depends upon the end use requirements, but these have not been specifically defined as yet.

B. Technical Service Move to Pensacola

All packing will have been completed by July 30, 1968 and awaits shipment to Pensacola. The pelletizing equipment units are waiting to be sold or otherwise disposed of.

AP00046014

August 1, 1968

III. New Product Development

- A. New Product Development will vacate the Wilton laboratories on July 30, 1968, after shipping one file cabinet and some relevant books to the New York office.
- B. Two budget related visits were made to Pensacola in July.
- C. Data bulletins will be pursued with Technical Service in August and drafted by late August. "Plan alternatives" will be defined in writing subsequent to review of information and data from Technical Service and Production.
- D. The geographic analysis of sales and territories is being delayed to clean up loose ends with Technical Service and moving. Preliminary analysis of data provided will be ready by late August.

V. J. Grande

V. J. Grande

F. L. Riddle

F. L. Riddle

This is a conglomerate -
don't get a feel
of clean cut
assignment of responsibilities;
not a clean cut decision as to
location of sales office and
its personnel, including
and K. L. on p. - Grande

AP00046015

Mr. Carney

AGRICULTURAL CHEMICALS DIVISION

MONTHLY REPORT

August, 1968

AP00046016

PERSONNEL

AP00046017

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: September 4, 1968

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - August, 1968

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 7/31/68</u>	<u>Aug. Addit.</u>	<u>Aug. Separa.</u>	<u>No. of Employees 8/31/68</u>	<u>Aug. 1968 Budget</u>
Executive Office	5	0	0	5	5
Accounting & Credit	45	4	1	48	44
Plant & Wilton Labs. & Planning & Dev.	62	2	22	42	86
Plant Admin. & Process	211	0	4	207	201
Plant Engr. & Maint.	125	1	3	123	131
Personnel & Safety	12	0	0	12	12
Purchasing & Traffic	27	1	3	25	29
Sales - Agri. Chem.	156	11	11	156	189
Sales - Ind. Chem. & PVC	16	2	1	17	15
Total Escambia	659	21	45	635	712

<u>Carroll Construction Co.</u>	<u>No. of Employees 7/31/68</u>	<u>No. of Employees 8/31/68</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	12	12
Yardmen	2	2
Trashmen	2	2
Laborers	15	9
Janitors	7	7
Painters	6	5
Total Maintenance	47	40

AP00046018

PERSONNEL (Cont'd.)

<u>Carroll Construction Co.</u>	<u>No. of Employees</u> <u>7/31/68</u>	<u>No. of Employees</u> <u>8/31/68</u>
PVC Laborers	8	10
Area B Laborers	17	20
Truck Drivers (Traffic)	3	3
Railroad Crew	<u>1</u>	<u>1</u>
Total Carroll Const.	78	76
	<u>659</u>	<u>635</u>
Grand Total	737	711

We had a total of 82 walk-in applicants, 74 applications were issued and 16 were received by mail. Thirty-six applicants were interviewed and 34 were tested.

SAFETY

The Corporation worked approximately 100,000 man-hours during the month.

The approximate man-hours and the days worked to date without a lost time injury are as follows:

<u>Division</u>	<u>Man-hours</u>	<u>Days</u>
New York Office	443,500	2,584
Research	1,066,500	4,064
Sales	56,000	71
Pensacola Plant	72,000	32
Corporation	103,000	32

Medical Section

The Medical Section treated 19 injuries for Escambia and 17 for Carroll, performed 9 pre-employment and 21 annual physicals and gave a total of 13 immunization injections.

EMPLOYEE RELATIONS

Two (2) 5-year service awards were presented.

Five (5) 10-year service awards were presented.

TRAINING

We held one Trackmobile class in which two operators were licensed.

AP00046019

LABOR RELATIONS

The union activities of International Chemical Workers Union and the Textile Workers Union of America have picked up momentum at Cyanamid and Monsanto. On Sunday, August 25, 1968, the ICWU sponsored a half-hour television program directed at the organizational drive at Monsanto. They have opened what they term "Permanent Headquarters ICWU" near the Monsanto plant. As I outlined several months ago, it was inevitable that some of this activity would be directed at our employees. On Friday, August 23rd, we were handbilled at the plant entrance by the ICWU inviting Escambia employees to contact the ICWU relative to membership. Since that time we have received several reports of organizers visiting the homes of our employees.

All of this activity will probably increase in tempo until such time as they feel that they are strong enough to request an election.

INSURANCE

Last month I reported that one of our temporary employees in the Albany Distribution Center, Mr. LeRoy Clinton, had died. As I reported, we have now received a letter from an attorney who allegedly represents Mr. Clinton's widow and he alleges in his letter that his death was caused by insecticide poisoning. Our insurance carrier is fully apprised of the conditions of this death and of all the circumstances of our investigation into the probable cause.

We received notice from the Metropolitan Life Insurance Co. that our Group Hospitalization premiums were being increased 9% due to our unfavorable experience. Our claims amounted to \$ 169,674 as against premium payments of \$ 156,406 during 1967.

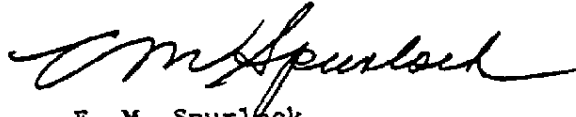
We paid a total of 68 claims under our Group Hospitalization program which amounted to a total of \$ 14,892.08 during the month of August.

We settled the following claims during the month:

Six (6) Auto Physical Damage claims in the amount of \$ 506.64.

One (1) Manufacturers Output Insurance claim in the amount of \$ 63.61.

EMS:kc


E. M. Spurlock**AP00046020**

PLASTICS AND RESINS

MONTHLY REPORT

AUGUST 1968

*Sm
Carey*

AP00046021

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO:	T. L. Carey	DATE	September 5, 1968
FROM:	C. L. Wallace	COPIES	
SUBJECT:	PVC Monthly Summary -- August 1968		

MAJOR FACTORS AFFECTING BUSINESS

Progress has been made on some of the major items affecting the PVC business. The Allied Chemical monomer contract has been reviewed by Reid & Priest and returned to Allied for acceptance. An explosion in Allied's chlorine plant has eliminated the possibilities of preshipping the monomer in September. Allied has assured us they would honor the October 1 contract. The agreement with Allied to produce general purpose resin for our account has come to a standstill awaiting resin samples from Allied. We are continuing to prod Allied; we have also taken steps to plan for an initial order which will reduce freight costs via Painesville.

MARKETING

Sales for the month were 4,700 M/lbs. exceeding budget by 137 M/lbs. During the month Robbins purchases were close to projections and Elm Coated Fabrics and ITT are again taking product.

Plastisol extenders showed a healthy comeback from last month with 158 M/lbs. being sold. This is also a moderate increase over the previous months. Our objective, through 1969, is roughly 7% of plant-produced product in these two resins (#8200, #8217). Our plan (being implemented via this month's sales to 11 accounts) is to give wide exposure to the product. We also plan to make an arrangement with a plastisol producer to swap our extenders for his plastisols, thus increasing the "market basket" of both producers.

Specialty sales were up with 147 M/lbs. being sold. Here our problem is plant reproducibility; as stated elsewhere our R&D efforts are being concentrated in this area.

The increase in specialties and extender sales is reflected in a slightly higher average price of 11.2 ¢/lb. for the month. An announcement in the C&E News to the effect that PVC is now being sold at 8 1/2 ¢ has produced a very adverse reaction in the industry. Query of the editor indicates his incorrect interpretation of his notes. (The 8 1/2 ¢ is for polyethylene.) We are currently awaiting C&E News' agreement to retract the error; otherwise several of us in the industry are planning a jointly signed statement denying the item.

AP00046022

During the month of August Mr. R. E. Weston joined the sales force to cover the New England area and Mr. S. J. Anton was introduced to some of Mr. Porter's accounts.

Sales for September are forecasted at 4,400 M/lbs. Robbins is expected to be about 250 M/lbs. short due to their annual inventory shut-down. A sales meeting has been scheduled for September 26 and 27 at Pensacola. In addition to discussing current and new accounts (and individual salesmens' budgets by month for 1969), the recently prepared geographic analysis of PVC business and updated resin data bulletins will also be presented. The sales force will also discuss a sales incentive program based on profits for 1969.

RESEARCH AND TECHNICAL SERVICE

The transfer of Research and Technical Service personnel from Wilton is essentially complete and the new building will be ready for occupancy the first week of September. Installation of all tech service and lab equipment is expected to be complete prior to October.

Dr. David Mann has accepted the position of Director of Research and Technical Service and will be reporting to work in early September. In conjunction with Dr. Mann's employment, steps are being taken to consolidate R&D, Technical Service, and New Product Development, etc. into one group.

During August, Research efforts were directed toward improving the consistency of product quality, particularly in the fusion resins. This work will be continued through September. Preliminary indications are favorable. Efforts of the Technical Service group were centered primarily around the establishment of the new laboratory at Pace.

Layouts for the new PVC pilot plant have been completed and the building contract will be awarded by September 15. Final completion is not expected before December, due to an approximate six week delivery of the building.

PRODUCTION

PVC production was 4,179 M/lbs. of prime, exceeding budget by 96 M/lbs. August was an exceptionally good month. In addition to exceeding budgeted production, the following improvements were made.

1. Off-grade production was only 0.7% of production and tailings only 1.9%.
2. Monomer efficiency was above budget at 94.5%.
3. Reactor downtime was down to 16.6% of available time.
4. Unscheduled overtime was only 2.3% of total hours.

AP00046023

These achievements were made in spite of producing 20 different type resins during the month.

A PVC fusion resin run was generally satisfactory. The initial production containing excessive fines was successfully adjusted through recipe modifications. The success we experienced with this run can be attributed to having Research at Pensacola and wholeheartedly working with Production. The same success was experienced with PVC-6180 to correct bulk density and particle size.

An attempt to eliminate static electricity on the product screens with an alpha emitter (Polonium 210) was not successful. Static electricity causes blinding of the screens and slows down production. The use of ionized air will be considered next.

A ball valve installed in the reactor slurry drop leader in place of a diaphragm valve has been performing satisfactorily. The diaphragm valves have a costly maintenance history and tend to plug, slowing down production.

Messrs. M. B. Rogers and N. P. Barranco visited Allied Chemical to discuss product types for toll conversion and analytical methods.

Production for September is estimated at 4,080 M/lbs. and variance at \$600 unfavorable.



C. L. Wallace

AP00046024

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: C. L. Wallace **DATE** September 5, 1968
FROM: D. W. Klohs **COPIES**
SUBJECT: Monthly Summary -- Sales
August 1968

I. Dynamics of the Business

	<u>August 1968</u>		<u>Year to Date</u>	
<u>Type</u>	<u>M Lbs.</u> <u>Budget</u>	<u>M Lbs.</u> <u>Sales</u>	<u>M Lbs.</u> <u>Budget</u>	<u>M Lbs.</u> <u>Sales</u>
General Purpose	3,800	4,126,250	27,400	31,987,262
Off-Grade	122.5	195,600	980	1,950,400
Specialties	<u>405.0</u>	<u>287,650</u>	<u>2,325</u>	<u>1,723,500</u>
Total	4,327.5	4,609,500	30,705	35,661,162
Compound (To May 31)			<u>1,190</u>	<u>223,835</u>
Total	4,327.5	4,609,500	31,895	35,884,997

August was one of our best months this year. Total pounds sold were exceeded only by January and May. We had orders for about 600 M/lbs. of resin, which we carried over into September because of the unavailability of product and cars.

We sold resin to about 65 customers in August, exceeded our budget in poundage for general purpose and made good progress in the specialties category.

Our records showed sales of 4,609 M/lbs., whereas accounting shows 4,699 M/lbs. at an average price of just a shade under 11.2¢/lb., or total sales of \$526,340. Specialties, and 6180, improved our average price for the month. In the specialties group, sales break down as follows:

4000 series (fusion)	57,500 lbs.
6240	35,000
8000 series (plastisol extender)	158,300
9010	<u>36,850</u>
Total	287,650 lbs.

AP00046025

September 5, 1968

Although I am disappointed in our progress with the 4000 series, I am sure that we will ultimately solve our problems and reach the 150 M lb./month level. This is the #1 priority problem of the new laboratory in Pensacola.

II. Account Status

Volume buyers for the month were as follows:

<u>Account</u>	<u>Pounds</u>
Armstrong Cork	254,700
Borden (Columbus Coated Fabrics)	94,000
Cabrera Vulcan	86,000
East Coast Chemicals (resale)	195,850
Elm Coated Fabrics	257,860
Phillips Films	404,200
Plastic Calendering (Lamcal)	400,000
Robbins	718,570
Seilon	161,000
Tenneco (Nixon)	504,240
USM Chemicals	274,180
Wiman Manufacturing	151,800

In spite of these good volumes, we had outages for the month in excess of one million pounds. Thus, our potential for growth and for achieving a 6MM/lb. month are excellent.

Outage occurred at the following accounts:

<u>Account</u>	<u>Product</u>	<u>Volume</u>
Burton Rubber	3185	20-30 M
Robbins (1)	1200	200 M
TAMI	1217	160 M
O'Sullivan (2)	1217	150 M
	1225	150 M
Texon	4185-SP	32 M
Calumet Chemical	1225	30 M
Industrial Vinyls	1225	104 M
International Shoe	1225	40 M
Plicoflex (3)	1225	over 100 M
Continental Plastics	1230	40 M

AP00046026

(1) Robbins had ordered and released over 200 M pounds, but we didn't get the material shipped until September. In view of the fact that Robbins normally closes down for one week in September for inventory purposes, our sales to Robbins for the month will not be as bad as is normal for the month.

(2) O'Sullivan's outage was caused by price problems. We did not make the "first move" and we lost an order or two to a 9¢/lb. price. We've decided to meet 9¢/lb. on 1225, but raise 1217 to 10¢/lb.

(3) Plicoflex says they are slow; we suspect we've lost business because of price. We will investigate.

III. New Business and Prospects

Some new business was booked in August -- and again, this increases our total potential. New business booked for the month, and potential volumes are as follows:

<u>Account</u>	<u>Product</u>	<u>Potential</u>
Protecto Wrap	3250	600 M/year
Bata Shoe	2225	1000 M/year
Essex Chemical	6240	750 M/year
Southbridge Plastics	8217	1-2 MM/year
B.F. Goodrich (Little)	2170	500 M/year
Pandel	8200	500 M/year
Polyplastex	6150	50 M/year
Rohm & Haas	1225	1000 M/year
Clopay	1225	1-2 MM/year
Glamorgan*	1230-X	2 MM/year

* Glamorgan did not buy in August, but we are now approved and should get a bulk truck trial in September.

IV. Price Levels and Trends

As opposed to last year, there is an improvement in 1968's consumption of PVC. We are presently consuming resin in the U. S. at a 2.5 billion pound level, as compared to just over 2.0 billion pounds for all of 1967. Prices continue to soften, however. We, of course, can not refuse to meet prices (other than refuse the business, which we may do in 1969), and must remain competitive if we want to continue to move money. The recent article in C&E News which states, "General - purpose - grade resin is now trading at 8 1/2 ¢ a

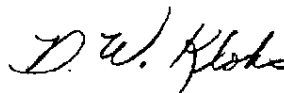
AP00046027

C. L. Wallace

-4-

September 5, 1968

pound. . . ." does our cause no good. There have already been trade repercussions to this statement; the Ethyl general manager (who knows the editor) stated that the editor had admitted his notes were in error. The 8 1/2 ¢ purportedly is for polyethylene. We are waiting for a retraction, and I'm certain that the "hurt" will be felt throughout the industry.



D. W. Klohs

AP00046028

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: G.B.H. Speed **DATE** September 5, 1968
FROM: M.B. Rogers **COPIES**
SUBJECT: PVC Monthly Report --
August 1968

SUMMARY

August production was 4,179,280 lbs. prime resin -- about 100,000 lbs. above the 4,080,000 lbs. budgeted and projected. Off-grade and tailings of 110,000 lbs. totaled only 2.6% of production.

Twenty different types were produced in 22 separate production runs.

Vinyl chloride efficiency remained above budget at 94.5%, and reactor downtime was reduced to 16.6%.

A PVC-3185 fusion run was generally satisfactory. Particle size was adjusted successfully with recipe modifications. The PVC-6180 copolymer recipe was modified to adjust bulk density and particle size within specifications.

The alpha ray emitter antistatic device did not eliminate static electricity blinding on the product screens.

Variance for August was \$4,273 unfavorable. Almost \$300 of \$3,500 unfavorable in packaging was due to downgrading ground resin previously carried as prime.

STATISTICS

	<u>August</u>		<u>July</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Prime Production, M lbs.</u>				
Month	4,141	4,080	4,165	4,080
Year to Date	32,394	24,480	28,253	28,560
<u>Off-Grade Production, % of Total</u>				
Month	2.6	3.0	5.9	3.0
Year to Date	3.7	3.0	3.7	3.0

AP00046029

STATISTICS (Cont'd)

	August		July	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Bulk Production, % of Prime</u>				
Month	38.4	57.5	54.6	57.5
Year to Date	49.9	57.5	51.6	57.5
<u>Shipments, M lbs.</u>				
Month - Prime	4,199	-	3,692	-
Month - Off-Grade	143	-	158	-
Year to Date Prime	32,276	-	28,077	-
Year to Date Off-Grade	1,735	-	1,592	-
<u>VCI Efficiency, %</u>				
Month	94.5	94	94.9	94
Year to Date	95.2	94	95.3	94
<u>Reactor Availability, % of Available Hours</u>				
Month	83.4%	-	81.8%	-
Avg. Year to Date	81.0%	-	80.7%	-
<u>Reactor Downtime, % of Available Hours</u>				
Mixing Solutions in Reactors	0.3	-	0.4	-
Cleaning & Washing Reactors	7.1	-	8.4	-
Scheduling Charges	3.3	-	3.2	-
Changing Types	0.7	-	1.2	-
Copolymer Production	0.4	-	0.0	-
Slow Recovery	0.4	-	0.3	-
Low Drying Rates and Dryer Line Cleanout	1.6	-	0.8	-
Hydraulic Motor Repairs	0.5	-	0.0	-
Misc. Reactor Maintenance	0.7	-	1.0	-
Dryer Maintenance	0.0	-	1.5	-
Electrical & Instr. Maint.	0.3	-	0.4	-
Miscellaneous	1.3	-	1.0	-
Experimental Batches	0.0	-	0.0	-
Total	16.6	-	18.2	-

AP00046030

Product Mix, M lbs. Prime Resin

	<u>August</u>		<u>July</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
Group I	1,965	2,154	2,405	2,154
Group II	1,371	1,010	1,165	1,010
Group III	364	603	229	603
Group IV	0	23	0	23
Group V	425	262	282	262
Group VI	55	32	84	32
Group VII	*(55)	0	0	0
Total	4,180	4,084	4,165	4,084

* Ground resin not included in total

Off-Grade and Tailings

<u>Off-Grade</u>		<u>Reason Off-Grade</u>	<u>% of Total Production</u>
<u>Type</u>	<u>Quantity (lbs.)</u>		
6180	28,750	High sediment number-- homopolymer contamin- ation.	0.7
<u>Tailings</u>	81,250		1.9
<u>Floor Sweeps</u>	0		—
Total	110,000		2.6

Payroll

	<u>August</u>	<u>July</u>
Regular Hours	7088	6750
Unscheduled Overtime		
Hours	170	1014
Percent of total hours	2.3	13.0

PRODUCTION1000 Series

Types produced: 1185, 1200, 1217, 1225, 1230, E, and 1250

AP00046031

PRODUCTION (Cont'd)1000 Series (cont'd)

Production was normal.

2000 Series

Types produced: 2160, 2170, 2200, 2225 and 2250

Production was normal.

3000 and 4000 Series

Types produced: 3185 and 3250

A 42 batch PVC 3185 run this month was generally satisfactory, although some production was finer than desired. The fine material can be ground at higher rates to premium fusion grade resin. Reducing the FE seed latex level reduced the percent fines in the product. A similar reduction in UY suspending agent had no effect. The bulk density of the last few batches in the run dropped markedly when a new batch of UY was used; returned UY samples are being analyzed for differences to explain this effect.

PVC 3250 production was normal.

6000 Series

Types produced: 6180

The WA suspending agent and EY salt were adjusted to control bulk density and oversize material. Reaction cycles were lengthened and bulk density reduced when recovered monomer was used, but recovered monomer performed satisfactorily with increased catalyst.

8000 Series

Types produced: 8217

Production was normal.

Increasing the OX suspending agent slightly did not eliminate the small quantity of material retained on a 100 mesh screen.

AP00046032

PRODUCTION (Cont'd)Ground Resin

All of the 55 M/b. 4185-2S and 3S ground fusion resin produced this month was good product. Alpine mill was used to grind tails most of this month.

MAINTENANCE

The south hydraulic pump bearing failed and the impeller vanes were damaged. The oil filter cartridges were changed and all hydraulic pump motor strainers were cleaned to remove metal parts. The bearings were changed on the north pump and the steam turbine driven pumps.

One hydraulic motor was changed because of leaking oil seals.

The west absorption refrigeration machine crystallized when air leaked in from the solution motor purge, and the solution motor was replaced. The east unit tripped off once and was reset.

All reactor instruments were checked.

A ball valve installed to replace a diaphragm valve on the reactor slurry drop header is performing satisfactorily.

The 10 inch Alpine mill exhaust line failed and was replaced with aluminum.

One step bearing, and three drop valves, and the phenol and step bearing purge pumps were repaired in routine maintenance.

GENERAL

An alpha ray emitter antistatic bar installed in the Rotex screen assembly did not eliminate static electricity blinding. Static electricity measurements at the Rotex screen assembly show rapid variations and indicate that the charge is being generated on the screen.

AP00046033

GENERAL (Cont'd)

A speed recorder was installed on #10 reactor and others are to follow. Agitation variations are suspected to cause product property variations.

A trip was made to Allied Chemical to discuss product types for toll production. Loading and shipping methods and types involved were clarified, and N. S. Barranco worked on analytical methods with the Allied analytical group.

SEPTEMBER PROJECTIONS

September projections are as follows:

	<u>Projection</u>	<u>Budget</u>
Production	4,080	4,080
Month-End Inventory	3,614	-
Production Cost Variance	600	-

VARIANCE ANALYSIS

August production variance is summarized below:

FAVORABLE		UNFAVORABLE	
<u>BULK PRODUCTION</u>			
Monomer Efficiency	\$ 830	XA Monomer	\$ 720
Volume Variance	2,653	By product credit	1,080
	-	Process Chemicals	1,046
Process Costs		Process Costs	
Salaries	981	Utilities	1,637
Mat'ls & Supplies			
& Cont.	775	Laboratory	370
Other	37	Taxes & Ins.	695
		Maintenance	228
		Misc.	125
	<u>\$5,176</u>		<u>\$5,901</u>

NET PRODUCTION VARIANCE - \$725 Unfavorable

AP00046034

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
<u>PACKAGING AND GRINDING</u>			
Volume Variance	\$3,756		
Process Costs		Ground resin off-grade	\$2,828
Maintenance	297		
		Process Costs	
		Salaries	855
Other	642	Mat'ls & supplies	1,126
		Rental	707
		Containers	<u>2,727</u>
	<u>\$4,695</u>		\$8,243
NET BAGGED VARIANCE -- <u>\$3,548 Unfavorable</u>			
NET PVC PRODUCTION VARIANCE -- <u>\$4,273 Unfavorable</u>			

Most of the \$2,828 unfavorable to bagged ground resin off-grade was due to downgrading ground fusion resin previously graded prime.


M.B. Rogers

AP00046035

7LC

AGRICULTURAL CHEMICALS DIVISION

MONTHLY REPORT

September, 1968

AP00046036

PERSONNEL

AP00046037

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: October 4, 1968

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - September, 1968

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 8/31/68</u>	<u>Sep. Addit.</u>	<u>Sep. Separa.</u>	<u>No. of Employees 9/30/68</u>	<u>Sep. 1968 Budget</u>
Executive Office	5	0	1	4	5
Accounting & Credit	48	1	1	48	44
Plant & Wilton Labs. & Planning & Dev.	42	3	9	36	86
Plant Admin. & Process	207	9	6	210	201
Plant Engr. & Maint.	123	1	1	123	131
Personnel & Safety	12	0	0	12	12
Purchasing & Traffic	25	4	2	27	28
Sales - Agri. Chem.	156	8	4	160	181
Sales - Ind. Chem. & PVC	<u>17</u>	<u>0</u>	<u>2</u>	<u>15</u>	<u>15</u>
Total Escambia	635	26	26	635	703

<u>Carroll Construction Co.</u>	<u>No. of Employees 8/31/68</u>	<u>No. of Employees 9/30/68</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	12	8
Yardmen	2	2
Trashmen	2	2
Laborers	9	5
Janitors	7	7
Painters	<u>5</u>	<u>5</u>
Total Maintenance	40	32

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PERSONNEL (Cont'd.)

<u>Carroll Construction Co.</u>	<u>No. of Employees</u> <u>8/31/68</u>	<u>No. of Employees</u> <u>9/30/68</u>
PVC Laborers	10	8
Area B Laborers	20	24
Truck Drivers (Traffic)	3	3
Railroad Crew	<u>1</u>	<u>1</u>
Total Carroll Construction	76	70
	<u>635</u>	<u>635</u>
Grand Total	711	705

We had a total of 102 walk-in applicants, 82 applications were issued and 14 were received by mail. Sixty-one applicants were interviewed and 58 were tested.

SAFETY

The Corporation worked approximately 120,000 man-hours during the month.

The approximate man-hours and the days worked to date without a lost time injury are as follows:

<u>Division</u>	<u>Man-hours</u>	<u>Days</u>
New York Office	437,000	2,614
Research	1,067,000	4,094
Sales	90,000	101
Pensacola	179,000	62
Corporation	248,000	62

Mr. John Turnage, Loss Control Engineer, American Motorists Insurance Company and Mr. W. J. Skwarlo, Engineer, Oil Insurance Association, both made their annual inspections of the plant.

A plaque was awarded to the personnel of the Ammonium Nitrate Plant for having completed 10 years without a lost time injury.

Medical Section

The Medical Section treated 22 injuries for Escambia and 10 for Carroll, performed 18 pre-employment and 14 annual physicals and gave a total of 25 immunization injections.

AP00046039

EMPLOYEE RELATIONS

We granted a 5.5% general increase to all nonexempt plant employees effective September 15, 1968.

Labor Day Picnic was held with 886 in attendance.

Two (2) 5-year service awards were presented.

Two (2) 10-year service awards were presented.

TRAINING

We held four Trackmobile classes in which eleven operators were licensed.

We held one class for the operation of the 100-ton Diesel Electric Engine and one operator was licensed.

We sponsored four supervisors to the Executive Development Seminar sponsored by West Florida University during the month of September.

LABOR RELATIONS

In my March, 1968 report, I advised that the Chemstrand plant of Monsanto Company had been petitioned by the International Brotherhood of Electrical Workers to "carve out" a bargaining unit consisting of electrical workers only. This hearing went to the National Labor Relations Board in Washington for a ruling and they have now ruled that it is inappropriate to have such a bargaining unit and that the only true bargaining unit would be that of production and maintenance employees. Since this ruling has been handed down, the IBEW has agreed to cooperate with the International Chemical Workers Union in their drive to organize the entire plant. This organization drive is in full swing at the present time.

In my April report I advised that the American Cyanamid Plant had been petitioned for an election by the Textile Workers of America and the International Chemical Workers Union had intervened. The Textile Union desired a bargaining unit composed of production and maintenance workers and the ICWU desired a bargaining unit composed of production, maintenance and laboratory employees. This hearing was held and was forwarded to the Regional National Labor Relations Board for a decision. The Labor Board's decision was that there must be two units; one composed of the maintenance and production workers and the other, laboratory workers, and they ordered an election within 30 days of the receipt of the order.

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LABOR RELATIONS (Cont'd.)

The election will be held on October 10th and 11th. On the ballot there will be three choices for the production and maintenance workers; the Textile Workers, International Chemical Workers or none. On the laboratory workers ballot there will be two choices; the International Chemical Workers or none. At the present time the officials at Cyanamid feel that they can win the production and maintenance workers election but feel that the laboratory workers will be very close.

While these two efforts are progressing at the two local plants, our employees are being contacted at home and in the plant by representatives and members who are sympathetic to the Chemical Workers Union. Regardless of the outcome of the other two elections, I feel sure that we will be petitioned for an election following the conclusion of the election at American Cyanamid.

INSURANCE

We paid a total of 100 claims under our Group Hospitalization program which amounted to a total of \$ 13,821.89 during the month of September.

We settled the following claims during the month:

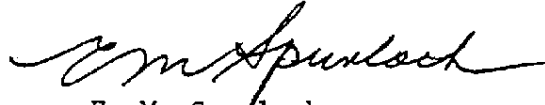
One Manufacturers Output Insurance claim in amount of \$ 1,921.10.

One Auto Liability Insurance claim in amount of \$ 85.87.

We received the following refunds during the month:

Boiler and Machinery coverage in amount of \$ 287.00 on Wilton Laboratory.

Fire Insurance coverage in amount of \$ 2,511 on Wilton Laboratory.


E. M. Spurlock

EMS:kc

AP00046041

PLASTICS AND RESINS
MONTHLY REPORT
SEPTEMBER 1968

AP00046042

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: T. L. Carey

Date: October 5, 1968

From: C. L. Wallace

Copies:

Re: PVC Monthly Summary
September 1968

MAJOR FACTORS AFFECTING THE BUSINESS

Allied Chemical, as of October 1, 1968, is now Escambia's primary source of vinyl chloride monomer. Savings on this lower cost monomer will start late in October as the last of the Ethyl material is used.

The agreement with Allied to produce general purpose resin for our account has picked up momentum during the month. Samples of Allied equivalent PVC-1225 were so close to our PVC-1225 that one bulk car was ordered for trial shipment to one of our accounts.

Entree has been made with Union Carbide Corporation into the possibility of licensing our Saran technology. Preliminary proposals and reports covering Saran production have been sent to Reid and Priest for comments. Completion of a proposal for consideration by our executive management is expected in mid October. Subsequent acceptance by Union Carbide Corporation could add substantial dollars to our PVC business.

MARKETING

Sales for the month established a new record of 5,258 M lbs., and exceeded budget by 1,090 M lbs. Off-grade, floor sweeps and tailings accounted for 209 M lbs. New business in large volume was attained at four accounts.

Plastisol extenders showed volume slipping this month, with only 124 M lbs. being sold. Two steady accounts (Plastic Lace and Lakeside Plastics) did not take resin; however, Pandel came in for a larger volume. To meet our

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1969 objective of about 3 MM lbs. of extender business, we need and are actively screening candidates for a technical service engineer, suitably oriented in plastisols and extenders.

Our R&D force is at this time making a visit to Lakeside Plastics to assist this account.

Specialty sales were up slightly with 174 M lbs. being sold. Research efforts are continuing to be directed in the specialty area to improve plant reproducibility and product quality.

The average selling price showed a slight decrease in September as compared to August, due to the lower sales volume of plastisol extenders and specialties. Prices in both bag and bulk were about 1.0% lower as shown below:

	<u>Average Price, ¢/lb.</u>	
	<u>September</u>	<u>August</u>
Bag	11.96	12.07
Bulk	9.69	9.75

On September 26 and 27 a sales/plant conference was held at Pensacola. Good communications were established between Sales, Production and Research and Development on the various problems related with specific resins and customers. The 1969 Sales budget was reviewed by individual salesmen. A recently prepared geographic analysis of PVC business was presented by Mr. V.J. Grande. The analysis showed that approximately one billion pounds of merchant business is available, of which 95 MM pounds is within a 600 mile radius of Pensacola, Florida.

During the month Mr. S.J. Anton and Mr. D.W. Klohs resigned from the company. A new salesman, Mr. Thomas E. Chalmers, was added to the force.

Sales for October are forecasted at 4,600 M lbs. Sales are forecasted down from the previous two months, due to the recent turnover in our sales force, and the present extremely low inventory.

AP00046044

RESEARCH AND TECHNICAL SERVICE

Research effort continued through the month towards improving product quality. Plant assistance was given on PVC-3185LG production. Plant problems and procedures were reviewed on all resins to develop a plan for approaching and solving the various problems that contribute to quality variations.

Technical service was supplied to Dayton Aircraft, Pandel Incorporated, Chemical Sealing and Colorite Plastics. Additional work was also done on escalating Escambia's plastisol extender resin production.

Final completion of the new R&D building will be delayed until December 1968, due to the long delivery of the laboratory benches. The installation of other equipment is essentially complete. All equipment for the new PVC pilot plant has been specified. Completion is expected to be in January 1969.

PRODUCTION

PVC production was 4,267 M lbs. of prime, exceeding budget by 183 M lbs. September was another good production month. Better than budget performance was made in the following areas:

1. Reactor down time was 14.4%, the lowest outage obtained this year.
2. Unscheduled overtime was only 1.2% of total hours.
3. Monomer efficiency was above budget at 94.4%
4. Off-grade production was only 0.5% of production.

The low inventory of resin necessitated frequent switching of product types. During the month the average run was only three days.

Changes in recipe were made for PVC-1230X in an attempt to lower the fisheye level. The only noticeable difference was found in one lot made with CC catalyst, rather than the normal KC catalyst. Additional test are being made to verify this one observation.

The production of plastisol extender resins has been satisfactory as far as reaction time and product quality are concerned. However, drying and screening rates have been extremely low due to excessive moisture retained in the centrifuge wet cake. Available adjustments in the centrifuge operation had no effect on the moisture content. A recommendation by the supplier to increase the speed of the centrifuge will be considered. The use of screen vibrators will be evaluated to increase the screening rates of these fine particle size resins.

AP00046045

T. L. Carey

-4-

October 5, 1968

Maintenance problems have developed in the hydraulic oil system that drives the reactor agitators. A chloride contamination of the oil is being followed-up with representatives of the Texas Oil Company. One of the hydraulic oil pumps was damaged when a coupling seized. Repairs are being coordinated with Rockwell, the manufacturer. The repairs are complicated by the fact that the rotor assembly is no longer being manufactured and spare parts are not available.

Special emphasis this month was placed on the bulk transfer system, to increase its capacity and on the high pressure water cleaning equipment to improve operation and reduce maintenance.

Production for October is forecasted at 4,080 M/lbs. and variance at \$3,600 favorable


C. L. Wallace

AP00046046

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: C. L. Wallace

Date: October 5, 1968

From: D. W. Klohs

Copies:

Re: Monthly Summary -- Sales
September 1968

I. Dynamics of the Business

	September		Year to Date	
Type	M Lbs. <u>Budget</u>	M Lbs. <u>Sales</u>	M Lbs. <u>Budget</u>	M Lbs. <u>Sales</u>
Prime Resin	3,898	5,089 *	33,746	38,795
Off-Grade	<u>123</u>	<u>209</u>	<u>1,103</u>	<u>2,159</u>
Total	4,021	5,293	34,849	40,954
* Specialties	264			
General Purpose	<u>4,820</u>			
	5,084			

September was one of our best months this year. Total pounds sold per our records (all of which may or may not have gone through accounting for invoicing as of the end of September) were as follows:

Pounds Sold	5,083,950
Plus Off-Grade	209,150
	<u>5,293,100</u>
Less Returns	- 35,080
Grand Total	<u>5,258,020</u>

We sold resin to about 61 customers in September. In addition, we sent out 53 samples of our product. Although we exceeded budget in both the prime and off-grade categories, we again fell short in our effort to move the money makers -- the specialties. This can be attributed to the slower than hoped for sales development of the 8000 series, and slow re-development of the sale of

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the fusion grade resins. More emphasis must be placed by the Sales Department on the sale of both of these groups in the specialties category.

In September, specialties sales approximated:

<u>Type</u>	<u>Pounds</u>
4185	96,750
9010	12,000
6240	26,000
8000's	130,050
3185 (fusion)	<u>30,500</u>
Total	295,300

This is about 100 M lbs. short of target, but it does show genuine progress.

Including resin converted into compound, year-to-date resin sales now total about 41 million pounds for a monthly average of over 4.5 million pounds. If the Sales Department continues to sell at the average monthly rate, a total of 54.5 million pounds will be sold by year end. This would, of course, top all previous years by a substantial number of pounds.

II. Account Status

We had good volume this month at the following accounts:

Robbins
Lamcal (Plastic Calendering)
Phillips Films
Armstrong
Continental Plastics
Cabrera Vulcan
Protecto Wrap
Wirman
Tenneco (Nixon)
USM Chemicals

Against salesmen's projections, we experienced the following outages for the month:

<u>Account</u>	<u>Volume M lbs</u>
Bata Shoe	40
Chemical Sealing	16
Columbus Coated Fabrics	32

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<u>Account (Cont'd)</u>	<u>Volume M lbs. (Cont'd)</u>
Continental Plastics	40
Custom Chemical	5
Custom Plastics	40
Gates Rubber	104
Gem Plastics	32
ITT	40
Jordan Manufacturing	5
Lakeside Plastics	10
Macoid	34
New England Plastics	40
Pandel	28
Phillips Films	40
Pioneer Paint	24
Plicoflex	104
Podell	10
Raffi and Swanson	2
TAMI	150
Tenneco (Nixon)	125
Thermoclad	10
Weymouth Art Leather	10
Total	941

New business and/or trials were booked at the following accounts:

Federal Color Labs	500 lbs.
Clopay Corporation	70,000 lbs.
Goodyear	40,000 lbs.
Premier Thermoplastics	20,000 lbs.
Schlegel Manufacturing	500 lbs.
Kentile Floors	2,500 lbs.
Protectowrap	104,000 lbs.

III. Price Levels and Trends

Prices remained static during September. There didn't seem to be any further softening, and they certainly did not go up. There is some industry wide talk, however, about another pass at raising the prices of general purpose resin to 10¢/lb. bulk and 10.5¢/lb. in truckload bags. Such a move, would, of course, raise Escambia's average price; and might make the operation profitable. Until Ethyl and Allied are sold out, however, I wouldn't count on a general increase. These companies are still trying to buy business.

D. W. Klohs
D. W. Klohs

AP00046049

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: G.B.H. Speed

Date: October 5, 1968

From: M.B. Rogers

Copies:

Re: PVC Monthly Report
September 1968

SUMMARY

September production was 4,267,000 lbs. prime resin -- almost 190,000 lbs. above budget and projection. Off-grade and tailings of 140,000 lbs. was 3.2% of total production or nearly the 3% budgeted.

Fifteen different resin types were produced in 20 separate production runs.

Vinyl chloride efficiency of 94.4% was above budget, but still below earlier performance in cooler weather. Reactor downtime was a low of 14.4%.

A PVC sales/plant conference at Pensacola in September helped define production quantity and quality goals for the coming year.

Favorable September variance of \$1110 in bulk production and \$1120 in packaging totaled \$2,230. Volume variance was the major favorable factor. Non-controllable factors of catalyst royalty and monomer freight variance totaled \$4000 unfavorable.

STATISTICS

	<u>September</u>		<u>August</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Prime Production, M lbs.</u>				
Month	4,267	4,084	4,141	4,080
Year to Date	36,661	36,748	32,394	24,480
<u>Off-Grade Production, % of Total</u>				
Month	3.2	3.0	2.6	3.0
Year to Date	3.7	3.0	3.7	3.0

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STATISTICS (Cont'd)

	<u>September</u>		<u>August</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Bulk Production, % of Prime</u>				
Month	47.6	57.5	38.4	57.5
Year to Date	49.7	57.5	49.9	57.5
<u>Shipments, M lbs.</u>				
Month-Prime	4,255	--	4,199	--
Month - Off-Grade	138	--	143	--
Year to Date Prime	36,531	--	32,276	--
Year to Date Off-Grade	1,873	--	1,735	--
<u>VCI Efficiency, %</u>				
Month	94.4	94	94.5	94
Year to Date	95.1	94	95.2	94
<u>Reactor Availability, % of Available Hours</u>				
Month	85.6	--	83.4	--
Avg. Year to Date	82.0	--	81.0	--
<u>Reactor Downtime, % of Available Hours</u>				
Mixing Solutions in Reactors	0.1	--	0.3	--
Cleaning & Washing Reactors	7.9	--	7.1	--
Scheduling Charges	2.3	--	3.3	--
Changing Types	0.6	--	0.7	--
Copolymer Production	0.0	--	0.4	--
Slow Recovery	0.8	--	0.4	--
Low Drying Rates and Dryer Line Cleanout	1.7	--	1.6	--
Hydraulic Motor Repairs	0.3	--	0.5	--
Misc. Reactor Maintenance	0.2	--	0.7	--
Dryer Maintenance	0.0	--	0.0	--
Electrical & Instr. Maint.	0.2	--	0.3	--
Miscellaneous	0.3	--	1.3	--
Experimental Batches	0.0	--	0.0	--
Total	16.6	--	14.4	--

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STATISTICS (Cont'd)

<u>Product Mix, M lbs. Prime Resin</u>	<u>September</u>		<u>August</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
Group I	2,448	2,154	1,965	2,154
Group II	1,070	1,010	1,371	1,010
Group III	425	603	364	603
Group IV	0	23	0	23
Group V	324	262	425	262
Group VI	0	32	55	32
Group VII	0	0	*(55)	0
Total	4,267	4,084	4,180	4,084

* Ground resin not included in total

Off-Grade and TailingsOff-Grade

<u>Type</u>	<u>Quantity (lbs.)</u>	<u>Reason Off-Grade</u>	<u>% of Total Production</u>
6180	2,000	High sediment number -- homopolymer contamination	
6150	23,050	Oversize	0.6
<u>Tailings</u>	84,950		1.9
<u>Floor Sweeps</u>	30,000		0.7
Total	140,000		3.2

Payroll

	<u>September</u>	<u>August</u>
Regular Hours	8828	7088
Unscheduled Overtime Hours	105	170
Percent of total Hours	1.17	2.3

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PRODUCTION1000 Series

Types produced: 1200, 1225, 1230, and 1250

The PVC 1230X recipe was adjusted to reduce fisheyes to meet critical customer specifications for Colorite. Variations in the dual suspending agent system had no apparent effect. Fisheyes were lower than normal in one lot made with CC in place of KC catalyst, and the effect of CC catalyst is being checked in two lots in process at month's end.

Low fisheye PVC 1225 was selected for bulk shipments to Clopay and was apparently satisfactory. Proposed toll production of PVC 1225 will reduce the probability of having premium grade product for this customer, and additional downtime may be required for reactor cleaning to upgrade the product. Efforts to improve the water blaster cleaning are discussed in the GENERAL section of this report.

Other production was routine.

2000 Series

Types produced: 2160, 2170, 2200, 2225, and 2250

Production was routine.

3000 and 4000 series

Types produced: 3185 and 3250

PVC 3185 production was the end of the run reported last month, and discussed in detail in F. L. Riddle's September 24 report.

PVC 3250 production was routine.

6000 Series

Types produced: 6150 and 6180

The single lot of PVC 6150 produced was oversize. No abnormalities were apparent from the reactor charging records, and the shortness of the run prevented further analyses.

AP00046053

The PVC 6180 run following the PVC 6150 was excellent in quality and production rate. Extra cleaning efforts and close monitoring of the initial production minimized off-grade due to homopolymer contamination.

8000 Series

Types produced: 8200 and 8217

Reaction was routine for both types, but drying rates remain below budget; excessive moisture is retained in the fine particle size resin in spite of adjustments to the centrifuge overflow height and wash water temperature. The centrifuge manufacturer is to supply recommendations to improve dewatering. The three lots of PVC 8200 were screened through 100 mesh at the drying rates attainable. Traces of 100+ mesh are suspected by Sales to cause excessive screening losses in one customer's plastisol mixture.

Ground Resin

Production for September was as follows:

<u>Type</u>	<u>Total Ground lbs.</u>	<u>Failing Critical Fusion Test</u>	
		<u>Weight lbs.</u>	<u>Percent</u>
4185-2S	48,350	32,900	6
4185-3S	25,850	2,000	8

Most of the product not meeting the critical fusion test will be used at non-critical accounts.

Analysis of the passing and failing resins show no major differences in the properties routinely measured. There may be a higher probability of success in 2S product with higher bulk densities. Bulk density had no apparent effect in the finer 3S material. Obviously the probability of success is higher in the finer product as shown in the high percentage of passing 3S. The specifications call for 35-50% through 200 mesh for 2S and 50-65% for 3S materials. We appear to have the 3S product under control, but have not satisfactorily defined the feed properties and operating conditions required for the courser 2S product.

MAINTENANCE

The north hydraulic drive system pump was damaged when a shear coupling siezed after shearing and put a sudden load on the pump. Two vane shafts were broken. The manufacturer, Rockwell, recommended replacing the entire rotor assembly, which is no longer standard and would have to be specially fabricated. The

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MAINTENANCE (Cont'd)

damaged assembly is being returned to Pensacola for shaft and vane replacement to be available as a spare, and a new replacement assembly may not be required. Texaco reported that water and chlorides in the hydraulic oil are contributing to bearing failures and recommended flushing the system and changing the oil at the expense of considerable downtime. The addition of alkaline, detergent oils to safely defer the shutdown is being investigated by Texaco and in our laboratory.

Low capacity in the north bulk transfer system was traced to low capacity of the vacuum blower. Replacing the blower bearings and seals did not help significantly, and a more extensive inspection and repair is scheduled.

The water blaster system and pump manufacturer's representatives visited the plant September 30 to investigate a cracked head and check the system generally. Piping and control revisions are being made as suggested to minimize shock loads to the pump. Several different nozzles and nozzle arrangements suggested to improve cleaning speed and effectiveness are also being tried.

A 12,000 gallon XA monomer tank was installed by Maintenance to prevent material shortages and hand drumming of deliveries in excess of the old tank capacity.

Other maintenance items were as follows:

- Replaced bearings on number one blend tank agitator shaft.
- Overhauled all controls on the bagging machine.
- Repaired five bulk rail cars.
- Repaired three reactor drop valves. Obtained machine drawings from Yorway to repair and reface the pistons locally
- Repaired and replaced the north dryer hammer band.
- Replaced the pistons and rings in the north monomer recovery compressor.

GENERAL

A PVC sales/plant conference was held in Pensacola September 26 and 27. Markets were discussed by customers and resin types. Special customer requirements, procedures for handling customer complaints and our ability to meet them were clarified.

Manufacturing costs and economics of Saran production were calculated for a licensing proposal for Escambia technology. Saran production is attractive above eight million pounds per year sales rate.

AP00046055

GENERAL (Cont'd)

Representatives of Nash Engineering Company visited the plant September 19 to gather information for a proposal for a recovery compressor to evacuate reactors to increase production. Reactors are now tied up during the entire stripping operation.

OCTOBER PROJECTIONS

	<u>Projection</u>	<u>Budget</u>
Production, M lbs.	4,080	4,080
Inventory, M lbs.	3,200	---
Production Cost		
Variance	\$(3,600)	---

VARIANCE ANALYSIS

September production variance is summarized below:

Bulk Production 7421

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
VCl Monomer Efficiency	\$ 680	VCl Freight Variance	\$1850
Volume Variance	3,760	XA Monomer Efficiency	1,130
By Product Credit	410	Process Chemicals	1,250
		Catalyst Royalty	2,110
Process Costs			
Salaries	1,550	Process Costs	
Maintenance	2,700	Utilities	2010
Laboratory	360	Taxes & Ins.	700
Miscellaneous	1,290	Other	590
Sub Total	\$10,740		\$9630
Net Bulk Variance	<u>\$1,110 Favorable</u>		

Packaging 7424

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
Volume Variance	\$1,120	Bag Costs	\$ 70
By Product Credit	350	Budget Adjustment Error	690
Process Costs	0	Process Costs	
		Salaries	1,000

AP00046056

VARIANCE ANALYSIS (Cont'd)Packaging 7424 (Cont'd)

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
Allocation to Group VII		Maintenance	330
Ground Resin & Other	<u>2,000</u>	Mat'ls, Supplies,	
Sub Total	<u>\$3,470</u>	& Rental	<u>260</u>
			<u>\$2,350</u>
Net Packaging Variance	<u>\$1,120 Favorable</u>		
TOTAL NET VARIANCE	<u>\$2,230 Favorable</u>		



M.B. Rogers

AP00046057

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE CORRESPONDENCE

TO: C. L. Wallace **DATE** October 5, 1968

FROM: D. J. Mann **COPIES**

SUBJECT: Monthly Summary
 PVC Research & Development
 September 1968

Assessment and Planning

During the past month, the Research and Development Department has been in the process of assessing our resin technology and determining how best to utilize its limited resources so as to maximize the benefit of its future efforts.

In reviewing current activities, particularly production, quality control and sales reports, there is good evidence that the reproducibility of several products is less than acceptable, and this is reflected in sales intelligence from the field, even though not every incident becomes the subject of a formal customer complaint. In addition, there appears to be a trend toward narrower specifications for certain special applications, and the result is a compounding of the quality assurance problem -- that is, the customer is often more concerned about variability from lot to lot (and even from bag to bag within a lot) than absolute specifications. Thus, even though the material is within Escambia specifications, it may be unacceptable to the customer because of its variability. The conclusions to be drawn from this situation are obvious -- namely, narrower specifications.

The problem of non-reproducibility, or reproducibility within too broad a specification needs attention. The problem resolves itself into the statistical behavior of the processes involved. Either the processes are not in statistical control, or they are in control but give a much broader normal distribution curve, resulting in larger variances from the mean than are permissible. The source of these problems may be chemical, mechanical or a combination of both. As such, they must be attacked by the combined efforts of R&D, Production and Quality Control.

Another potential source of variability is in the raw materials. Presently, no test exists for determining the acceptability (or non-acceptability) of raw materials. Until some such (empirical) test is developed, this source of variability will continue to exist.

AP00046058

The Research and Development Department has, as its immediate objective, the assistance of Production and Quality Control towards the establishment of processes, providing both higher quality and quality assurance. Work has already begun on this problem with the 3185 series resin.

The immediate plans are to develop a priority listing of problem areas, and then develop for each area a statement of the problem as we understand it. Each statement will be a report reviewing the history of the product line up to the present time. Approaches to the solving of the problem will be presented, and, with the concurrence of Production and General Management, a project will be undertaken. Most of the effort planned will be performed in production equipment, since the pilot plant will not be available until late 1968, and it is questionable whether further pilot plant runs would be meaningful at this stage.

Operations

During September research efforts were continued towards improving the consistency of product quality in fusion resins. In this regard, a report was prepared on the data obtained from the production of 42 batches of series 3185 resin, run in late August. The results were encouraging and recommendations were made for future runs. Research will continue its close support of 3185 production.

Data from experiments conducted earlier this year at Wilton on plastisol extender resins (8000 series) were tabulated and presented at the sales /plant conference.

Facilities

The R&D building was occupied in early September. The status of major components is as follows:

Technical Service Laboratory -- will be completed and operable by October 15, 1968.

Polymerization Laboratory -- completion will be delayed three months pending delivery of explosion proof motors.

General and Constant Humidity Laboratories -- expected completion date is December 1, 1968, due to delayed delivery of laboratory benches.

AP00046059

October 5, 1968

General

To summarize, the efforts of the Research and Development Department were directed during the month of September towards improving product quality. The procedures used and various problems encountered were carefully considered on all resins, with the objective of developing plans for overcoming the various factors that cause quality variations.

Because of the delayed delivery of the laboratory benches, the new R&D building will not be totally completed until December 1968. The installation of all other equipment is virtually complete. The new PVC pilot plant equipment has been specified, and completion of the facility is scheduled for January 1969.

Technical ServiceDayton Aircraft Products

A fluid Bed Compound (2750-20) has been sent to Dayton Aircraft for their evaluation.

Requests

We have sent out information to the following companies and/or salesmen upon request:

Pandel Inc. (R. E. Weston) -- Screen data on PVC 8200
Chemical Sealing Corp. -- Brookfield Viscosity data on
PVC 8200
Colorite Plastics (D. W. Klohs) -- Complete data on
PVC 1230 X

Plastisol Extender Resin Evaluation

The Quality Control Laboratory is going to run Brookfield Viscosities on all lots of PVC 8200 made to date. This will give us some much needed background information as to consistency, etc.

D. J. Mann
D. J. Mann

AP00046060

Mr. Carney

AGRICULTURAL CHEMICALS DIVISION

MONTHLY REPORT

October, 1968

AP00046061

PERSONNEL

AP00046062

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: November 5, 1968

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - October, 1968

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 9/30/68</u>	<u>Oct. Addit.</u>	<u>Oct. Separa.</u>	<u>No. of Employees 10/31/68</u>	<u>Oct.* 1968 Budget</u>
Executive Office	4	0	0	4	5
Accounting & Credit	48	1	2	47	50
Plant & Wilton Labs.	36	2	0	38	48
& Planning & Dev.					
Plant Admin. & Process	210	7	7	210	213
Plant Engr. & Maint.	123	4	1	126	132
Personnel & Safety	12	0	0	12	12
Purchasing & Traffic	27	1	1	27	28
Sales - Agri. Chem.	160	9	4	165	177
Sales - Ind. Chem. & PVC	<u>15</u>	<u>1</u>	<u>1</u>	<u>15</u>	<u>16</u>
Total Escambia	635	25	16	644	631

* As Amended

<u>Carroll Construction Company</u>	<u>No. of Employees 9/30/68</u>	<u>No. of Employees 10/31/68</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	8	8
Yardmen	2	2
Trashmen	2	2
Laborers	5	7
Janitors	7	7
Painters	<u>5</u>	<u>5</u>
Total Maintenance	32	34

AP00046063

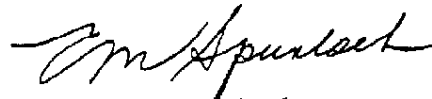
INSURANCE

We paid a total of 86 claims under our Group Hospitalization program which amounted to a total of \$ 14,931.10 during the month of October.

Mr. Self of EBSMCI and I met with representatives of the Hartford Steam Boiler Insurance Company relative to the renewal of our Boiler and Machinery Property Damage and U & O coverage. This coverage was renewed at a satisfactory rate and coverage for the next three years.

Return premium in amount of \$ 1,178.00 under retrospective rating feature of Workmen's Compensation Insurance was received for period January 1, 1964 to January 1, 1967.

Tank Car Insurance claim in the amount of \$ 451.83 was settled during the month of October.


E. M. Spurlock

EMS;kc

AP00046064

PLASTICS AND RESINS
MONTHLY REPORT
OCTOBER 1968

AP00046065

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: T. L. Carey

Date: November 5, 1968

Copies:

From: C.L. Wallace

Re: PVC Monthly Summary
October 1968

MAJOR FACTORS AFFECTING THE BUSINESS

Several factors indicate that the PVC business industry-wide is on the upswing. Escambia has been sold out for several months running and production scheduling has become a major effort to make shipments. It has also been reported that Allied Chemical (recently being stated to be long on capacity) is now sold out. In addition, we (among others) have been asked by Goodyear to consider production of very substantial quantities of resin for their account. Further, there is "rumor" in the east that Goodrich and Union Carbide are hinting at upcoming price increases in selected accounts.

Prices, although not increasing, seem to be firming up. The average price for the last few months has been 11.0¢/lb., with little variation. Reports of lower prices from the field are becoming less frequent.

The switch to a new supplier of VCL monomer has been completed.

The agreement with Allied to produce general purpose resin for our account has gained tremendous momentum during the month and the supply has undoubtedly saved Escambia some customers. To date Allied's equivalent to our PVC 1200, 1225 and 1250 have been approved. At month's end a total of nine bulk and eight bag car shipments totaling about 2,200 M lbs. have been ordered.

Continued negotiation with Union Carbide into the possibility of licensing our Saran technology is awaiting the completion of review in New York of our proposal for submission to Union Carbide.

MARKETING

Gross sales for the month were 5,002 M lbs. of which off-grade, tails and floor sweeps were 217 M lbs. There were also 263 M lbs. of returns, chief of which was a rejected bulk car from Phillips Film on which the problem of contamination again appeared.

AP00046066

MARKETING (Cont'd)

Plastisol extender sales showed an increase this period with 179 M lbs. being sold. As a result of R&D's visit to Lakeside Plastics last month, a 5 M lb. shipment of PVC 8200 will be tried in November. We have now established rapport with this company and their production manager no longer foresees any problems with our resin.

A visit to Robbins Floor Products by the General Manager and R&D personnel resulted in a better understanding of the reasons for extender resins having failed in their operations. Robbins has left the door open to us for a more suitable grade of extender resin, which our R&D feel will satisfy their requirements. Robbins showed interest in using Escambia's resins in three areas: the foam underlay, the base color coat and the clear film overlay in their expanded sheet flooring line at Prescott, Arkansas. This would all be new business to Escambia. The volume is unknown but "substantial".

Other specialty sales were steady with 164 M lbs. being sold. R&D worked closely with Production on specialty resin production during the month. Some progress was made, but considerable work remains to consistently produce quality resin. Another specialty resin, PVC 9250, was added to our product line. This resin, a modification of an existing resin, is designed for the medical tubing industry and will command a premium price.

Sales efforts to supply a satisfactory "bottle" resin to Armstrong are continuing. Meetings with Armstrong indicate that the properties which are mandatory for an acceptable bottle resin require further definition. Escambia's R&D efforts at this time are directed to correlating particle size with film fisheyes. In addition, bulk density, contamination and relative viscosity are also apparently factors in determining a suitable resin.

Sales for November are forecasted at 4,741 M lbs.

RESEARCH AND TECHNICAL SERVICE

Research efforts for the month were associated with assistance and evaluation of PVC 3185 production. Reactor charging procedure and raw materials were found to have the greatest effect on product quality. The particular property of raw material that varies from lot to lot has not been isolated at this time. During the PVC 3185 run, particle size was found to vary from start to finish while drying some lots of resin. The data suggests insufficient agitation in the blend tank.

AP00046067

RESEARCH AND TECHNICAL SERVICE (Cont'd)

As previously mentioned, a visit was made to Lakeside Plastics. We feel the visit was successful and will result in substantial sales of extender resins. Also, a visit was made to Robbins Floor Products to improve working relations and provide closer technical support. A tentative date of November 11 has been set to evaluate Escambia's extender and a 1000 series resin in their expanded vinyl flooring.

During the month Technical Service assisted in evaluating four customer complaints, three technical service requests and 20 requests for statistical information or data.

The new R&D building is essentially complete except for benches and explosion proof motors for the bottle laboratory. The technical service lab is operational. All major equipment has been ordered for the pilot plant and completion is expected in January 1969.

PRODUCTION

PVC production for the month was 3,903 M lbs., below budget by 177 M lbs. The lower production is a reflection of a much higher (about twice) budgeted production of slow drying specialty resins. Improvements were made in the following areas:

1. Reactor downtime was only 13.1 %, a new record low for the year.
2. Unscheduled overtime was again exceptionally low, only 0.5% of total hours.
3. Monomer efficiency was up to 95.3%, exceeding budget.

Off-grade production for the month was 5% of total production, exceeding budget by 2%. Contamination from the north dryer coils was the primary reason for off-grade.

An extended run of PVC 3185 was made during the month with R&D assisting. Although the run resulted in severe variations in particle size and bulk density, all product is presently considered prime by judiciously selecting lots for special customers and by grinding. Revisions were made to the high pressure water cleaning system as recommended by the vendor. This should markedly reduce maintenance.

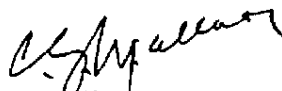
AP00046068

PRODUCTION (Cont'd)

The problem with contaminated oil in the hydraulic oil system that drives the reactor agitators has been lessened to some extent by replacing four drums of old oil with new. Tests also indicate that we can add a detergent additive recommended by the Texaco Oil Company without any adverse effects. A major improvement in drying capacity may well have been achieved when the speed of the south centrifuge was increased from 1200 to 1400 RPM as recommended by the vendor. Initial results show a 10% wet cake moisture reduction in general purpose resin. A larger reduction is expected on the finer particle size resins. Since the run was made at month's end, results are only preliminary.

One bulk car of PVC 1225 was returned by Phillips Film due to contamination. Our loading and shipping samples showed the product to be contamination free, but returned samples were definitely contaminated. The source of the contamination is still undetermined, but extra precautions are being taken in cleaning the bulk system and cars.

Plant production for November is forecasted at 4,080 M lbs. and variance at \$8,000 favorable.


C. L. Wallace

AP00046069

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: G.B.H. Speed

Date: November 5, 1968

Copies:

From: M. B. Rogers

Re: PVC Monthly Production Report
October 1968

SUMMARY

October prime production was 3,903 Mlbs. compared with 4,080 M lbs. budgeted and projected. Poundage production was reduced by a high proportion of specialty resins --- about twice the budget level of 20%. The specialty resins volume production standards reflect their slower drying rates.

Tailings and off-grade totaled 5% of total production, or 2% above budget, due primarily to contamination from one set of dryer steam coils which was replaced.

Thirteen different resin types were produced in 15 separate runs, including four specialty types.

A 385 M lb. PVC 3185 fusion resin production run showed variations in bulk density and particle size experienced previously, although all the product was recovered as prime grade by selection for special customers and for grinding.

Monomer efficiency was 95.3% compared with 94.4% last month and the budgeted level of 94%.

Unscheduled overtime was reduced to 0.5%.

Reactor downtime was 13% of available hours, a new low.

Bagged production increased to 67% from a budget level of 42% of the total, reflecting increased specialties production and the effect of toll production of bulk general purpose resins.

Eleven of 27 vinyl chloride cars used this month were lower priced monomer from Allied Chemical. The first three bulk shipments of toll general purpose resin production by Allied were made this month to relieve the Pensacola plant for a greater proportion of specialty resin production.

AP00046070

Variance of \$84 favorable in bulk and \$2,137 favorable in packaging totaled \$2,221, due primarily to more efficient resin grinding operations.

STATISTICS

	<u>October</u>		<u>September</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Prime Production, M lbs.</u>				
Month	3,903	4,080	4,267	4,084
Year to Date	40,564	24,480	36,661	36,748
<u>Off-Grade Production % of Total</u>				
Month	5.0	3.0	3.2	3.0
Year to Date	3.8	3.0	3.7	3.0
<u>Bulk Production, % of Prime</u>				
Month	33.5	57.5	47.6	57.5
Year to Date	48.1	57.5	49.7	57.5
<u>Shipments, M lbs.</u>				
Month - Prime	4,289	--	4,255	--
Month - Off-Grade	182	--	138	--
Year to Date Prime	40,820	--	36,531	--
Year to Date Off-Grade	2,055	--	1,873	--
<u>VCI Efficiency, %</u>				
Month	95.3	94	94.4	94
Year to Date	95.1	94	95.1	94
<u>Reactor Availability, % of Available Hours</u>				
Month	86.7	--	85.6	--
Avg. Year to Date	82	--	82.0	--
<u>Reactor Downtime, % of Available Hours</u>				
Mixing Solutions in Reactors	0	--	0.1	--
Cleaning & Washing Reactors	7.0	--	7.9	--

AP00046071

STATISTICS (Cont'd)

	<u>October</u>		<u>September</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
Scheduling Charges	2.9	--	2.3	--
Changing Types	0.6	--	0.6	--
Copolymer Production	0.0	--	0.0	--
Slow Recovery	0.4	--	0.8	--
Low Drying Rates and Dryer Line Cleanout	0.4	--	1.7	--
Hydraulic Motor Repairs	0.2	--	0.3	--
Misc. Reactor Maintenance	0.0	--	0.2	--
Dryer Maintenance	0.6	--	0.0	--
Electrical & Instr. Maintenance	0.0	--	0.2	--
Miscellaneous	1.2	--	0.3	--
Experimental Batches	0.0	--	0.0	--
Total	13.3	--	14.4	--

Product Mix, M lbs. Prime
Resin

Group I	973	2,154	2,448	2,154
Group II	1,375	1,010	1,070	1,010
Group III	608	603	425	603
Group IV	0	23	0	23
Group V	891	262	324	262
Group VI	56	32	0	32
Group VII	(75)*	0	0	0
Total	3,903	4,084	4,267	4,084

* Ground resin not included in total

AP00046072

STATISTICS (Cont'd)Off-Grade and TailingsOff-Grade

<u>Type</u>	<u>Quantity (M lbs.)</u>	<u>Reason Off-Grade</u>	<u>% of Total Production</u>
6180	33	Contamination	0.7
8217	8	Contamination	0.2
1250	14	Contamination	0.3
1230	54	Contamination	1.3
<u>Tailings</u>	96		2.5
<u>Floor Sweeps</u>	-0-		—
Total	205		5.0

Payroll

	<u>October</u>	<u>September</u>
Regular Hours	11,489	8,828
Unscheduled Overtime		
Hours	55	105
Percent of total hours	.5	1.17

PRODUCTION1000 Series

Types produced: 1200, 1225, 1217, 1230 and 1250.

Seven bulk truck shipments of PVC 1225 to Clopay, a new customer using our product in clear film, were apparently satisfactory, and realistic customer specifications are being established.

A shipment of PVC 1250 rejected by Phillips on the basis of contamination is discussed under the GENERAL section of this report.

Other production was routine.

AP00046073

PRODUCTION (Cont'd)2000 Series

Types produced: 2160, 2170, 2200, 2225 and 2250.

PVC 2170 cycle times were excessively long and increasing the catalyst level gave only slight improvement.

Both PVC 2250 and 2200 produced excessive tails. Increasing the suspending agent levels in the PVC 2250 recipe had no apparent effect. It appears that higher levels of KC catalyst possible with the new refrigeration machines may be causing the excessive oversize. The effect of catalyst level and the type of buffer salt are being investigated in the PVC 2200 run in progress at month's end.

A different buffer salt, "EZ", in place of "EY" is being tested in PVC 2225 to reduce residual calcium in the resin. Retained calcium is believed to cause a phenomenon called "plate out" which occurs in calendaring operations. Wiman Manufacturing noted the plate out problem in our last shipment, although the product was produced by the same recipe used previously.

Production on PVC 2160 was routine.

3000 and 4000 Series

Types produced: 3185 and 3250.

An extended PVC 3185 run produced 14 lots from 62 batches. The recipe was unchanged for all except the last 11 batches; however, bulk density and particle size reproducibility was poor. Changing lots of UY suspending agent appeared to make a major difference, although ash and moisture analyses by the Pensacola laboratory and pH, moisture, and activity analyses by the vendor showed no apparent difference in the three lots of suspending agent used. Increasing the level of one problem lot of suspending agent did not compensate for whatever factor was causing abnormally low bulk densities. The supplier has been contacted for more information to explain the functional differences among the three lots of suspending agent in a program to determine what compensating factor can give consistent performance. The desired increase in particle size was obtained in 8 of 11 batches charged with a reduced seed latex level.

AP00046074

PRODUCTION (Cont'd)3000 and 4000 Series (Cont'd)

All 14 lots of the PVC 3185 run were recovered as prime resin in spite of particle size and bulk density variations by selection for specific customer applications and for grinding. Three lots were excellent fusion grade resins without being ground and were, in fact, the much sought after micropearls. The desired excellent products can be made; the paramount job now is to identify the factors necessary to establish control over the recipe.

PVC 3250 production was routine.

8000 Series

Types produced: 8217

Production was routine, and all the product was screened through 100 mesh. Modifications to reduce centrifuge product moisture to increase the drying rate are discussed under the GENERAL section of this report.

Ground Resin

A total of 75,000 lbs. product consisted of 59,000 lbs. 4185-2S and 14,000 lbs. 4185-3S. An average ground production rate of 870 lbs. / hour was achieved compared with a previous norm of 400-600 lbs. /hour. A trial grinding of PVC 2185 to 2S in place of PVC 3185 yielded an excellent fusion product, but screening losses were excessive and the particles retained on 80 mesh were above specification.

MAINTENANCE

Major maintenance this month included the following:

1. Replaced north dryer steam coils.
2. Repaired and replaced dryer hammer bands on both north and south dryers.

AP00046075

MAINTENANCE (Cont'd)

3. Repaired broken piston arm on step bearing purge pump and repaired the bearings and arm adjustment to prevent a recurrence.
4. Repaired the bottom bearing on #2 blend tank agitator shaft.
5. Removed the north bulk system vacuum blower and had it factory rebuilt.
6. Repaired leaking shaft seal on the north stripper.
7. Repaired leaking seals on number 1, 2, and 8 reactor hydraulic motors.
8. Installed a cleanout strainer on the refrigerated water inlet line to eliminate frequent shutdowns to empty the in-line strainers.
9. Replaced shear pins in the south hydraulic pump three times and inspected pump and bearings.
10. Revised the hydraulic system pressure control line to the deaeration tank to come from the top of the return line to improve defoaming and reduce shock loads from pump cavitation.
11. Replaced the north recovery compressor relief valve twice.
12. Repaired the south bulk system rotary valve.

An inspection of the south hydraulic pump showed no abnormal bearing wear. Apparently draining and adding four drums of fresh oil reduced the contamination level below the danger point. Shear pin failures in the south pump were apparently caused by abrupt operational changes in starting motors and the fact that the tolerances are closer in the south pump than in the north.

AP00046076

GENERAL

The water blaster operating pressure was reduced and a restricting orifice was removed from the system dump valve at the recommendation of the manufacturer. Packing maintenance was reduced markedly and a leaking cracked head is much less of a problem as a result. Use of long-taper and fan-shaped tungsten-carbide nozzles recommended by the manufacturer was not as satisfactory as the original, small, straight-stream stainless steel nozzles.

Tests were made with detergent additives for the reactor drive hydraulic oil to check the hazards of increased foaming; reduced viscosity; and emulsion, gel, or precipitate formation. Texaco had reported the oil now in the system to be too acid and contaminated with chlorides and recommended a complete oil changeout to prevent bearing failures prevalent at the time the oil was tested. The tests showed no adverse effects of mixing, and a detergent oil additive recommended by Texaco was purchased to prevent equipment damage until the necessary time is available for an oil changeout.

Tests with a smaller bag valve and tapered, non-vented bag filling nozzle showed no advantage to the smaller valve and demonstrated that a positive vent is essential. Bag weight variation and dusting is a minor problem with coarse resins, but is magnified with the fine particle size specialties. Bagging importance increases as the proportion of bagged product increased from a budget level of 42% to 64% in October.

The centrifuge speed was increased to 1400 RPM from 1200 RPM and the liquid depth was lowered to improve dewatering especially of the fine particle size specialty resins. Initial results show a 10% moisture reduction in a standard general purpose type, and a 15-25% reduction is expected with the fine resins. Resin loss in the effluent was negligible.

An automatic sampler was installed on the south line to assure a more representative lot sample during the normal 8-12 hour drying cycle.

A bulk rail car of PVC 1250 was rejected by Phillips Films because of contamination. The loading and post loading samples at Pensacola showed the product to be exceptionally contamination free. Samples from the customer were badly contaminated, and the contaminants sunk to the bottom of a mixture in carbon tetrachloride in which PVC floats to the top. Four retained samples mixed in carbon tetrachloride had virtually no particles fall to the bottom. Apparently the contaminants were in the car when it was loaded or entered during transit. Car inspection and cleaning procedures were reintensified and the practice of covering the hatches with polyethylene film was restarted.

AP00046077

NOVEMBER PROJECTIONS

	<u>Projection</u>	<u>Budget</u>
Production, M lbs.	3,900	4,080
Inventory, M lbs.	2,546	2,791
Production Cost Variance	\$2,000 Favorable	

VARIANCE ANALYSIS

October production variance is summarized below:

Bulk Production 7421

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
VCL Monomer	\$ 1,325	XA Monomer	\$ 980
Volume Variance	1,165	Process Chemicals	286
By Product Credit	6,153	Royalties	1,670
Process Costs		Process Costs	
Salaries	889	Utilities	1,282
Miscellaneous	2,310	Maintenance	2,710
Taxes & Ins.	2,029	Laboratory	4,637
		Other	2,222
	<u>\$13,871</u>		<u>\$13,787</u>

Net Bulk Variance \$84 Favorable

Packaging 7424

Volume Variance	\$1,005	Budget Error	\$1,040
		Bags	204
Process Costs		Process Costs	
Maintenance	446	Salaries	1,289
		Miscellaneous	203
Group VII	2,138		
Other	1,284		
	<u>\$4,873</u>		<u>\$2,736</u>

Net Packaging Variance \$2,137 Favorable

TOTAL PRODUCTION VARIANCE \$2,221 Favorable

M.B. Rogers
M.B. Rogers

AP00046078

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: C. L. Wallace

Date: November 5, 1968

From: D. J. Mann

Copies:

Re: Monthly Summary
PVC Research & Development
October 1968

ASSESSMENT AND PLANNING

1. Pursuing the broad plan discussed in the September Monthly Summary for PVC Research and Development, priorities for the study of resin quality and reproducibility were established (references 1 & 2), and a technical report reviewing the research and development history of the Pearl resins (2000, 3000 and 4000 series) (reference 3) was prepared and distributed.

2. In addition, a summary of the process for manufacturing extrusion-grade Saran resin was prepared (reference 4). This will be followed by the preparation of two technical reports reviewing the research and development history of (1) extrusion-grade and (2) solution-grade Saran resins.

OPERATIONS

1. During October, the Research and Development Department continued its close support of manufacturing by monitoring the production of 63 batches of 3185 resin. Fourteen lots of material representing approximately 385,000 lbs. were made. Five batches were mischarged at the beginning of the run and coarse polymer resulted. The next 18 batches, prepared with recipe T19, yielded excellent material, with the exception of four batches that had excessive fines. It is not presently understood why an erratic high percent of fines is periodically obtained.

A change to a different lot of Sulframin 85 lowered the bulk density. Also, some crusting in the reactor was observed, which required premature termination of the run. Eight batches were prepared with good particle size control, except for two -- one with 96% fines, the other with 66% fines.

A third lot of Sulframin 85 was then tried for 15 batches. Again, good particle size was obtained and the bulk density increased. During this series of runs, four batches had excessively high fines.

AP00046079

OPERATIONS (Cont'd)

The first lot of Sulframin 85 was then used again, along with a lower level of Geon latex. This produced generally satisfactory material somewhat coarser than before. Attempts to use the second lot of Sulframin 85 at slightly higher levels did not appear to improve the product, although only two batches were tried.

The effect of raw material on quality appears to be a source of variability, and is being studied in preparation for the next 3185 plant run.

Product variability studies were made in the blend tank and dryer. Samples were taken from the blend tank and then the dryer every two hours during the drying cycle. In the first lot studied, a high level of fines (low bulk density) was noted at the end of the run with fairly good uniformity up to this point. In the next lot studied, the mixing appeared to be somewhat better and the last sample was not high in fines. However, the fines distribution during the latter run did vary from 18.0 to 33.8%.

A compilation, analysis and interpretation of the data obtained is presently underway.

2. Research and Development personnel visited Lakeside Plastics in Oshkosh, Wisconsin for the purpose of technically evaluating problems related to the use of Escambia 8000 series resins here (reference 5). Laboratory tests were conducted on-site and recommendations made on the basis of the data obtained. As a result, Lakeside will make a plant trial with 5,000 pounds of 8200 series recently shipped. If possible (i. e. contingent on other demands), an Escambia Research and Development representative will be present to witness the trial.

3. A visit was made to Robbins Products, Inc., Tuscumbia, Alabama, for the purpose of improving working relationships and providing closer technical support. Plant trials to evaluate Escambia 1000 and 8000 series resins in their expanded vinyl flooring applications have been tentatively arranged for the week of November 11, at the Prescott, Arkansas plant (reference 6).

4. Increased Technical Service support of Sales occurred during October in terms of customer inquiries and complaints answered, directly or indirectly. The following activities were recorded:

Customer Complaints

During this period, work was performed on three formal (Nos. 32, 33 and 34) and one informal (Creative Packaging) Customer Complaints.

AP00046080

OPERATIONS (Cont'd)Technical Service Requests (TSR's)

The following TSR's were completed:

813	-	Elm Coated Fabrics
814	-	Industrial Solvents
815	-	Colorite Plastics Corporation

Customer Inquiries

Approximately 20 customers were provided with technical information/data.

FACILITIES

1. Research and Development Building

Technical Service Laboratory -- All major equipment has been installed and full operations will begin the week of November 4.

Polymerization Laboratory-- Completion will be delayed two months pending delivery of explosion-proof motors.

General and Constant Humidity Laboratories -- Expected completion date is December 1, 1968, due to delayed delivery of laboratory benches.

2. Pilot Plant

The building and all major equipment is on order. The completion of the facility is scheduled for January, 1969.

FUTURE PLANS

1. Technical reports will be prepared reviewing the research and development history of both the extrusion and solution grades of Escambia's Saran, along with an R&D assessment of this technology.

2. The 3185 series will be run in the plant the week of November 17 (tentative) and efforts will be continued to study the variability problem with this product.

3. The effect of replacing KC with CC in the 2185 recipe for reducing fisheyes will be studied.

4. A report on the last 3185 run made in October will be issued.

5. Plant trials will be conducted at Lakeside Plastics and Robbins Products.

AP00046081

FUTURE PLANS (Cont'd)

6. The Technical Service Laboratory will begin full-scale operations during the week of November 3, 1968.

D. J. Mann
D. J. Mann

- Reference 1 Memo to D. J. Mann and G. B. H. Speed from F. L. Riddle, Jr. and M. B. Rogers, titled "Priority List for PVC Plant Problems", dated October 25, 1968.
- Reference 2 Memo to C. L. Wallace from D. J. Mann, same subject, dated October 29, 1968.
- Reference 3 Polymer Research Project Report #2, titled "Synthesis and Development of Pearl Systems", by F. L. Riddle, Jr. and J. F. Gabbett, dated October 7, 1968.
- Reference 4 Memo to File from F. L. Riddle, Jr. titled "Summary Report of Escambia Saran Process", dated October 25, 1968.
- Reference 5 Memo to File from F. L. Riddle, Jr. , titled "Lakeside Plastics, Oshkosh, Wisconsin", dated October 7, 1968.
- Reference 6 Memo to File from F. L. Riddle, titled "Robbins Floor Products, Inc., Tuscumbia, Alabama", dated October 31, 1968.

AP00046082

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AGRICULTURAL CHEMICAL DIVISION

MONTHLY REPORT

November, 1968

AP00046083

PERSONNEL

AP00046084

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: December 5, 1968

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - November, 1968

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 10/31/68</u>	<u>Nov. Addit.</u>	<u>Nov. Separa.</u>	<u>No. of Employees 11/30/68</u>	<u>Nov.* 1968 Budget</u>
Executive Office	4	0	0	4	5
Accounting & Credit	47	3	6	44	50
Plant & Wilton Labs. & Planning & Dev.	38	2	1	39	46
Plant Admin. & Process	210	1	3	208	214
Plant Engr. & Maint.	126	0	0	126	133
Personnel & Safety	12	0	0	12	12
Purchasing & Traffic	27	2	0	29	30
Sales - Agri. Chem.	165	4	8	161	178
Sales-Ind. Chem. & PVC	<u>15</u>	<u>0</u>	<u>1</u>	<u>14</u>	<u>16</u>
Total Escambia	644	12	19	637	684

* As Amended

<u>Carroll Construction Company</u>	<u>No. of Employees 10/31/68</u>	<u>No. of Employees 11/30/68</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	8	7
Yardmen	2	2
Trashmen	2	2
Laborers	7	7
Janitors	7	7
Painters	<u>5</u>	<u>7</u>
Total Maintenance	34	35

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PERSONNEL (Cont'd.)

<u>Carroll Construction Co.</u>	<u>No. of Employees</u> <u>10/31/68</u>	<u>No. of Employees</u> <u>11/30/68</u>
PVC Laborers	8	8
Area B Laborers	35	25
Railroad Crew	<u>1</u>	<u>1</u>
Total Carroll Construction	80	71
	<u>644</u>	<u>637</u>
Grand Total	724	708

We had a total of 77 walk-in applicants, 57 applications were issued and 9 were received by mail. Twenty-eight applicants were interviewed and 42 were tested.

SAFETY

The Corporation worked approximately 113,000 man-hours during the month.

The approximate man-hours and the days worked to date without a lost time injury are as follows:

<u>Division</u>	<u>Man-hours</u>	<u>Days</u>
New York Office	440,500	2,675
Research	1,068,500	4,155
Sales	36,000	40
Pensacola Plant	117,000	43
Corporation	149,000	40

Medical Section

The Medical Section treated 9 injuries for Escambia and 5 for Carroll, performed 6 pre-employment and 16 annual physicals and gave a total of 17 immunization injections.

TRAINING

We held one Trackmobile class in which three operators were licensed.

We held one Forklift class in which two operators were licensed.

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EMPLOYEE RELATIONS

Open House for employees and their families was held on November 23, 1968 and 205 people toured the plant.

Plans are being made to hold our annual Children's Christmas Party at Martine's Restaurant on December 21, 1968.

Two (2) 5-year service awards were presented.

One (1) 10-year service award was presented.

LABOR RELATIONS

Gulf Power Company's contract with the IBEW has expired and they began renegotiating their contract on August 1, 1968. The last meeting with the union was on October 1, 1968 and Gulf Power offered them a 3-year contract with 5.5% increase in salaries the first year, 5.2% the second year and a wage reopener only during the third year. This offer has neither been accepted or rejected at the present time.

The union activity as far as the nonunion plants in the Pensacola area is concerned has decreased considerably. Certain of Monsanto's employees are still meeting with the union representatives in the area but there is no great amount of pressure at the present time.

INSURANCE

We paid a total of 46 claims under our Group Hospitalization program which amounted to a total of \$ 9,050.44 during the month of November.

Check was received from Hartford Steam Boiler Insurance Co. in the amount of \$ 32,684 which represents return of premium due to our good experience during the policy years from October 1, 1965 to October 1, 1968.

Claim in the amount of \$ 37,968.00 was submitted to Travelers Insurance Company for damage by spent acid to leased tank cars.

We settled the following claims during the month:

Two Automobile Physical Damage claims in amount of \$ 117.68.

One Comprehensive Commercial Bond claim in amount of \$ 5,381.85.

EMS:kc


E. M. Sparlock

AP00046087

PLASTICS AND RESINS

MONTHLY REPORT

NOVEMBER 1968

AP00046088

ESCAMBLA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: T. L. Carey Date: December 5, 1968

From: C. L. Wallace Copies:

Re: PVC Monthly Summary
November 1968

MAJOR FACTORS AFFECTING THE BUSINESS

PVC operations will report a profit of \$44,000 for November. This is the first month for which the new monomer price was fully reflected.

Of major importance is a reported up-coming price increase. There have been two rumors from the industry. One concerns a 0.5¢/lb. increase "soon" and another 0.5¢/lb. increase in the late spring on general purpose resins, and the other an increase in specialty resin prices after the inauguration.

The Escambia PVC business continues in a "sold-out" position, which is expected to last into next year. As a result of a sold-out position and the ability of Allied Chemical to produce only a limited amount of resin for our account, we have had to turn down orders totaling 440 M lbs. at ITT, New England Plastics, Elm Coated Fabrics and Continental Plastics.

Although our agreement with Allied Chemical is working smoothly, Allied has not been able to meet our needs in timing and total pounds due to Allied's sold-out position. A total of 3,300 M lbs. for the year have been ordered for delivery through December and approximately one half of the orders have been shipped.

MARKETING

Gross sales for the month were 4,710 M lbs. of which 161 M lbs. were off-grade, floor sweeps and tailings. Returns for the month were 29 M lbs.

Sales of plastisol extenders are holding steady with 145 M Lbs. being moved. A trial run of extender resin PVC 8200 was highly successful at Robbins Floor Products. Both Robbins and Lakeside Plastics, who approved our resin in October, will be ordering in December as soon as their supply of competitive resin is used.

AP00046089

MARKETING (Cont'd)

Other specialty resins continued strong with 143 M lbs. being sold. Production and Research are continuing to work on the reproducibility of our primary specialty PVC 4185-SP. A production run in November was unsuccessful in meeting the rigid SP specifications.

Research assisted the Sales Department during the month on establishing a bottle compound formula for Elm Coated Fabrics and obtaining an additional test by Armstrong to assist in establishing quality parameters.

Sales for December are forecasted at 4,500 M lbs. This will be lower than normal due to year-end inventory and holiday shut-downs.

RESEARCH AND TECHNICAL SERVICE

Major efforts during the month were concentrated on the problem of reproducibility of 3185/4185 (fusion) resins. The problem attack is necessarily via production equipment and consists of isolating and monitoring the many variables in the process. To date no positive data has been assembled which reasonably assures immediate correction of the problem. The early availability of the pilot plant facilities should provide expanded "answer capability" on this problem.

In other areas customer service efforts were rewarding. Two accounts of substantial size were successful with trials of plastisol extenders (Robbins and Lakeside Plastics) and this business should be forthcoming following balance-out of competitive products by the customers. Further, an encouraging start has been made (on an exclusive basis) on the resin specifications for medical/surgical tubing end use (Elm Coated Fabrics). Work also continues on the development of bottle resin specifications with two customers (Elm Coated and Armstrong Cork).

PRODUCTION

Production for the month was 4,009 M lbs., below budget by 80 M lbs. The lower production is a continuing reflection of the higher than budgeted production of slow drying specialty resins, and excessive cleaning time required in both the reactors and dryers to meet critical customer specifications. Reactor downtime increased to 17.6% of available time due primarily to the need for extra cleaning as mentioned above. Tailings, floor sweeps and off-grade were 3.5% of production. An excessive amount of tailings were produced when variations were made in recipes to reduce reactor fouling.

AP00046090

PRODUCTION (Cont'd)

Monomer efficiency was 94.6%, and above budget. Direct production variance was approximately \$33,000 favorable, with an added \$3,000 favorable overhead variance allocation.

Another extended run of PVC 3185 was made during the month with Research and Development assisting. The same recipe was used throughout the run and "master solutions" were used to minimize the variability in charging individual reactors. Even with the master solutions, batch to batch reproducibility was extremely poor. A lowering of space charge to insure adequate agitation throughout the cycle did not improve quality or batch reproducibility. In order to meet sales requirements of PVC 4185-SP, out of specification resin is being rescreened.

In the finishing area of PVC production studies are being conducted in the following areas:

1. Blend Tanks

Studies are being made to improve agitation in the blend tanks to prevent classification of resin particles.

2. Centrifuge Speed

A study is continuing on the effect of increasing the centrifuge speed from 1200 to 1400 RPM. As reported last month, a 10% decrease in wet cake moisture has been noted on one type resin.

3. Dryer Speed

In an effort to increase drying rates the manufacturer has recommended a reduction in dryer speed from 4.35 to 3.63 RPM.

4. Stainless Steel Screens

A visit to Allied Chemical revealed that they are using all stainless steel screens treated with an anti-static material, and are not having any problems with static blinding as we experienced. Two stainless steel screens have been ordered for trial.

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5. Bulk Transfer

A study of our bulk transfer system is being made to reduce the time (now 24 hours) and labor required to load bulk cars.

Maintenance for the month was centered around the centrifuges. Both machines had to be taken apart for cleaning and the south centrifuge was taken apart twice, once to install a new gutter and then to take the gutter out to clean paint off that was contaminating the resin.

Plant production for December is forecasted at 4,080 M lbs. and variance at \$10,000 favorable.



C. L. Wallace

AP00046092

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: G. B. H. Speed Date: December 5, 1968

From: D. V. Lowe Copies:

Re: PVC Monthly Production Report

SUMMARY

Production of prime PVC resins during November totaled 4,009 M lbs. as compared to 4,080 M lbs. budgeted. Of this amount, 3,586 M lbs. (or 89.5%) were general purpose and 423 M lbs. (or 10.5%) were specialty resins. The proportion of specialty resins dropped considerably this month and their drying rates continue to lag the general purpose rates somewhat.

Tailings and off-grade totaled 3.5% of total production, or 0.5% above budget. This is, however, a 1.5% reduction from the previous month.

Seventeen different resin types were produced in 22 separate runs, including nine specialty types.

A 140 M lb. PVC 3185 fusion resin production run showed extreme variations in particle size, as previously experienced, despite a concerted effort from Production and Research and Development personnel to assume greater control. Appropriate lot blends are being rescreened over 140 mesh for fines removal to meet 4185-SP requirements.

Monomer efficiency was 94.6% in November compared with 94.3% during October and the budgeted level of 94%.

Reactor downtime was 17.6% of available hours, up from 13% last month, reflecting the need for cleaning of reactors prior to the PVC 6180 run, and special cleanout efforts on the south drying line to eliminate contamination. Also, time was lost while changing the oil seal in #5 reactor agitator and preparing special charge solutions for the experimental 3185 run.

Bagged production was 49.1% of total prime production, exceeding the budget level of 42.5% by 6.6% of total. This reflects high demand for bagged general purpose types.

All PVC production for the month came from Allied monomer.

AP00046093

Variance of \$35,966 favorable in bulk and \$3,190 unfavorable in packaging totaled \$32,776 favorable, due primarily to VCl price variance, XA monomer inventory adjustment for the year, a credit for overaccrual for reglassing reactors, and a credit for overcharges on depreciation.

STATISTICS

	<u>November</u>		<u>October</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Prime Production, M lbs.</u>				
Month	4,009	4,080	3,903	4,080
Year to Date	44,573	44,880	40,564	40,800
<u>Off-Grade Production</u>				
<u>% of Total</u>				
Month	3.5	3.0	5.0	3.0
Year to Date	3.8	3.0	3.8	3.0
<u>Bulk Production, % of Prime</u>				
Month	50.9	57.5	33.5	57.5
Year to Date	48.3	57.5	48.1	57.5
<u>Shipments, M lbs</u>				
Month - Prime	3,640	--	4,289	--
Month - Off-Grade	161	--	182	--
Year to Date Prime	44,460	--	40,820	--
Year to Date Off-Grade	2,216	--	2,055	--
<u>VCl Efficiency, %</u>				
Month	94.6	94.0	95.3	94.0
Year to Date	95.1	94.0	95.1	94.0
<u>Reactor Availability, % of</u>				
<u>Available Hours</u>				
Month	82.4	--	86.7	--
Average Year to Date	82.0	--	82.0	--

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STATISTICS (Cont'd)

	<u>November</u>		<u>October</u>	
	<u>Actual</u>		<u>Actual</u>	
<u>Reactor Downtime, % of Available Hours</u>				
Mixing Solutions in Reactors	0.4		0.0	
Cleaning & Washing Reactors	9.2		7.0	
Scheduling Charges	1.7		2.9	
Changing Types	0.4		0.6	
Copolymer Production	0.1		0.0	
Slow Recovery	0.4		0.4	
Low Drying Rates and Dryer Line Cleanout	3.1		0.4	
Hydraulic Motor Repairs	0.1		0.2	
Misc. Reactor Maintenance	0.4		0.0	
Dryer Maintenance	0.6		0.6	
Electrical & Instr. Maintenance	0.1		0.0	
Miscellaneous	1.1		1.2	
Experimental Batches	<u>0.0</u>		<u>0.0</u>	
Total	17.6		13.3	
	<u>November</u>		<u>October</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Product Mix, M lbs. Prime Resin</u>				
Group I	2,337	2,154	973	2,154
Group II	1,175	1,010	1,375	1,010
Group III	423	603	608	603
Group IV	0	23	0	23
Group V	74	262	891	262
Group VI	0	32	56	32
Group VII	<u>0</u>	<u>0</u>	<u>(75)*</u>	<u>0</u>
Total	4,009	4,084	3,903	4,084

* Ground resin not included in total

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STATISTICS (Cont'd)Off-Grade and TailingsOff-Grade

<u>Type</u>	<u>Quantity</u> <u>M lbs.</u>	<u>Reason Off-Grade</u>	<u>% of Total</u> <u>Production</u>
1250	2	Contamination	0.05
<u>Tailings</u>	134	----	3.21
<u>Floor</u>			
<u>Sweeps</u>	10	----	0.24
Total	146		3.5

PRODUCTION1000 Series

Types produced: 1200, 1225, 1185, 1230 and 1250.

Five more bulk trucks of PVC 1225 were shipped to Clopay, a new customer, along with 600 lbs. of PVC 1185 in bags. All resin supplied has apparently been satisfactory.

Phillips rejected a total of 52,000 lbs. of PVC 1200 in bulk due to excessive gels. The resin was rerouted to other less critical customers.

Other production was routine

2000 Series

Types produced: 2160, 2200, 2225, and 2250.

Production runs were normal. No conclusions have been drawn, as yet, concerning the effect of catalyst level and the type of buffer salt used in production of PVC 2200 and PVC 2250 upon their resultant quality. Tailings were of normal proportions.

AP00046096

PRODUCTION (Cont'd)2000 Series Cont'd

Wiman Manufacturing returned 11,640 lbs. of PVC 2225 in bulk, presumably because it caused "plate out" in their calendering operations. Reasons for this phenomenon are not concrete and analysis of the problem must be attempted by our R&D personnel before recommendations can be made.

3000 and 4000 Series

Types produced: 3185 and 3225.

No problems were encountered with the 3225 run.

A 140 M lb. production run of PVC 3185 was made consisting of 24 batches to which 6 lot numbers were assigned. The basic recipe remained unchanged throughout the run so that the effect of making "master solutions" of "UY-FE" and "EZ" could be studied. It was thought that elimination of variability in charge weights of all raw materials to individual reactors might provide reproducible end-product results. The test was hampered at first by mechanical difficulties which rendered any conclusions meaningless. Thereafter, good test conditions with use of "master solutions" proved that no increase in control of PVC 3185 is gained with this technique. As a matter of fact, individual batches yielded such varied particle sizes and bulk densities, regardless of raw material addition techniques, that there was clearly no control. Although none of the resultant lots passed screen specifications for 4185-SP, some of this material is being rescreened over the secondary rotex for fines removal, so we may meet 4185-SP sales. It is interesting to note that although the last five batches were run at 75% normal charge size (to lower agitator power requirements) they also exhibited entirely non-reproducible end-product results. In other words, providing rather constant speed of agitation to the reactor from beginning to end of all PVC 3185 batch cycles via utilizing the lower power-draw did not solve the problem. It is our feeling that the problem should be solved by improving our understanding of the effects of changes in "UY-FE-EZ" concentrations.

AP00046097

PRODUCTION (Cont'd)6000 Series

Type produced: 6180

Production of PVC 6180 has been good to the end of the month.

8000 Series

Type produced: 8217

The PVC 8217 run was normal. It was observed that centrifuge wet cake moisture content fell in the range of 25-30%, a definite improvement attributable to speeding up the centrifuge from 1200 to 1400 RPM.

Ground Resin

No resins were ground other than tailings.

MAINTENANCE

Major maintenance items completed during the month of November included the following:

1. Added one 55 gallon drum of detergent oil to the hydraulic oil system, to neutralize the acidity of the system until changeout.
2. Replaced leaking agitator oil seal on #5 reactor.
3. Removed heavy buildup of hardcaked PVC resin on interior of south centrifuge bowl which was causing contamination on the drying line.
4. Installed gutter in wet cake effluent port on south centrifuge to improve feed characteristics to screw conveyor.
5. Removed gutter from south centrifuge wet cake effluent port when discovered that it had caused accumulation of buildup and contributed to contamination.
6. Installed spare 60 HP motor on south centrifuge. Old motor had many shorts and the armature housing was cracked.

AP00046098

MAINTENANCE (Cont'd)

7. Inspected both hydraulic oil pumps and found them to be in good condition.
8. Replaced the discharge lines on both recovery compressors. The old lines were partially plugged causing excessive pressures and lifting of the relief valves.
9. Inspected interior of both recovery compressors. Pistons were found to be in satisfactory condition, but valves and much of the interior compartments are badly corroded.

GENERAL

A new crack has been discovered in the head of the high-pressure water blaster pump. The unit continues to operate satisfactorily at this time, but there is a misunderstanding with the manufacturer concerning which party must stand liable for the cost of repairs. It is our contention that the unit has been properly installed and maintained to date and that the manufacturer should bear such expense.

Increasing the speed of revolution of the south centrifuge has given all appearances of a definite improvement in wet cake moisture content. A reduction of at least 10% in wet cake moisture was experienced during November -- the PVC 8217 run. It is planned to closely scrutinize the up-coming production runs of PVC 8217 and PVC 8200 during December. If this improvement in performance is verified, the north centrifuge should be speeded to 1400 RPM as soon as possible.

A total of 6,000 lbs. of coarse size PVC 2185 was rescreened and upgraded to prime.

The water demineralizer unit was regenerated and put into service for November's PVC 3185 run. Use of DM water yielded no improvement in end-product results. See the PRODUCTION section, subtitle 3000 and 4000 Series, for a more detailed discussion of the 3185 run.

A new drive sprocket has been ordered which will bring about a reduction in the south rotary dryer rotation from 4.35 RPM to 3.63 RPM, a 16.6% reduction. This will constitute an experiment to determine whether an increase in absolute water removal rates is obtainable with an increase in resin retention time within the dryer. The south rotary dryer was chosen to be able

AP00046099

to determine the total effect of centrifuge speed-up and dryer slow-down. If this test indicates any improvement in slurry drying rates over present maximum rates, the revision will be considered for the north line also.

Allied Chemical is reported to be using stainless steel wire screens in their PVC rotexing operations with good results. We now have two stainless, one 80 mesh and one 100 mesh (Nitex series screen opening equivalency), on order for trial within our own plant. They will be tacked onto one primary rotex, grounded to drain off static charges on PVC particles, sprayed with a newly purchased liquid anti-static agent, and observed for possible elimination of "blinding". If we should desire to change over to all stainless steel rotex screens, it would be necessary to purchase additional screen frames or consider installation of new all stainless steel rotex units.

A study of our blend tank agitation problem is nearly complete. It is apparent that better mixing of particle classes throughout the tanks can be achieved by simple replacement of agitator blades with different types. Reports from several vendors are forthcoming and a recommendation awaits these reports. It is hoped that greater in-lot particle size consistency will be the result.

A more complete study of the rotary drying operation has been underway and nears completion. Its purpose has been to determine the current limiting factors on absolute drying rates and make recommendations on the most practical and economical method or methods to raise them (irrespective of any smaller increase which may be gained by speeding the rate of rotation). This would be particularly beneficial to our slower drying specialty PVC types, which we hope to produce in greater proportion eventually. It is clear that some new capital investment would be required, but that the capacity improvement might justify this. The cost estimates can be submitted soon.

A survey of our bulk transfer systems has just been initiated and will progress through the coming weeks. The effort will be geared toward raising the maximum rates of bulk loading and unloading and in-system transfers. This will result in greater economy of operation and lower labor costs. It will also facilitate better versatility of operation since the transfer units would be available more often.

DECEMBER PROJECTIONS

	<u>Projection</u>	<u>Budget</u>
Production, M lbs.	4,080	4,080
Production Cost Variance	\$10,000 Favorable	

AP00046100

VARIANCE ANALYSIS

November production variance is summarized below:

Bulk Production 7421

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
VCI Efficiency	\$ 2,597	Volume Variance	\$ 3,929
VCI Price Variance	17,631	Process Supplies	
By Product Credit	1,802	And Chemicals	1,192
XA Monomer	5,787	Royalties	2,236
Process Costs		Process Costs	
Maintenance	4,268	Salaries	1,554
Taxes & Ins.	1,932	Utilities	1,171
Depreciation	12,155	Laboratory	1,837
		Miscellaneous	4,450
Other	6,163		
	<u>\$52,335</u>		<u>\$16,369</u>

NET BULK VARIANCE \$35,966 FavorablePackaging 7424

Volume Variance	\$ 954	Bags	\$1,244
		Process Costs	
		Salaries	1,309
		Maintenance	696
		Miscellaneous	186
		Other	709
	<u>\$ 954</u>		<u>\$4,144</u>

NET PACKAGING VARIANCE \$3,190 UnfavorableTOTAL PRODUCTION VARIANCE \$32,776 Favorable*D. V. Lowe*

D. V. Lowe

AP00046101

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: C. L. Wallace

Date: December 5, 1968

From: D. J. Mann

Copies:

Re: Monthly Summary
PVC Research & Development
November 1968

OPERATIONS

1. A report, compiling and analyzing the data from the 3185 production run made in October, was prepared and distributed. The conclusions and recommendations reached as a result of Research and Development monitoring the production of 105 batches of 3185 since late August, 1968, were reported in a memo to C. L. Wallace from D. J. Mann, dated November 14, 1968. (References 1 & 2)

2. Another 3185 plant run was made during the period, November 19-23, during which time Research and Development attempted to study the affect of three minor process modifications on batch-to-batch reproducibility, as follows:

- a. The use of a standard masterbatch of recipe ingredients for all batches.
- b. The addition of calcium chloride solution after evacuating the reactor, to minimize foaming and standardize addition procedure.
- c. The reduction of batch size to get more constant agitation during the polymerization cycle.

Twenty-four batches comprising six lots and totaling 140, 150 lbs. of resin, were prepared using recipe T20 in an effort to make 4185-SP. Eleven of the batches were charged from a masterbatch solution of Sulframin 85, Geon 450X3 and calcium chloride. Several of these batches turned out very well; unfortunately, an undetected water leak into the masterbatch solution tank changed the solution concentration and added an unexpected variable to the study. Also, mechanical problems in the centrifuge and dryer caused delay in dropping the product slurries and again interfered with the planned set of controlled experiments.

AP00046102

In an attempt to minimize the agitator speed variance, five batches with a 25% reduction in size were run; however, only three of these five batches gave constant speed agitation at 130 RPM. Although it was not possible to draw any conclusions from only three batches, the results were not encouraging. This approach may be worth further study.

A compilation and analysis of the data is currently underway. When completed, this report will be reviewed with Production and a plan for the next 3185 run will be developed jointly.

3. A follow-up visit to Lakeside Plastics, Oshkosh, Wisconsin, was made by Mr. F. L. Riddle, Jr. on November 11 to evaluate the 8200 plastisol extender resin in a plant trial. The trial was an unqualified success and we are anticipating that the customer will switch from Geon 106-F-2 to 8200 before the end of the year (Reference 3)

4. This same product (8200) was also evaluated as an extender resin for expanded vinyl flooring in a trial at the Prescott, Arkansas plant of Robbins Floor Products. No problems were encountered and, if further runs with the remainder of the 2000 pound shipment of resin prove conclusive, 8200 should replace the Borden VC-260S resin in the near future. (Reference 4)

Tentative product specifications for 8200 were issued by Research and Development.

5. A visit to Mr. Warren Sechrist of Elm Coated Fabrics was made by Mr. R. E. Weston and the undersigned on November 18 to discuss joint efforts on the evaluation of medical grade tubing and bottle resins. Good rapport was established between Escambia and Elm Coated personnel and meetings with the latter's customer for medical tubing will be arranged for December. (Reference 5)

6. A meeting was held on November 7 between Research and Development and Market Development personnel to review laboratory data on 2185 and develop a future plan of action for the Armstrong bottle resin program. As a result of this meeting, seven additional samples of 2185 were submitted to Armstrong and tentative plans for visiting their customer during the week of December 8 have been made. (Reference 6)

7. Decreased Technical Service activity occurred during November due to Mr. P. R. Browne's temporary transfer to other functions during part of the month. The following work was accomplished:

Customer Complaints

During November, work was initiated on two formal customer

AP00046103

Customer Complaints (Cont'd)

complaints (numbers 35 and 37).

Technical Service Requests

The following Technical Service Requests were completed:

Armstrong Cork
Elm Coated Fabrics

Customer Inquiries

Approximately ten customers were provided with technical information/data.

Samples

Twenty-two PVC samples (115 pounds total) were sampled to nine customers.

Three PVC compounds (8 pounds total) were sampled to two customers.

FACILITIES

1. Research and Development Building

Polymerization Laboratory -- completion is programmed for late December.

General and Constant Humidity Laboratories -- Laboratory benches will be shipped from Houston, Texas, by December 16,

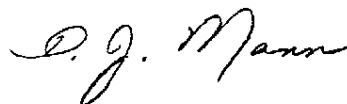
2. Pilot Plant

The foundation has been completed and the prefabricated building shell is due momentarily. The completion of the facility is still scheduled for early January, 1969.

AP00046104

FUTURE PLANS

1. A report on the November 3185 run will be issued and reviewed with Production prior to the next run of 3185.
2. The next 3185 run (scheduled for mid-December) will be followed closely by Research and Development, in an attempt to gain better batch-to-batch control.
3. Technical reports will be prepared reviewing the research and development history of both the extrusion and solution grades of Escambia's Saran, along with an R&D assessment of this technology.
4. A visit to Armstrong Cork on bottle resins is tentatively planned for the week of December 8.
5. A visit to Elm Coated Fabrics on medical grade resins is tentatively planned for the latter part of December.
6. Recruitment activity directed toward acquiring a Technical Services Supervisor will be intensified during December.



D. J. Mann

- | | |
|--------------------|--|
| <u>Reference 1</u> | Memo to D. J. Mann from F. L. Riddle, titled "Production 3185-LG, 10/3/68 - 10/12/68", dated November 12, 1968. |
| <u>Reference 2</u> | Memo to C. L. Wallace from D. J. Mann, titled "3185 Production", dated November 14, 1968. |
| <u>Reference 3</u> | Memo to File from F. L. Riddle, Jr., titled "Lakeside Plastics, Oshkosh, Wisconsin", dated November 12, 1968. |
| <u>Reference 4</u> | Memo to File from F. L. Riddle, Jr., titled "PVC 8200 Evaluation at Robbins", dated November 20, 1968. |
| <u>Reference 5</u> | Memo to C. L. Wallace from D. J. Mann, titled "Visit to Elm Coated Fabrics, November 18, 1968", dated November 26, 1968. |
| <u>Reference 6</u> | Letter to Mr. Don Straub, Armstrong Cork Company, from D. J. Mann, dated November 25, 1968. |

AP00046105

Mr. Carey

AGRICULTURAL CHEMICALS DIVISION

MONTHLY REPORT

December, 1968

AP00046106

PERSONNEL

AP00046107

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: January 7, 1969

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - December, 1968

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 11/30/68</u>	<u>Dec. Addit.</u>	<u>Dec. Separa.</u>	<u>No. of Employees 12/31/68</u>	<u>Dec.* 1968 Budget</u>
Executive Office	4	0	0	4	5
Accounting & Credit	44	1	1	44	50
Plant & Wilton Labs. & Planning & Dev.	39	1	0	40	46
Plant Admin. & Process	208	2	3	207	214
Plant Engr. & Maint.	126	0	1	125	133
Personnel & Safety	12	0	0	12	12
Purchasing & Traffic	29	0	1	28	30
Sales - Agri. Chem.	161	2	2	161	166
Sales-Ind. Chem. & PVC	<u>14</u>	<u>0</u>	<u>0</u>	<u>14</u>	<u>16</u>
Total Escambia	637	6	8	635	672

* As Amended

<u>Carroll Construction Company</u>	<u>No. of Employees 11/30/68</u>	<u>No. of Employees 12/31/68</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	7	8
Yardmen	2	2
Trashmen	2	2
Laborers	7	8
Janitors	7	7
Painters	<u>7</u>	<u>7</u>
Total Maintenance	35	37

AP00046108

PERSONNEL (Cont'd.)

<u>Carroll Construction Co.</u>	<u>No. of Employees</u> <u>11/30/68</u>	<u>No. of Employees</u> <u>12/31/68</u>
PVC Laborers	8	8
Area B Laborers	25	30
Railroad Crew	<u>1</u>	<u>1</u>
Total Carroll Construction	71	78
	<u>637</u>	<u>635</u>
Grand Total	708	713

We had a total of 73 walk-in applicants, 58 applications were issued and 12 were received by mail. Thirty-two applicants were interviewed and 26 were tested.

SAFETY

The Corporation worked approximately 120,000 man-hours during the month.

The approximate man-hours and the days worked to date without a lost time injury are as follows:

<u>Division</u>	<u>Man-hours</u>	<u>Days</u>
New York Office	442,000	2,706
Research	1,069,000	4,186
Sales	67,000	71
Pensacola Plant	213,000	74
Corporation	278,000	71

Medical Section

The Medical Section treated 21 injuries for Escambia and 9 for Carroll, performed 4 pre-employment and 12 annual physicals and gave a total of 25 immunization injections.

TRAINING

We held one Trackmobile class in which three operators were licensed and one license was refused.

EMPLOYEE RELATIONS

One (1) 5-year service award was presented.

Two (2) 10-year service awards were presented.

AP00046109

EMPLOYEE RELATIONS (Cont'd.)

Annual Children's Christmas Party was held on December 21, 1968 with 184 adults and 288 children in attendance.

LABOR RELATIONS

Gulf Power's contract with the IBEW has been renewed effective August 15, 1968 with the following changes:

5.5% increase retroactive to August 15, 1968.

5.2% increase effective August 15, 1968.

An additional holiday to be the employee's birthday -- this gives them a total of eight per year.

The union activity in the nonunion plants in the Pensacola area declined during the month of December. In all probability there will be no further push on union activities until the spring.

INSURANCE

We paid a total of 74 claims under our Group Hospitalization program which amounted to a total of \$ 17,290.44 during the month of December.

The claim submitted to Travelers for damage by spent acid to leased tank cars has been settled. Travelers agreed to the payment of the damages but not to the cost of investigation. Total recovery will be \$ 35,252 out of the total claim of \$ 37,968. Payment will be received within the next 10 days.

We settled the following claims during the month:

Two Manufacturers Output claims in amount of \$ 3,794.69.

One Comprehensive Commercial Bond claim in amount of \$ 100.30.

One Auto Liability claim in amount of \$ 21.71.


E. M. Spurllock

EMS:kc

AP00046110

C. L. Wallace

-6-

January 5, 1969

- Reference 5 Memo to D. J. Mann from P. R. Browne, titled "Wiman Manufacturing Company, Complaint #35, Bulk PVC 2225", dated December 19, 1968.
- Reference 6 Memo to D. J. Mann from P. R. Browne, titled "Ohio Sealer (Zapata) Complaint #37, dated December 5, 1968.

AP00046111

To: T. L. Carey Date: January 5, 1969

From: C. L. Wallace Copies:

Re: PVC Monthly Summary
December 1968

Although shipments were below forecast, PVC Operations showed a net income before F.I.T. of \$19 M. The volume losses were in the general purpose resins. Plastisol extenders, copolymers and other specialty resin sales continued strong. Purchases from Allied lagged behind schedule; this condition is promised to be up to date by 1/31/69. Volume poundage was thereby lost to a few accounts (ITT, Goodyear).

The latest sales forecast for 1969 was computed and sent to the individual salesmen for their review. We apparently have sales for 10 MM pounds of resin beyond the 12 MM pound purchase arrangement.

MARKETING

Although shipments were expected to be short in December due to the holiday shutdowns and year-end inventory depletions, they were actually lower than anticipated (4,126 M lbs. vs. 4,710 M lbs. in November). The loss in shipments, however, was in general purpose resin rather than the higher priced specialties.

AP00046112

MARKETING (Cont'd)

Specialty sales (3000 series through 9000 series), in spite of the overall sales volume decrease, were 982,000 lbs. as against 963,000 in November.

Major outages for the month were at Robbins for 300 M lbs., USM Chemical for 130 M lbs., and Elm Coated for 140 M lbs. Industrial Vinyl of Florida was also short by 100 M lbs. but for credit reasons imposed by us. Robbins was apparently making a special effort to minimize year-end inventory. As of January 2 we had "rush" orders to ship at once totaling 250,000 lbs.

For the entire year 1968, although the poundage per se does not approach that of general purpose resins, a growth comparison with 1967 is of interest.

<u>Type</u>	<u>Orders Shipped - M lbs.</u>		
	<u>1968</u>	<u>1967</u>	<u>% Increase</u>
1000 General Purpose	28,856	26,943	7.1
2000 General "Pearls"	11,815	11,634	1.6
3000 Special "Pearls"	2,289	1,647	39.0
4000 Fusion Resins	1,109	927	19.6
6000 Copolymers	5,582	3,636	53.5
8000 Plastisol Extenders	1,275	124	928.2
Off-Grade and Other	1,479	3,006	(50.8)
Totals	52,405*	47,917	9.4

*Represents a new high; previous high: 1966 -- 50.2 MM lbs.

Revised 1969 sales forecasts by individual salesmen have been returned to the salesmen for their comments. These forecasts indicate that we could sell about 10 MM lbs. of resin over and above the 12MM lbs. purchased resin commitments from Allied.

Sales for January are forecast at 4,746 M lbs.

PRODUCTION

Production for the month was 4,279 M lbs., exceeding budget by 199 M lbs. Off-grade was limited to 34 M lbs. of PVC 6180 or 0.8% of production.

AP00046113

PRODUCTION (Cont'd)

Production variance for December was \$54,640 favorable, of which approximately \$18 M was due to monomer price reduction. Reactor downtime was 15.9% of available hours showing an improvement over last month. Part of this efficiency improvement can be attributed to a long (approximately 2 weeks) uninterrupted run of the fusion resin.

Monomer efficiency was 95.6% exceeding the budgeted 94.0%.

Of major importance was the highly successful run of fusion resin, PVC 4185-SP, during December. Out of a total of 71 batches produced, 67 met the critical SP specification. The success of the run can be attributed to the use of a less sensitive recipe and constant monitoring by both Research and Production personnel to assure reproducibility in the procedure.

Major problems were encountered during the month with the production of PVC 6180 meeting the bulk density specifications. A number of recipe changes were made without success. This run, watched closely by Research, will be studied for changes in recipe or procedure during the next run.

The status of process improvement projects are as follows:

1. Blend Tanks

New agitator blades with a partial pitch design have been ordered for trial in one blend tank. The new blades should improve agitation to prevent classification of resin particles.

2. Centrifuge Speed

Additional data substantiates the early results showing a 10% reduction in wet cake moisture with the increase in centrifuge speed. However, no increase in dryer feed rate has been obtained probably due to the fact that the moisture reduction is from the surface rather than from within the PVC particles which limits drying rates.

3. Dryer Speed and Stainless Steel Screens

As of this writing the dryer rotation is being reduced from 4.35 to 3.63 RPM, and a stainless steel screen is being installed on the primary rotex in an effort to increase drying rates.

AP00046114

PRODUCTION (Cont'd)

4. Bulk Transfer

An inexpensive vent bag and a spare higher horsepower motor are being installed on the bulk transfer system to increase the capacity of the system.

Plant production for January is forecast at 4,100 M lbs. and variance at \$2,000 favorable. Maintenance costs are expected to exceed budget due to a complete overhaul of the freight elevator.

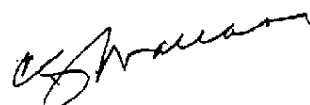
RESEARCH AND TECHNICAL SERVICE

Major effort during the month was concentrated on the successful production of PVC 4185-SP previously mentioned, plus following the production problems with PVC 6180.

A visit was made with Sales to Armstrong Cork to witness plant trials on PVC 2185 resin for bottles. The results of the trials indicate that there is little correlation between bulk density or particle size distribution and acceptable bottle resin.

A complete literature search of Escambia's saran technology was compiled during the month.

The pilot plant and the constant temperature/humidity rooms are estimated to be ready for work prior to the end of January.


C. L. Wallace

AP00046115

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: G. B. H. Speed Date: January 5, 1969

From: D. V. Lowe Copies:

Re: PVC Monthly Production Report

SUMMARY

Production of prime PVC resins during December totaled 4,279 M lbs., as compared to 4,080 M lbs. budgeted. Of this amount, 3,554 M lbs (or 83.0%) were general purpose and 725 M lbs. (or 17.0%) were specialty resins. The proportion of specialty resins improved somewhat this month and drying rates showed similar improvement.

Tailings and off-grade totaled 3.0% of total production, or equal to budgeted off-grade. This represents a reduction of 0.5% from the previous month.

Twelve different resin types were produced in 17 separate runs, including three specialty types.

A 476 M lb. production run of PVC 3185 fusion type was successfully made, with 60 M lbs. being labeled as 3185 and 416 M lbs. of resin meeting 4185-SP requirements. The success of the run was attributed to a return to previous recipes and operating instructions and careful monitoring of the process at all times to insure proper procedures.

VCl monomer efficiency was 95.6% in December, compared with 94.6% in November and the budgeted level of 94%.

Reactor downtime was 15.9% of available hours, down from 17.6% in November, primarily due to improved drying rates for 3185 type. Time for cleaning and washing reactors remained high to augment quality control during the specialty production runs.

Bagged production was 65.8% of total prime production, exceeding the budget level of 42.5% by 23.3% of total. This reflects high demand for both general purpose and specialty types on bags.

All PVC production for the month came from Allied monomer.

AP00046116

Variance of \$ 57,725 favorable in bulk and \$3,085 unfavorable in packaging totaled \$ 54,640 favorable due primarily to a) monomer price \$18,500, b) monomer efficiency \$2,000, c) volume variance \$13,400 and d) depreciation, taxes and insurance credits \$26,600

STATISTICS

	<u>December</u>		<u>November</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Prime Production, M lbs.</u>				
Month	4,279	4,080	4,009	4,080
Year to Date	48,852	48,960	44,573	44,880
<u>Off-Grade Production</u>				
<u>% of Total</u>				
Month	3.0	3.0	3.5	3.0
Year to Date	3.7	3.0	3.8	3.0
<u>Bulk Production, % of Prime</u>				
Month	34.2	57.5	50.9	57.5
Year to Date	47.1	57.5	48.3	57.5
<u>Shipments, M lbs.</u>				
Month - Prime	3,792	--	3,640	--
Month - Off-Grade	59	--	161	--
Year to Date - Prime	48,252	--	44,460	--
Year to Date Off-Grade	2,275	--	2,216	--
<u>VCl Efficiency, %</u>				
Month	95.6	94.0	94.6	94.0
Year to Date	95.1	94.0	95.1	94.0
<u>Reactor Availability, % of</u>				
<u>Available Hours</u>				
Month	84.1	--	82.4	--
Average Year to Date	82.0	--	82.0	--

AP00046117

STATISTICS (Cont'd)

<u>STATISTICS (Cont'd)</u>	<u>December</u>	<u>November</u>
	<u>Actual</u>	<u>Actual</u>
<u>Reactor Downtime, % of</u>		
<u>Available Hours</u>		
Mixing Solutions in Reactors	0.1	0.4
Cleaning & Washing Reactors	8.8	9.2
Scheduling Charges	3.2	1.7
Changing Types	1.3	0.4
Copolymer Production	0.0	0.1
Slow Recovery	0.3	0.4
Low Drying Rates and Dryer Line Cleanout	0.8	3.1
Hydraulic Motor Repairs	0.1	0.1
Misc. Reactor Maintenance	0.3	0.4
Dryer Maintenance	0.0	0.6
Electrical & Instr. Maintenance	0.5	0.1
Miscellaneous	0.5	1.1
Total	15.9	17.6

	<u>December</u>		<u>November</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Product Mix, M lbs. Prime Resin</u>				
Group I	1,794	2,154	2,337	2,154
Group II	816	1,010	1,175	1,010
Group III	725	603	423	603
Group IV	0	23	0	23
Group V	944	262	74	262
Group VI	0	32	0	32
Group VII	0	0	0	0
Total	4,279	4,084	4,009	4,084

AP00046118

STATISTICS (Cont'd)Off-Grade and TailingsOff-Grade

<u>Type</u>	<u>Quantity, M lbs.</u>	<u>Reason Off-Grade</u>	<u>% of Total Production</u>
6180	34	High Sed. No.	0.77
<u>Tailings</u>	97		2.2
<u>Floor Sweeps</u>	<u>0</u>		<u>0.0</u>
Total	131		3.0

PRODUCTION1000 Series

Types Produced: 1200, 1217, 1225, 1230, 1250.

Production runs were normal.

Elm Coated Fabrics rejected 11,080 lbs. of PVC 1200 because of inadequate storage space and Phillips Film Company rejected and returned 39,400 lbs. of bulk PVC 1250 due to contamination and marginal fisheyes.

2000 Series

Types Produced: 2200, 2225, and 2250.

Production runs were normal.

Ohio Sealer & Chemical Corporation rejected 30 M lbs., and returned 28 M lbs., of PVC 2250 to the New Jersey warehouse because it would not work in dry blends. Also, Cabrera Vulcan Shoe Corporation rejected 34.65 M lbs. of PVC 2225, lot numbers 3368 and 3374, which was sold to another customer. The material would not dry blend.

AP00046119

PRODUCTION (Cont'd)3000 and 4000 Series

Types Produced: 3185 and 4185-SP

December's PVC 3185 production run yielded 60 M lbs. of 3185 type and 416 M lbs. of good 4185-SP to meet Texon demands. Tailings amounted to 26 M lbs. Prior to the run, Production and R&D personnel met and decided that an old recipe utilizing monobasic calcium phosphate instead of anhydrous calcium chloride to produce the suspending media should be tried along with old operating procedures. It was agreed, further, that all charging operations should be constantly monitored to provide reproducibility in procedures and eliminate variables. The run was very successful with only four batches out of a total of 71 exhibiting excessive fines. These four batches were isolated in a blend tank reserved for such a purpose and dried separately, thus negating possibility of downgrading many good batches. This new procedure for 4185-SP production will be retained as long as no difficulties occur. A report will be issued describing the December 3185 run.

6000 Series

Type produced: 6180.

Two runs were made. The first run early in the month was good, but the second run saw much difficulty in controlling particle size and bulk density. Although only 16 M lbs. of tailings and 34 M lbs. of off-grade were produced, many of the 944 M lbs. of prime 6180 produced were of low bulk density. Recipe changes toward the end of the second run brought about much improvement, but the next run will be studied closely. Research and Development will issue a report summarizing the second run.

8000 Series

Types produced: 8217 and 8200

Both production runs were normal. It is noted that although higher centrifuge speed has yielded lower 8217 and 8200 wet cake moisture content, it has not brought about higher slurry feed rates to the finishing building for these types. Apparently, with present heat input, the rotary dryer is limited by some factor other than free moisture in the cakes of these resin types.

AP00046120

PRODUCTION (Cont'd)Ground Resin

No resins were ground other than tailings.

MAINTENANCE

Major maintenance items initiated or completed during the month of December included the following:

1. A leak has developed in the underground hydraulic system of the reactor building elevator. The elevator will be out of service until January 11 or thereabouts.
2. Re-installed wet cake effluent gutter in the south centrifuge prior to runs of fine particle size resins. Removed it once again when contamination occurred.
3. Excessive vibration and sheared pins in south centrifuge forced shutdown to remove buildup on interior of screw.
4. Will schedule painters to paint the inside of #4 silo when possible. Interior of silo is rusty.
5. Instrument mechanics adjusted or repaired many reactor temperature controllers.
6. Changed out #8 reactor agitator motor. Thereafter, it was necessary to replace draw bar and "O" rings in the new #8 reactor agitator motor.
7. Cleaned rotary valve under south dryer product collector and installed new blades on the valve.
8. Ground off bad glass on #7 reactor manway to get a better gasket seal and stop VCl leaks.
9. Fabricated and installed a new discharge line on the south recovery compressor.

AP00046121

GENERAL

To date, use of the wet cake effluent gutter in the south PVC centrifuge has proven unsuccessful, since contamination of the resin results with each trial. Improper clearances within the machine at point of application of the gutter may cause milling of resin and thus contamination. Bird Machinery Company has been contacted and services of one Bird engineer have been purchased to supervise installation of the effluent gutter in January.

Much data has been gathered in an attempt to confirm improvements in south centrifuge performance since increasing RPM's. The data, as reported in Memorandum, D. V. Lowe to File, "Results of South Centrifuge Speed-Up", dated December 26, 1968, shows that wet-cake moisture content of each type studied has indeed been reduced. However, no increase in slurry feed-rate capability seems to result from the wet-cake reduction. No conclusions have as yet been formed.

During December, PVC 3185 amounting to 68.4 M lbs. was re-screened over 140 mesh for fines removal and upgraded to 4185-SP.

In the past month, our plant received returned 4185-2S, -3S, -SP, and 4225-3S totaling 32.65 M lbs. from the Central Port Warehouse in bags. Some of the bags were damaged and others were old lots. A total of 5.9 M lbs. of the returned material was downgraded to floor sweeps.

Necessary materials have been received and plans have been formed to carry out two experimental revisions of equipment in the south PVC drying line. Prior to drying January's PVC 8200 run, a new reducer drive sprocket will be installed in the south rotary dryer drive train. Effects of slower rotation upon drying rates will be studied. Also, an attempt will be made to screen the same 8200 run through a 304 stainless steel screen on the primary rotex. Hoped for improvement here is elimination of static "blinding" and better screening rates.

Dow-Corning silicone grease number 44 is now being applied to the interior of several reactor rupture discs to ascertain whether buildup of heavy polymer on these items can be reduced during normal operations. Reduced usage of replacement discs and elimination of a potential safety hazard are the goals.

A work request has been issued to the electrical department for replacement of the existing 20 HP motor on the north bulk system vacuum blower with a 25 HP motor. It is felt such a change may improve the vacuum attainable in transfer lines under storage silos and upgrade transfer rates. Concurrently, a single large dacron collector bag will be installed on railroad bulk cars to allow exhausting conveyor air to bypass the existing railroad dust collectors. One dacron bag is now on order.

An order has been placed with Chemineer, Inc., for delivery of two new stainless steel agitator impellers suitable for installation on our PVC blend

AP00046122

GENERAL (Cont'd)

tank agitation units. The impellers are of four blades each, 44" overall diameter, with pitched-blade design. They have been specified to improve efficiency of PVC slurry agitation in blend tanks prior to drying. These first two impellor assemblies will be installed in #3 blend tank as soon as feasible.

The production department is now working with plant engineering on a firm cost estimate for PVC rotary dryer improvements. The original proposal for dryer improvement as submitted by this writer has been modified to include both dryers versus one only. Likewise, the firm estimate will detail costs including replacement of primary rotex screeners on both lines. Replacement of these items is believed necessary to handle increased dryer yields. A Rigidbilt Company representative has visited this plant and confirmed prices and expected performance of the subject 600-PSIG steam coils for heating process air.

JANUARY PROJECTIONS

	<u>Projection</u>	<u>Budget</u>
Production, M lbs.	4,000	3,660
Production Cost Variance	\$2,000 Favorable	

VARIANCE ANALYSIS

December production variance is summarized below:

Bulk Production (7421)

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
VCI Efficiency	\$ 2,089	XA Monomer	\$ 1,688
VCI Price Variance	18,492	Process Supplies	
By-product Credit	4,034	and Chemicals	1,444
Volume Variance	13,376	Royalties	2,001
Process Costs		Process Costs	
Salaries	1,844	Utilities	2,884
Maintenance	6,202	Laboratory	5,307
Depreciation	22,388		
Taxes & Ins.	4,214		
Miscellaneous	9,785	Other	11,375
	<u>\$82,424</u>		<u>\$24,699</u>

AP00046123

VARIANCE ANALYSIS (Cont'd)NET BULK VARIANCE \$57,725 FavorablePackaging (7424)

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
Volume Variance	\$4,581	Bags	\$ 812
Process Costs		Process Costs	
Miscellaneous	942	Salaries	1,807
		Maintenance	66
		Mat. & Supplies	2,155
		Other	3,768
	<u>\$5,523</u>		<u>\$8,608</u>

NET PACKAGING VARIANCE \$3,085 UnfavorableTOTAL PRODUCTION VARIANCE\$54,640 Favorable*D. V. Lowe*

D. V. Lowe

AP00046124

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: C. L. Wallace Date: January 5, 1969

From: D. J. Mann Copies:

Re: Monthly Summary
PVC Research & Development
December, 1968

OPERATIONS

1. A report compiling and analyzing the data from the 3185 production run made in November was prepared and distributed. (Reference 1)

2. A highly successful 3185 production run was carried out during December yielding completely satisfactory material in all but four batches out of 71. This represented approximately 416,000 lbs. of 4185-SP and several thousand pounds of 4185-3S (not ground).

One of the older 3185 production recipes (T14), which had given some success in the past, was tried again. It is very similar to more recent recipes except that it uses monobasic calcium phosphate in place of calcium chloride. Two slight modifications were made to T14, as shown below:

	<u>T14</u>	<u>T14-1</u>	<u>T14-1(A)</u>
Well Water	230	230	230
VCl	100	100	100
Sulframin 85	0.09	0.09	0.09
MBCP	0.28	0.28	0.26
Lauroyl Peroxide	0.16	0.16	0.16
Geon 450 X 3	1.3	1.1	1.1
TCE	0.8	0.8	0.8

Recipe T-14 was used for the first four batches, two of which were too fine and therefore out of specification. Recipes T14-1 and T14-1(A) were used for the remainder of the run with no problems. Recipe T14-1(A), which has a slightly lower salt level, was used to lower the bulk density. It would seem logical to continue with recipe T14-1(A) for the next 4185-SP run.

AP00046125

OPERATIONS (Cont'd)

It was hoped that the Geon latex level could have been increased to 1.4 and an attempt made to prepare micropearls at the end of this run. Time and the need for other more pressing products did not permit this. Every effort will be made during the next 3185 run to program a portion for 4185-M material.

3. A 6180 run (74 batches) was closely monitored during December. The product had a lower bulk density than desired (~ 25 lbs./cu.ft. vs. 28-32 lbs./cu.ft.), and the batch-to-batch reproducibility was not good. The agitation was again a source of trouble, completely stopping in 17 batches and slowing down in almost all the others.

Efforts to change the recipe and make a higher bulk density, more reproducible product were not successful. Recipe Y7 was the first recipe tried since it had given a very satisfactory product the previous month. Many recipe modifications were made and a detailed report is being written on the results.

4. Messrs. F.G. Mendrey, V.J. Grande, and the undersigned visited the Armstrong Cork Company in Lancaster, Pa., on December 19 to witness additional plant trials of 2185 resin. During the visit, production trials of seven different lots of 2185, five of which had been scalped on a 40 mesh screen, were conducted. One lot which had previously been considered borderline, was accepted and two others, which had previously been rejected, were still rated unacceptable, though marginally so. From the results obtained, there appeared to be little correlation between lot acceptability and bulk density or particle size distribution, leading to the tentative conclusion that other factors such as cross-contamination and machine characteristics might be significant determinants of bottle quality.

Recommendations on how best to meet Armstrong's requirements in future production runs were made in a trip report prepared by the undersigned. (Reference 2)

5. A visit was made to Robbins Floor Products, Tuscumbia, Alabama, on December 16 and 17, by Mr. P.R. Browne to evaluate a complaint of excessive fines in a bulk shipment of 1200 series resin. Screen analyses run on-site showed the resin to be somewhat finer than normal, but not so fine as to warrant rejection of the shipment. The Robbins personnel concurred with these findings and agreed to accept the shipment without qualification. Recommendations were made regarding future shipments of 1200 series resin to Robbins. (Reference 3)

AP00046126

OPERATIONS (Cont'd)

6. A literature search of all Escambia saran technology was made and compiled into a detailed report. It covers the work done between 1957-1968 and includes all technical data on record. This report will be published and distributed by January 15.

7. The following work was accomplished in Technical Service during December.

Customer Complaints

During this period, work was completed on three customer complaints as follows:

a) Complaint #34

Ohio Sealer returned 12,800 pounds of 4185-2S because the resin would not fluidize properly.

Work done by Quality Control showed that fluidization with the returned material was comparable to other 4185-2S blends. Oil absorption was also run by Quality Control and found to be acceptable.

The cause for the fluidization problem could have been due to the slightly lower bulk density of this lot and/or the fact that this lot was manufactured directly in the reactor without grinding. (Reference 4)

b) Complaint #35

Wiman Manufacturing Company returned 11,400 pounds of 2225 due to plate-out and excessive gassing.

A sample taken from the material returned was completely reanalyzed and found to be well within specifications. Being temporarily out of inventory and faced with the necessity of meeting a shipping date, this lot was re-shipped to Wiman along with new production 2225, as one compartment of four. Wiman will be asked to use the material by compartments so that we can get a double-check on the processability of the returned resin. (Reference 5)

AP00046127

OPERATIONS (Cont'd)c) Complaint #37

Ohio Sealer reported that they were unable to make a good dry blend with 2250, Lot 3753, due to the fact that the resin would not absorb the plasticizer as it normally does.

Technical Service investigated the problem and found that the above lot would not free-flow, presumably due to a high static-charge. The static-charge was removed by 1) adding carbon black, 2) spraying with an anti-static spray, and 3) passing steam over the resin.

Ohio Sealer was informed of this and will try the resin again after breaking the static-charge.

Samples

A total of 43 PVC samples (240 lbs.) was sampled to 17 customers.

FACILITIES1. Research and Development Building

Polymerization Laboratory -- explosion-proof motors will be delivered during the week of January 6, 1969.

General and Constant Humidity Laboratories -- laboratory benches will be delivered during the week of January 13.

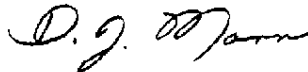
2. Pilot Plant

Considerable progress was made towards the completion of the pilot plant. The facility is expected to be operable by mid-January using the 50 gallon reactor. The 10 gallon reactor should be delivered and operable by the end of January. Several applicants were interviewed for employment as pilot plant technicians, and one man has accepted a position here.

AP00046128

FUTURE PLANS

1. A report on the last 6180 production run will be issued.
2. A report on Escambia saran technology will be published and distributed.
3. Six lots of 2185 will be further screened through 45 mesh for additional plant trials at Armstrong Cork.
4. The next 2185 production run will be monitored closely by Research and Development in an effort to insure the manufacture of bottle-grade resin acceptable to Armstrong Cork.
5. Other select production runs (6180, 8200, etc.) will be followed closely in an attempt to learn more about the variables affecting batch-to-batch reproducibility.
6. An activity plan for the Pilot Plant will be prepared.
7. Two more technicians will be hired -- one for the Pilot Plant, and one for the Technical Service Laboratory.
8. Recruitment activity directed towards hiring a Technical Service Supervisor will be continued at an accelerated level.


D.J. Mann

- | | |
|-------------|---|
| Reference 1 | Memo to D.J. Mann from F.L. Riddle, titled "3185-LG Production, 11-19-68 to 11-23-68", dated December 5, 1968. |
| Reference 2 | Memo to C.L. Wallace from D.J. Mann, titled "Visit to Armstrong Cork Company, Lancaster, Pa.", dated December 22, 1968. |
| Reference 3 | Memo to C.L. Wallace from P.R. Browne, titled "Robbins Floor Products, Tuscumbia, Alabama", dated December 19, 1968. |
| Reference 4 | Memo to D.J. Mann from P.R. Browne, titled "Customer Complaint #34, Poor Fluidization at Ohio Sealer", dated December 11, 1968. |

AP00046129

C. L. Wallace

-6-

January 5, 1969

- Reference 5 Memo to D. J. Mann from P. R. Browne, titled "Wiman Manufacturing Company, Complaint #35, Bulk PVC 2225", dated December 19, 1968.
- Reference 6 Memo to D. J. Mann from P. R. Browne, titled "Ohio Sealer (Zapata) Complaint #37, dated December 5, 1968.

AP00046130

AGRICULTURAL CHEMICALS DIVISION

MONTHLY REPORT

January, 1968

AP00046131

Personnel

AP00046132

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: February 5, 1968

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - January, 1968

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 12/31/67</u>	<u>Jan. Addit.</u>	<u>Jan. Separa.</u>	<u>No. of Employees 1/31/68</u>	<u>Jan. 1968 Budget</u>
General & Admin.	40	5	2	43	47
Research	52	1	1	52	58
Agri. Chemicals	151	8	5	154	179
Ind. Chemicals	14	1	0	15	15
Production	<u>391</u>	<u>3</u>	<u>6</u>	<u>388</u>	<u>400</u>
Total Escambia	648	18	14	652	699

<u>Carroll Construction Co.</u>	<u>No. of Employees 12/31/67</u>	<u>No. of Employees 1/31/68</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	4	4
Yardmen	2	2
Trashmen	2	2
Laborers	5	8
Janitors	6	6
Painters	8	8
Welders	0	1
Pipe Fitters	<u>0</u>	<u>1</u>
Total Maintenance	30	35
PVC Laborers	9	9
Area B Laborers	20	18
Truck Drivers (Traffic)	3	3
Railroad Crew	<u>1</u>	<u>1</u>
Total Carroll	65	68

AP00046133

Monthly Report
PERSONNEL (Cont'd.)

-2-

February 5, 1968

	<u>No. of Employees</u> <u>12/31/67</u>	<u>No. of Employees</u> <u>1/31/68</u>
Grand Total	713	720

There were 70 walk-in applicants, 68 applications were issued and 5 were received by mail. Twenty-four applicants were interviewed and 22 were tested.

SAFETY

The Corporation worked approximately 120,000 man-hours during the month.

The approximate man-hours and days worked to date without a lost time injury are as follows:

<u>Division</u>	<u>Man-hours</u>	<u>Days</u>
New York Office	425,500	2,371
Research	1,010,000	3,851
Sales	181,500	177
Corporation	774,000	177

The P.V.C. Plant completed eleven years without a lost time injury.

Medical Section

The Medical Section treated 18 injuries for Escambia and 5 for Carroll, performed 3 pre-employment and 13 annual physicals and gave a total of 24 immunization injections.

EMPLOYEE RELATIONS

Twenty-five (25) 5-year service awards were presented.

One (1) 10-year service award was presented.

TRAINING

We gave the four tests as mentioned in our last report and these are now being graded preparatory to being sent to Mr. John Quay in New York.

INSURANCE

We paid a total of 85 claims under our Group Hospitalization program which amounted to a total of \$ 15,414.51 during the month of January.

AP00046134

INSURANCE (Cont'd.)

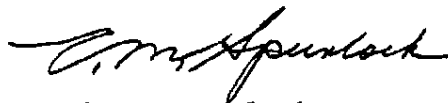
In reference to the leaking tank cars, Shippers Line informed us that, as a result of their investigation, they felt that the spent acid loaded and unloaded at the Pensacola Plant was the primary reason for the deterioration of their tank cars. The representatives from Shippers were in the plant and they stated that their best estimate of the amount of damages would be approximately \$ 40,000. We informed them as to the information we need for an insurance claim. We have advised our carrier of these facts.

Workmen's Compensation First Retrospective Adjustment for years 1964 - 1967 resulted in a return premium of \$ 19,717. Our Workmen's Compensation Insurance is written under a retrospective rating plan in which we are credited with good experience and penalized for poor experience. This is a credit to all of our employees in establishing a good accident prevention program.

We settled the following claims during the month of January:

Five Auto Physical Damage claims in the amount of \$ 842.45.

One Comprehensive Commercial Bond claim in the amount of \$ 50.19.



E. M. Spurlock

EMS:kc

AP00046135

AGRICULTURAL CHEMICALS DIVISION

MONTHLY REPORT

January, 1969

AP00046136

PERSONNEL

AP00046137

ESCAMBIA CHEMICAL CORPORATION

Interoffice Memorandum

To: Mr. T. L. Carey

Date: February 6, 1969

From: E. M. Spurlock

Re: Monthly Report - Personnel Department - January, 1969

PERSONNEL

Activity for the Month

<u>Division</u>	<u>No. of Employees 12/31/68</u>	<u>Jan. Addit.</u>	<u>Jan. Separa.</u>	<u>No. of Employees 1/31/69</u>	<u>Jan. 1969 Budget</u>
Executive Office	4	0	0	4	4
Accounting & Credit	44	5	1	48	56
Plant Laboratories	40	1	1	40	50
Plant Admin. & Process	207	3	3	207	219
Plant Engr. & Maint.	125	0	0	125	139
Personnel & Safety	12	1	0	13	13
Purchasing & Traffic	31	2	0	33	34
Sales - Ag. Chemicals	158	6	5	159	178
Sales -Ind. Chem. & PVC	<u>14</u>	<u>1</u>	<u>0</u>	<u>15</u>	<u>18</u>
Total Escambia	635	19	10	644	711

<u>Carroll Construction Company</u>	<u>No. of Employees 12/31/68</u>	<u>No. of Employees 1/31/69</u>
Office	2	2
Maintenance		
Insulators	3	3
Mechanics	8	8
Yardmen	2	2
Trashmen	2	2
Laborers	8	5
Janitors	7	6
Painters	<u>7</u>	<u>8</u>
Total Maintenance	37	34

AP00046138

PERSONNEL (Cont'd.)

<u>Carroll Construction Co.</u>	<u>No. of Employees</u> <u>12/31/68</u>	<u>No. of Employees</u> <u>1/31/69</u>
PVC Laborers	8	8
Area B Laborers	30	31
Railroad Crew	<u>1</u>	<u>1</u>
Total Carroll Construction	78	76
	<u>635</u>	<u>644</u>
Grand Total	713	720

We had a total of 115 walk-in applicants, 101 applications were issued and 17 were received by mail. Sixty-two applicants were interviewed and 51 were tested.

SAFETY

The Corporation worked approximately 105,000 man-hours during the month.

The approximate man-hours and the days worked to date without a lost time injury are as follows:

<u>Division</u>	<u>Man-hours</u>	<u>Days</u>
New York Office	444,000	2,737
Sales	87,500	102
Pensacola Plant	15,000	6
Corporation	21,000	6

Two disabling injuries were experienced in the Pensacola Plant, one in Maintenance and one in the PVC Plant.

Mr. J. Spotts, Florida Industrial Safety Representative, toured the plant. No recommendations were made at this time.

Medical Section

The Medical Section treated 18 injuries for Escambia and 17 for Carroll, performed 10 pre-employment and 23 annual physicals and gave a total of 27 immunization injections.

TRAINING

We held one Trackmobile class in which two operators were licensed.

AP00046139

EMPLOYEE RELATIONS

Six (6) 5-year service awards were presented.

Two (2) 10-year service awards were presented.

LABOR RELATIONS

As far as we can determine, there is no union activity in American Cyanamid's plant or our plant but the ICWU is continuing to work at a low key on Monsanto. This has decreased at the Pensacola plant but the activities have picked up at their Decatur, Alabama plant and they have been petitioned and will probably have a hearing within the next 30 days.

INSURANCE

I met with Mr. Jack Stief, Insurance Manager for Air Products & Chemicals, Inc., Mr. Davenport with the Fire Insurance Association, Messrs. Kaye, Stewart and Knagbel with the Maryland Casualty Insurance Company relative to conversion of our policies in view of the merger.

I met with Mr. Holt of the F & C Insurance Company relative to the 1966 loss due to two tank cars rolling onto the main line of the L & N Railroad.

I met with Mr. James Lee, Insurance Adjuster for Travelers Insurance Company, relative to two Public Liability losses.

Return premium on Workmen's Compensation, Automobile Liability and General Liability policies in the amount of \$ 5,264.69 was received from The Travelers Insurance Company for the year 1967.

We paid a total of 81 claims under our Group Hospitalization program which amounted to a total of \$ 12,044.15 during the month of January.

We settled the following claims during the month:

One General Liability Insurance claim covering damage to leased tank cars by spent acid in the amount of \$ 35,252.00.

One Auto Physical Damage claim in amount of \$ 4,810.64.

EMS:kc

E. M. Spurlock



AP00046140

PLASTICS AND RESINS

MONTHLY REPORT

JANUARY 1969

AP00046141

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: T. L. Carey

Date: February 5, 1969

From: C. L. Wallace

Copies:

Re: PVC Monthly Summary
January 1969

SUMMARY

Although total shipments for the month, 4,355 M lbs., were below budget, substantial growth was experienced in specialty resin -- particularly copolymers. Specialties accounted for 1,237 M lbs., as compared to 982 M lbs. in December and 963 M lbs. in November 1968. Profits for the month were \$19,000 -- \$10,000 under budget, but \$73,000 above last year.

Of major importance is the recently announced price increase by three major producers, B.F. Goodrich, Borden Chemical and Diamond Shamrock. All three increased the price of general purpose resin to 10.5¢ and 11.0¢/lb. in bulk and bag respectively, and specialty resin by 1¢/lb. There are, however, some preliminary indications that a few suppliers are hinting at "deals" in certain locations. The final assessment of our proposed increase could conceivably indicate a temporary reduction in sales volume pending the final revised price structure for the industry.

In the production area, operations were financially favorable, with production of 4,213 M lbs. Moderate success was obtained in producing PVC 6180 with which a bulk density problem exists.

MARKETING

Gross shipments for the month were 4,544 M lbs., of which 189 M lbs. were tailings and off-grade.

Although shipments were below budget, substantial increase was experienced in the specialty resin area -- increasing from 982 M lbs. in December to 1,237 M lbs. in January. Highlighting the specialty sales were copolymers, amounting to 864 M lbs.

AP00046142

MARKETING (Cont'd)

Both fusion and extender resin sales showed slippage during the month. One of our major fusion accounts, Thermoclad, did not order and another, Texon, was below normal. Extenders accounted for only 54 M lbs., with two new potential customers, Robbins and Lakeside Plastics not ordering. (Lakeside has come in for 36 M lbs. in February.) Additional effort will be put on Robbins during February to use our extender resin. Continued contact indicates a rather substantial inventory.

Escambia's high price specialties, 9000 series, showed marked improvement with 50 M lbs. being sold, including 40 M lbs. of our new medical tubing resin PVC 9250.

Volume outages for the month were Wiman for 150 M lbs., O'Sullivan for 150 M lbs. and Robbins for 170 M lbs. The outage at Wiman is due to a "plate-out" problem they have had recently with our resin which our Technical Service group as yet has not been able to overcome. The outage at O'Sullivan was claimed to be due to the use of Allied's resin in their plant. Although the resin performed well, they were skeptical and took their time in using the material.

Sales for February are estimated at 4,300 M lbs.

PRODUCTION

Production for the month was 4,213 M lbs., exceeding budget by 553 M lbs. Tailings and off-grade amounted to 148 M lbs., or 3.4% of production.

Production variance for January was \$32,067 favorable, primarily due to volume. Reactor downtime was 15.2%, an improvement partially due to the long uninterrupted run of copolymer resin.

Monomer efficiency was 96.2%, exceeding the budgeted 94.5%.

Moderate success was attained with the production of PVC 6180 this month. Extreme variation in bulk density has plagued production in previous runs. The reason for the improved performance has not been completely established, although some recipe changes were made which can account for part of the success.

AP00046143

PRODUCTION (Cont'd)

The status of process improvement projects is as follows:

1. Blend Tank

The new agitator blades for trial in one blend tank to improve slurry mixing have arrived. Installation is scheduled for late February or early March.

2. Centrifuge and Dryer Changes

Since speeding up the centrifuge and slowing down the dryer, sufficient data has been collected to show an average increase in drying capacity of 10%. The new changes will be made to the north line. Cost is estimated at \$300.

3. Reactor Rupture Discs

Frequent replacement of reactor rupture discs due to polymer buildup has been expensive. We are currently coating the discs with a silicone grease, and are successful in drastically reducing the buildup.

4. Bulk Transfer System

At month-end one of the new, inexpensive vent bags was installed in the bulk car transfer system. Operations with the new bag are satisfactory, but it is too early to determine if transfer rates are affected.

5. Anti-foam Agents

Anti-foam agents are being studied for use in stripping copolymers and pearl resins. Reducing the foam generation should reduce stripping time and increase production.

6. Safety

A review of the reactor ventilation system was made to insure adequate ventilation in case of monomer spillage. As a result of the survey, the current inoperative heating system will be converted to a ventilation system.

AP00046144

PRODUCTION (Cont'd)

Production for February is estimated at 3,700 M lbs., and variance at \$16,000 favorable.

RESEARCH AND TECHNICAL SERVICE

Major effort during the month was concentrated in the area of PVC 2185 for bottles. From previous visits to Armstrong Cork Company a plan was developed to supply the account with further sample material with varying degrees of coarseness, to determine what resin properties are required. This plan has been carried out and specifications obtained for plant production.

Additional metals evaluations of PVC 9250 were made in following through on Escambia's medical tubing resin program.

The PVC pilot plant is nearing completion. All major equipment has been received, and operation is expected to commence by month end.



C. L. Wallace

AP00046145

ESCAMBIA CHEMICAL CORPORATION
INTEROFFICE MEMORANDUM

To: C. L. Wallace

Date: February 5, 1969

From: G. B. H. Speed

Copies:

Re: PVC Production Report Summary
January 1969

SUMMARY

Production of prime resin was 4,213 M lbs., exceeding budget by 533 M lbs. Tailings and off-grade totaled 148 M lbs., or 3.4% of total production and less than budget.

Fourteen different resin types were produced in 16 separate runs. This month saw the fewest number of changes in production schedule since 1967.

VCI monomer efficiency was 96.2%, exceeding the budget of 94.5%.

Reactor downtime was 15.2%, and reflects the less frequent changing of resin types during the month.

Bagged production was 70.4% of total prime, compared with 56.2% budgeted. The large demand for copolymers is the primary reason for the high percentage of bagged material.

Of major importance was the fairly successful production run of PVC 6180. As reported in December, extreme difficulty was encountered in meeting the bulk density specification. During January 33 lots out of 42 total met the specification. A number of recipe changes were made with varying degrees of success. Although no recipe change was found to completely eliminate the bulk density variations, one recipe using different chemicals was found to be as good as the present recipe and can be used should problems be again encountered with the present recipe. From first analysis of the production data, the amount of recovered monomer used seems to have a direct effect on the resulting bulk density.

AP00046146

February 5, 1969

SUMMARY (Cont'd)

A request for expenditures; RFE-914, to install an additional VCl recovery compressor was submitted for approval. The project is projected to increase production by 2, 170 M lbs. /year and has a payout of 3.2 years.

Production and variances for January and estimated for February are as follows:

	<u>January</u>	<u>February</u>
Production	\$ 4,213	\$ 3,700
Variance,		
Bulk	27,637 favorable	15,000 favorable
Packaging	4,430 favorable	1,000 favorable
Total	\$32,067 favorable	\$16,000 favorable

The favorable variance of \$27,637 in bulk and \$4,430 in packaging was due primarily to a) volume \$16,000, b) monomer efficiency \$3,500, c) Maintenance \$5,700, d) depreciation, taxes and insurance \$4,200 and e) process chemicals \$6,900.

Production and variance are expected to be down next month. In addition to the short month, centrifuge repairs and a reactor change out are scheduled for February.

STATISTICS

	<u>January</u>		<u>December</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Prime Production, M lbs.</u>				
Month	4,213	3,660	4,279	4,080
Year to Date	4,213	3,660	48,852	48,960
<u>Off-Grade Production</u>				
<u>% of Total</u>				
Month	3.4	4.0	3.0	3.0
Year to Date	3.4	4.0	3.7	3.0

AP00046147

STATISTICS (Cont'd)

	<u>January</u>		<u>December</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Bulk Production, %</u>				
<u>of Prime</u>				
Month	29.6	43.8	34.2	57.5
Year to Date	29.6	43.8	47.1	57.5
<u>Shipments, M lbs.</u>				
Month - Prime	4,469	--	3,792	--
Month - Off-Grade	108	--	59	--
Year to Date - Prime	4,469	--	48,252	--
Year to Date - Off-Grade	108	--	2,275	--
<u>VCI Efficiency, %</u>				
Month	96.2	94.5	95.6	94.0
Year to Date	96.2	94.5	95.1	94.0
<u>Reactor Availability, %</u>				
<u>of Available Hours</u>				
Month	84.8	--	84.1	--
Average				
Year to Date	84.8	--	82.0	--
	<u>January</u>		<u>December</u>	
	<u>Actual</u>		<u>Actual</u>	
<u>Reactor Downtime, %</u>				
<u>of Available Hours</u>				
Mixing Solutions				
in Reactors	0		0.1	
Cleaning &				
Washing Reactors	7.9		8.8	
Scheduling Charges	2.3		3.2	
Changing Types	0.6		1.3	
Copolymer				
Production	0		0.0	

AP00046148

STATISTICS (Cont'd)

<u>Reactor Downtime, % of Available Hours Cont'd</u>	<u>January Actual</u>	<u>December Actual</u>
Slow Recovery	0.6	0.3
Low Drying Rates and Dryer Line Cleanout	0.7	0.8
Hydraulic Motor Repairs	0.6	0.1
Misc. Reactor Maintenance	0.2	0.3
Dryer Maintenance	0.5	0.0
Electrical & Instr. Maintenance	0	0.5
Miscellaneous	<u>1.8</u>	<u>0.5</u>
Total	15.2	15.9

<u>Product Mix, M lbs. Prime Resin</u>	<u>January</u>		<u>December</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
Group I	2,062	1,489	1,794	2,154
Group II	186	635	816	1,010
Group III	296	278	725	603
Group IV	359	409	0	23
Group V	1,310	727	944	262
Group VI	<u>78</u>	<u>122</u>	<u>0</u>	<u>32</u>
Total	4,213	3,660	4,279	4,084

AP00046149

STATISTICS (Cont'd)Off-Grade and TailingsOff-Grade

<u>Type</u>	<u>Quantity, M lbs.</u>	<u>Reason Off-Grade</u>	<u>% of Total Production</u>
6180	76	High Sed. No.	1.7
<u>Tailings</u>	62		1.5
<u>Floor Sweeps</u>	<u>10</u>		<u>0.2</u>
Total	148		3.4

DISCUSSION1000 Series

Types Produced: 1200, 1225, 1230, 1250

Production runs were normal.

2000 Series

Types Produced: 2200, 2225, 2250

Production runs were normal.

3000 Series

Types Produced: 3225, 3250

Production runs were normal

4000 Series

Types Produced: 4185-2S

Grinding operations for the month were for the production of PVC 4185-2S. PVC 2185 was tried as feed material without success. An attempt was made to rescreen some off-grade PVC 4185-2S to

AP00046150

DISCUSSION (Cont'd)4000 Series (Cont'd)

produce PVC 4185-3S without success.

6000 Series

Types Produced: 6150, 6180

Production of PVC 6150 was routine. The production of PVC 6180 was highly successful as compared to December's production. Although some difficulties are still encountered in meeting the bulk density specification, variations in recipes have been successful in minimizing the bulk density variations.

8000 Series

Types Produced: 8200

Production was normal. The use of a well grounded stainless steel screen in the primary rotex allowed production rates to be increased slightly.

PROCESS IMPROVEMENT

The attached progress report details the progress on process improvement projects.

MAINTENANCE

Major maintenance items incurred during the month are as follows:

1. Replaced reactor building elevator shaft.
2. Changed out reactor motors on 3, 4 and 8 reactors.
3. Replaced leaking steam coils in south dryer.
4. Cleaned south centrifuge and modified feed nozzle to keep PVC out of wash section.
5. Changed out all step bearings.
6. Replaced valves in air compressor and north VC1 recovery compressor.

AP00046151

MAINTENANCE (Cont'd)

7. Painted number 4 silo.
8. Cleaned recovered monomer evaporator.
9. Repaired faulty valve on first floor sprinkler system.

VARIANCE ANALYSIS

January production variance is summarized below:

Bulk Production (7421)

<u>FAVORABLE</u>		<u>UNFAVORABLE</u>	
VCI Efficiency	\$ 3,500	XA Monomer	\$ 414
Volume Variance	16,637		
Process Costs:		Process Costs:	
Process Chem.	6,858	Utilities	1,877
Maintenance	5,699	Laboratory	2,842
Depreciation	2,833	Salaries	5,555
Taxes & Ins.	1,334	Miscellaneous	762
Miscellaneous	2,226		
	<u>\$39,087</u>		<u>\$11,450</u>
NET BULK VARIANCE	<u>\$27,637 Favorable</u>		

Packaging (7424)

Volume Variance	\$ 3,615	Bags	\$ 714
Process Costs:		Process Costs:	
Labor (total)	985		
Maintenance	107		
Mat'l & Sup.	610	Other	173
	<u>\$ 5,317</u>		<u>\$ 887</u>

NET PACKAGING VARIANCE \$4,430 Favorable

TOTAL PRODUCTION VARIANCE

\$32,067 Favorable

G.B.H. Speed
G.B.H. Speed

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