

Monsanto

Ed Bowles

Anniston Plant

TECHNICAL SERVICES DEPARTMENT

MONTHLY REPORT

Anniston

C. K. Eastman
A. J. Koenig
J. C. Landwehr
L. J. Boesch
G. W. Miller
W. B. Papageorge
W. F. Taffee
H. L. Williams

Summary

January, 1969

Cost Improvement Results

	Actual	Target	% of Target
1968	453,720	492,600	92.3%
1969		574,075	
January	Estimated Actual 13,430	18,450	73%

General Offices

H. C. Carder
R. Robirds
Danna (5)
P. B. Hodges
D. B. Hosmer (2)
W. A. Kuhn
C. F. Luecke
N. L. Sample
J. E. Smith
R. J. Stratmeyer
H. S. Trail

Organic Division

Solid Aroclor projects transmitted were:

1. Yield improvement instrumentation
2. Montar 5 flaking
3. Solid Aroclor in Liquid Aroclor system. Installation is 90% complete.

Liquid Aroclor capacity falls to 36 M lbs/yr. as Solid Aroclor is made in the Liquid Aroclor system.

Preliminary work indicates 0.05% Biphenyl content of Santowax C can be attained. FDA approval of Aroclor 5460 needs low chlorinated Biphenyl content.

Second HB-40 autoclave capacity sufficient to meet 1969 forecasted product demand.

Agricultural Division

Staley Grade HCl project continues to be expedited. Installation of entrainment knock-out pot has been targeted for 3/1/69 to help alleviate current difficulties in making water white acid.

Sulfur Recovery purification process was reviewed and first plant Project Safety Review was held. Project description package in preparation for transmitting to CED week of February 3.

OTHER LOCATIONS

D. W. Jackson-WGK
T. M. Patrick-
So.2nd.St.
A. H. Forsten-
Alvin,Texas

DSW 377702

Agricultural Division (Continued)

Parathion Recovery unit dismantled for inspection.

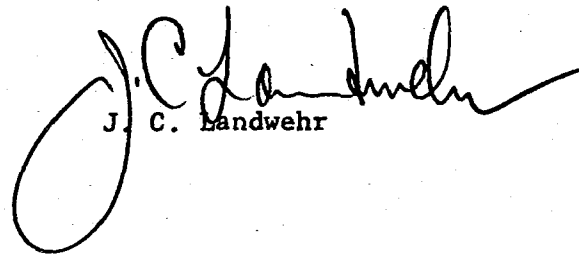
Tentative amendment submitted for approval for testing increased Acetone Recovery from condensation reactors.

Design and Drafting

Staley Grade Acid drawings forwarded for review. Solid Aroclor instrumentation (ph. II) design complete, drafting underway.

CED Liaison

Biphenyl/Aroclor bag flattener guards designed. This completes work in this area.


J. C. Landwehr

jw

DSW 377703

ORGANIC DIVISION
1969 TSD COST IMPROVEMENT

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Sol.Aro.	TAR				2250	2250	2250	2250	2250	2250	2250	2250	2250
LI-Still SpG.	ACT												
AFE 3015													
Sp.Solid Aro.	TAR	2600	2600	2600	2600	2600	2600	2600	2600	2600	-	-	-
Lower 5060	ACT	1500											
Sol.Aro.-Still	TAR				160	170	160	170	160	170	160	170	160
Coolout temp.	ACT												
AFE 3015													
Sol.Aro.-Chlortor	TAR				390	390	390	390	390	390	390	390	390
Batch End	ACT												
AFE 3015													
SW/R Composition	TAR					2750	2750	2750	2750	2750	2750	2750	2750
	ACT												
AFE 3016													
Solid Aro.	TAR					1080	1080	1080	1080	1080	1080	1080	1080
Montar 5 Flake	ACT												
AFE 2949													
Sol.Aro.	TAR	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Blend 4465	ACT	1690											
Sol.Aro.-Verti-	TAR	70	80	70	80	70							
cal Still Cond.	ACT	70											
AFE 2324													
Sol.Aro.Cl ₂	TAR			940	940	950							
T/C Dock	ACT												
AFE 2342													
Cl ₂ Plt.Down No	TAR						950	940	950	940	950	940	950
Unload	ACT												
CED 1831													
Solid Aro.-Flake	TAR	3000	3000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
& Drum	ACT	0											
CED 1430													
Liq.Aro.	TAR	3000	3000	-	-	-	-	-	-	-	-	-	-
48-53 M #/yr.	ACT	0											
AFE 2545													
Liq.Aro.-No.2	TAR										3000	3000	
Still Entrain Sep.	ACT												
AFE 3093													
Liq.Aro.-Montar	TAR			1080	1080	1080	1080	1080	1080	1080	1080	1080	1080
Disposal	ACT												
AFE 2952													
Warehouse	TAR	2000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	ACT	2000											
CEA 1452													
Liq.Aro.New	TAR			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Burners #3 Still	ACT												
Biphenyl Relocate	TAR	500	500	500	500	500	500	500	500	500	500	500	500
No. 1 Preheat	ACT	1500											
CEA 1892													
HB-40 2 A/C's	TAR	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	ACT	2230											
AFE 3102													

DSW 377704

STLCOPCB4099437

ORGANIC DIVISION
1969 TSD COST IMPROVEMENT

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BiO Improve Tower Treat. AFE 3155	TAR ACT					450	450	450	450	450	450	450	450
Improve Plt. Power Factor	TAR ACT					900	900	900	900	900	900	900	900
Central Air System	TAR ACT									1000	1000	1000	1000
Optimize Rx Time	TAR ACT		2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
PNP													
Reduce Mole Ratio NaOH/PNCB PNP	TAR ACT				4000	4000	4000	4000	4000	4000	4000	4000	4000
New Wash Water Pump - PNP AFE 2998	TAR ACT					50	50	50	50	50	50	50	50
Automatic pH Control PNP	TAR ACT										500	500	500
HCl Filter Pump	TAR ACT	330 330	330	340									
New Blow Tank HCl	TAR ACT	200 200	200	200	200	200	200						
150,000 Gal. -HCl Storage Tank AFE 2468	TAR ACT				1760	1760	1780	1760	1760	1780	1760	1760	1780
Produce Staley Grade Acid AFE 3076	TAR ACT							780	780	790	780	780	790
Cl ₂ Plt. Shutdown CEA 1831	TAR ACT						8880	8880	8880	8880	8880	8880	8880
Hg Recover from Residue	TAR ACT	250 3910	250	250	250								
Hg Wash Tank AFE 2802	TAR ACT	250 0	250	250	250								
	TAR ACT												
	TAR ACT												

DSW 377705

STLCOPCB4099438

AG DIVISION
1969 TSD COST IMPROVEMENT

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Cooling Tower	TAR				420	420	410	410	420	420	410	420	420
Repiping	ACT												
AFE 2598	5,000												
Optimize N ₂ & Cl ₂ Levels	TAR				6600	6700	6700	6600	6700	6700			
	ACT												
	40,000												
Increase Waste Acid Sales	TAR				400	300	300	400	300	300	400	300	300
	ACT												
	4,000												
Chlorinator R.I.	TAR							250	250	250	250	250	250
	ACT												
AFE 2244	3,000												
EVOP Condensation Rx.	TAR	750	750	500							500	750	750
	ACT	0											
	4,000												
Cl ₂ Unloading	TAR							5000	5000	5000	2000	2000	2000
	ACT												
CEA 1831	42,000												
Recycle Wash Water	TAR							290	290	290	290	290	290
	ACT												
AFE 2960	3,500												
Parathion Recovery	TAR										5800	5800	5800
	ACT												
AFE 2655	70,000												
Reduce Acetone Losses	TAR										4300	4300	4300
	ACT												
	51,600												
Formulations	TAR				1600	1600	1600	1600	1600	1600			
	ACT												
AFE 2897	9,600												
Change Cooling H ₂ O Item 737	TAR				125	125	125	125	125	125	125	125	125
	ACT												
AFE 3067	1,500												
Well H ₂ O to Jets	TAR										500	500	500
	ACT												
	6,000												
	TAR												
	ACT												
	TAR												
	ACT												
	TAR												
	ACT												

DSW 377706

STLCOPCB4099439

AROCLOR E. E. Bowles, C. R. McIlwain, (V. R. Haupt)

Evaluate Quaterphenyl- Polyphenyl Effects on Solid Aroclor Yields	1969 Savings - \$63,200 NFC - \$14,000	TSD Objective B-8 (a)
---	---	--------------------------

Design package for installing nuclear gage instruments transmitted to Planning and Scheduling week of January 27. Project will increase Solid Aroclor 5460 yield. Second part of project, Still Condenser Coolant Control, will be transmitted by 3-1-69.

Make Solid Aroclor in Liquid Aroclor System	Meet 1969 Forecast	TSD Objective B-8 (b)
--	--------------------	--------------------------

Design package transmitted to P & S January 8. Piping was installed week of January 27. Some tracing and insulation work remains.

Demonstrate Montar 5 Flaking	Savings - \$11,500 NFC - \$10,000	TSD Objective B-8 (c)
---------------------------------	--------------------------------------	--------------------------

Transmitted to P & S 2/3/69. Project will allow flaking of Montar 5 on old Solid Aroclor flaker. Justification is drum savings.

Debottleneck Liquid Aroclor Stills	Evaluation	TSD Objective B-8 (i)
---------------------------------------	------------	--------------------------

The use of a portion of the Liquid Aroclor system by the Solid Aroclor Department will reduce the Anniston Plant Liquid Aroclor capacity by 28%. Starting in February the capacity of the Anniston liquid system will be 3,000 M lbs./month.

Project 3093 to install an entrainment separator on No. 2 still has been approved for \$4,500. Drafting is scheduled for second quarter 1969 with completion targeted for December, 1969.

Other means of increasing the capacity of remaining liquid system components are being evaluated.

Drum Flushing	Quality NFC - \$60,000	TSD Job No. 872
---------------	---------------------------	-----------------

A progress report was issued in January, 1969. No further work is planned on this project until priority is established by the Business Group.

DSW 377707

BIPHENYL-SANTOWAX

W. G. Niemeyer, J. W. McGee (V. R. Haupt)

Debottleneck Biphenyl Stillis to 87.6 M lbs/yr.	Capacity Increase	TSD Objective B-7 (a)
--	----------------------	--------------------------

Santowax C surge tank and column feed pump have been set. The revised stairway was installed over the new Santowax C surge tank. Related piping is in progress. Santowax area piping to be completed in February.

No. 1 Furnace Upgrade Liaison (CEA-1892)	Capacity Increase	TSD Objective B-7 (c)
---	----------------------	--------------------------

The 300,000 gallon benzene storage tank is complete and was hydrotested on January 28. Three small leaks were found and will be repaired on February 3. Piping work in the tank area is in progress.

Improve Santowax R Quality with New Distillation Column	Quality	TSD Objective B-7 (d)
---	---------	--------------------------

The quality of the Santowax R overhead product continues to swing as expected. We cannot expect consistent Santowax R quality until additional instrumentation is installed on Project No. 3016. Delivery on some instruments ordered on Project 3016 has been delayed. Unless Purchasing can expedite these items the project will not be installed until March 1969.

Santowax with Low Biphenyl Content for FDA Solid Aroclor	Quality	TSD Objective B-7 (b)
--	---------	--------------------------

A 16 hour plant test run was made to determine if the biphenyl content in Santowax C could be reduced to 0.05% or less. The test indicated that it can be done; however, more work is planned to demonstrate consistent long term limits of capability.

HB-40 V. R. Haupt

Installation of 2nd Autoclave to meet Product Forecast	Savings - \$36 M NFC - \$16 M	TSD Objective B-12 (b)
--	----------------------------------	---------------------------

Routine operation of the larger autoclave with larger batch sizes indicates 900 M lbs/mo. capacity using the one larger autoclave. Hydrogen supply prevents operating both autoclaves at the same time. This demonstrated rate will meet 1969's product forecast now and when hydrogen source is changed to Biphenyl department by-product upon shutdown of the Chlorine department in May.

DSW 377708

STLCOPCB4099441

CHLORINE D. W. Dudley (A. G. McCarty)

Reduce Mercury Usage to 0.75 lbs. Hg/Ton Cl ₂	Savings \$1,700	TSD Objective B-6 (b)
---	-----------------	--------------------------

Mercury-acid wash tank now in operation. Mercury "butter" is being accumulated in wash tank. To date no "butter" has been acid washed. Project is anticipated to achieve full savings of \$1,700 before plant shutdown.

Brine Dechlorination	Saving - 0	TSD Objective B-6 (c)
-------------------------	------------	--------------------------

No further work is anticipated on this project before plant shutdown.

Central Chlorine Unloading	CED Liaison Savings - \$53,300	TSD Objective CEA 1831
-------------------------------	-----------------------------------	---------------------------

Design is 90 % complete. Construction slated to begin in first week of February. Project start-up still estimated as May 1, 1969.

HCl O. J. Norris, G. L. Moore (A. G. McCarty)

Production of Staley Grade Acid	Increased Sales Savings - \$9,400	TSD Objective B-10 (c)
------------------------------------	--------------------------------------	---------------------------

Project 3076 given top priority in drafting during January. Review drawings have been completed and project transmittal is scheduled for 2/7/69. Portion of project to install catch tank in HCl gas line will be expedited: - most optimistic date for installation - 3/1/69; most probable 3/15/69. This catch tank will allow gas by-pass purge valve to be closed contributing to as high as 800,000 lb/mo. increased recovery. Coaleser will be ready for intermediate organics removal, installation 5/1/69 as scheduled.

Muriatic Acid Storage	Savings - \$21,200	TSD Job No. 497
-----------------------	--------------------	-----------------

Tank construction complete. Rubber lining will be completed as soon as warmer weather permits.

PNP O. J. Norris, G. L. Moore (A. G. McCarty)

DSW 377709

Debottleneck to 1.8 M#/mo.	Capacity Savings - \$27,500	TSD Job No. 482
-------------------------------	--------------------------------	-----------------

Random reactor letdown problem appeared and was corrected around the middle of the month. Main cure for problem this occasion appears to be reduction in condensor temperature to 100°C. Small PNCB charge (7400#) was also used. Presently charge is up to 7600# and letdown continue excellent. PR&D testing to

PNP (Continued)

establish a base operation point on % organics, % NaPNP, etc. in charge tank temporarily delayed until cause for data spread (8.8% to 21.3% on organics) is established. This information is critical to determining exact nature of the randomly recurring letdown problem.

Study of Molar Ratio NaOH/PNCB	Savings - \$36,000	TSD Objective B-9 (c)
-----------------------------------	--------------------	--------------------------

Approved tentative ammendment received from St. Louis. However, on agreement between TSD and production has been reached to hold tests until rate capabilities for Niran requirements are met.

Revise MIP

Plant review completed 1/9/69. Final draft being typed prior to final review with TPM.

NIRAN K. G. Hale, D. W. Dudley, (A. G. McCarty)

Demonstrate Parathion Recovery	Savings - \$17,500 10-15% Reduced C.O.D. Load	TSD Objective B-5 (a)
-----------------------------------	--	--------------------------

Work began in late January to remove coalescer for inspection of elements. Coalescer will be pulled the first week in February. One vendor proposal for a pre-coat type filter has been received and will be evaluated in early February.

Parathion Formulations	Savings - \$10,000	TSD Job No. 845
---------------------------	--------------------	-----------------

Increase in sales forecasts for formulated Parathions from 369 M gallons to 417 M gallons in 1969 has necessitated a crash project to increase blending capability. Project is slated for start-up April 1. Project schedule and rush notification was issued January 24. Project proceeding as scheduled.

Acetone Recovery	Savings - \$12,900	TSD Job No. 869
------------------	--------------------	-----------------

Tentative amendment to Niran process of January, 1969 to recover \$50,000/yr. in acetone and reduce C.O.D. waste load 40-50% was submitted for approval 1/10/69. Early approval of the amendment will enable plant test on Niran prior to turn-around.

NIRAN (Continued)

Sulfur Recovery from Residue	\$500,000/yr. Savings 40% Reduction in SO ₂	TSD Objective B-5 (d)
---------------------------------	---	--------------------------

Anniston TSD is preparing a package transmittal for the Sulfur Recovery Project. The package will include the pilot separation test report, the report by Bird Machine Company, the PR&D process report, and a transmittal write-up covering additional details (objectives, facilities, etc.).

The first plant safety review for selection of locations was held on 1/21/69. The PR&D process report was reviewed in plant on 1/17/69.

Submerged Pump for Refractive Index Control of Chlorination	Savings \$1,500 (Potential Automation)	TSD Objective B-5 (c)
---	---	--------------------------

Submerged pump was pulled and inspected due to potential glass damage upon starting if pump was corroded. Still no evidence of corrosion. The pump will be re-installed by mid-February. Tests will begin by late February.

Fume Collection System in Parathion Department	Reduce Atmospheric Corrosion	TSD Objective F-10
---	---------------------------------	-----------------------

A new fan of Atlac 382 to replace damaged, PVC coated original, has been ordered. Scheduled shipment date is 3/1/69. Transmittal on new foundation and transition pieces to adapt new fan is scheduled for 2/15/69.

ENGINEERING DESIGN AND SERVICES

<u>Mechanical/Electrical/Instrument Design and Drafting</u>	<u>J. C. Price, J. A. Veazey,</u> <u>R. L. Brewer, J. K. Rennie,</u> <u>V. T. Langdon, (W. F. Taffee)</u>
---	---

Issued design package for AFE 3036, acidic spring water sewer. TSD guideline for control of TSD Mechanical expense budget was reviewed and approved.

Projects were approved for modification of agitator interlocks in Parathion department (\$9700.00 total) and automatic alcohol feed to Thio Acid reactors (\$3860.00 total) Design is scheduled for fourth quarter 1969.

E & I design was completed for Staley-Grade Acid and for Solid Aroclor Instrumentation (Phase II).

A meeting was held with George Hunt, Electrical section of S&PP, to define scope of S&PP recommendation to test electrical feeders, interlocks, etc.

Design packages transmitted to Maintenance to cover P₂S₅ conveyor access ladder, deluge system at soda ash tank (Niran), PNP reactor and acidifier agitator alarms and Niran cubicle sight windows.

UTILITIES ENGINEERING

J. C. Price (W. F. Taffee)

Forwarded AFE 3155, Improve Biphenyl Cooling Tower Treatment, for approval. Estimated savings \$5400/yr. Evaluation completed and AFE 2821, Steam Meters, issued covering four (4) new meters in distribution system which are required for accurate utilities cost control in departments. Forwarded review drawings for AFE 2988 - Biphenyl Gas Meter, and AFE 3067 - Cooling Water on Niran Item 737.

PLANT IMPROVEMENT

G. C. Goodwin (W. F. Taffee)

Design package covering lights on 5th street forwarded to Maintenance for construction.

POLLUTION CONTROL

E. G. Wright (W. F. Taffee)

Reporting

Pollution Abatement

TSD Objective
F-1

A method was devised with Accounting whereby pollution control expenditures are kept up to date. The 1968 figures are available and can be transmitted to Paul Hodges as soon as forms are received from St. Louis.

A.I.A. Meeting

Community and Govt.
Relations

TSD Objective
F-2

Attended meeting of Associated Industries of Alabama January 22. Meeting was to discuss the A.I.A.'s position in the upcoming congressional session.

Waste Audits

Pollution Abatement

TSD Objective
F-3

Visited the W. G. Krummrich plant to observe flow measurement technique using lithium chloride dilution method. We will use this method for determining flows during waste audits. Also visited J. F. Queeny plant to discuss their experience in departmental waste audits.

Air Sampling Program

Pollution Abatement

TSD Objective
F-3

Initial testing of trial SO₂ analyzer indicates interference from other acidic compounds. Additional investigation underway.

Contact with
Regulatory Agencies

Community and Govt.
Relations

TSD Objective
F-2

Visited Anniston sewage treatment plant twice. They are continuing to experience occasional difficulty in handling their total solids load. Invited chemist from the city plant to our laboratory to observe demonstration by vendor of Polymers for increasing clarification efficiency.

DSW 377712

STLCOPCB4099445

POLLUTION CONTROL (Continued)

Install Solids Removal
Equipment at Waste
Treatment Plant

Pollution Abatement

TSD Job No. 808

Project revision forwarded to management in January. Some preliminary screening tests were run on some polymers which might be used as a filter aid.

Choccolocco Creek
Biological Survey

Pollution Abatement

TSD Objective
F-4

Drs. Gunning and Suttikus of Tulane University completed low water phase of continuing survey of Choccolocco Creek during week of January 26, 1969. Their report is expected in March.

Waste Treatment

All wastes were effectively treated during January, although there are indications that we are very near the upper limit of our treatment plant capacity. Some problems were also encountered due to the high solids loading at City Waste Treatment. Average daily values for Monsanto's effluent are as follows:

	Average Daily	Specifications
PNP	1 ppm	5.0
COD	< 8 ppm	< 200
Parathion	.08 ppm	1.0
BOD	5.0 ppm	< 200

PROCESS AND QUALITY ANALYSIS

W. B. Dunlap

Quality

The Plant Quality Score was 89.5, down 5.0 from December, with YTD (January only) score of 89.5 against a target of 95.0 minimum. Below average levels continued in Liquid Aroclors and Niran, with excellent uniformity in Caustics and PNP. Studies relating product quality with raw materials are continuing in P_2S_5 and PNP.

P_2S_5 Raw Material and
Process Surveillance

Potential Savings
\$50,000

TSD Objective C-1
Job 877

Job number assigned with work to start in 1st quarter. Correlation of raw materials with P_2S_5 quality being conducted by Production Supervisor.

PROCESS AND QUALITY ANALYSIS (Continued)

Parathions - Correlate
Intermediate and
Parathion Isomers

Potential Savings
\$88,000

TSD Objective C-2
Job 878

Job number assigned with work in progress. Laboratory has set up routine analysis of Parathion isomers, and a determination of isomer content of extremely low-assay intermediate.

PNP - Monitor Critical
Process Variables

Potential Savings
\$60,000

TSD Objective C-3
Job 879

Job number assigned with work in progress. Process variables are being explored in team effort with Process Engineer and Laboratory through a testing-surveillance study.

Solid Aroclors -
Statistical Surveil-
lance of Critical
Variables

Potential Savings
\$50,000

TSD Objective C-4
880

Job number assigned to replace TSD Job 831. Work is planned to start in second quarter following installation of control equipment.

PLANT LABORATORIES G. W. Miller

PROCESS RESEARCH AND DEVELOPMENT J. T. Bell

For the month, 94 working days of the possible 95 were directed toward the projects outlined in the 1969 PR&D Program. At present, all projects appear to be progressing as planned. The study of Blend Scavenger Refinement (Aroclor) may be excluded from the program and replaced by an investigation to recover the benzene value of quaterphenyls and higher homologs by an aluminum chloride catalyzed rearrangement.

HB-40 Biphenyl Hydrogen Purification	Alternate Hydrogen Source	J. L. Brown
---	------------------------------	-------------

The investigation has been terminated and the pilot unit returned to Chemical Design, Inc.

p-Nitrophenol	Reduce Cycle Times	W. H. Howard J. T. Bell
---------------	--------------------	----------------------------

Analysis of samples taken from the PNP charge tank during 10 batches of constant charges, reaction times etc., has been undertaken to establish variations present in material levels. Analysis of 216 recycle water is to be included with the projected completion date scheduled for 2-14-69.

Aroclor 1272	Sample Preparation for Sales	G. L. Arnett
--------------	---------------------------------	--------------

A 30 lb. sample has been prepared. A comparison of Iron and Aluminum chlorination catalysts were completed along with material balance studies. A report is under preparation and project completion will be in advance of the 2-10-69 projected date.

Sulfur Recovery	Sulfur Refinement for Reuse	I. Ransaw W. H. Howard
-----------------	--------------------------------	---------------------------

A report has been prepared and is in the process of being issued. An investigation into the chlorination of wash water to lower waste treatment has been initiated.

Blend Scavenger Refinement (Aroclor)	Improved Aroclor Electrical Properties	J. L. Brown
---	---	-------------

Techniques to improve the electrical properties of phenyl glycidyl ether have as yet been unsuccessful. Absorption on Porocel and Silica Gel resulted in no improvement and the use of a 500 volt d.c. potential for the removal of ionic contamination resulted in only slight improvement. Analysis indicates that the concentration of chloride, sodium and potassium ions is very low or nonexistent.

PLANT LABORATORIES (Continued)

ANALYTICAL AND QUALITY CONTROL S. O. Kemp

A series of 20 samples were analyzed by GLC to determine yield loss from the Biphenyl/Santowax still.

Analytical difficulties involving HB-40 sales to General Cable Corporation are being resolved and no business loss is anticipated. Special tests and specifications were agreed to by Mr. S. Mickeloski of the General Cable research labs, Bayonne, N. J. during a recent visit by R. N. Brell and G. W. Miller.

Complaint Report

Quality

<u>Number</u>	<u>Material</u>	<u>Customer</u>	<u>Reason</u>
1-A-69	Muriatic Acid	Merck	Color

YTD Quality Complaints/100 Shipments 0.17 Target 0.20

Service

None

YTD Service Complaints/100 Shipments 0.0 Target 0.20

DSW 377716

STLCOPCB4099449

COMMUNITY RELATIONS, PERSONNEL, RECRUITING, AND DEVELOPMENT

Personnel

1. V. R. Haupt, G. W. Miller, and J. T. Bell met in St. Louis for meeting on Solid Aroclor Research Tuesday, January 7.
2. W. G. Niemeyer promoted to TSD Senior Engineer effective February 1, 1969.

Recruiting

1. Mr. T. W. Lawrence, MS Chemical Engineer graduate in 1965 from Auburn University, accepted an offer for position as Process Engineer.

Development

1. J. C. Landwehr attended TSD Superintendents' Conference January 13 and 14.
2. J. C. Landwehr went to St. Louis on January 20 for the initial chairman meeting for the 1969 Innovation Exchange Program, Wednesday, January 22.
3. W. F. Taffee attended annual meeting of Coosa-Alabama River Improvement Association in Montgomery, Wednesday, January 22.
4. E. G. Wright attended a meeting of the Air and Water Resources Committee, Associated Industries of Alabama in Birmingham, Wednesday, January 22.

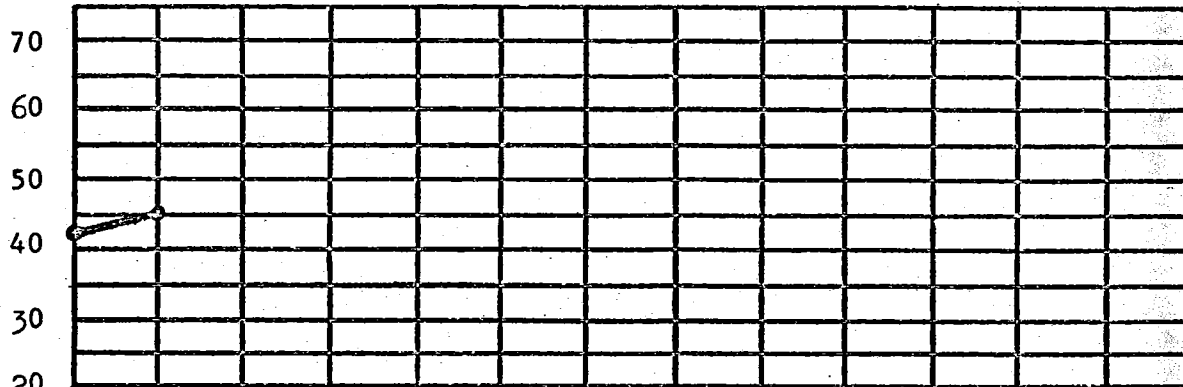
Visitors

1. Director of Manufacturing for the Ag Division Crop Protector Business Group, W. R. Robirds, D. E. Cayard, and B. B. Blocker visited.
2. TSD participated with accounting in a review of visibility of Central Division Computer System, R. F. Brooks and M. Tesson from Queeny.

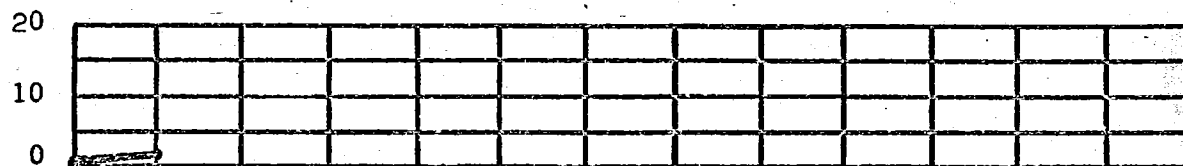
DISTRIBUTION OF TIME BY TECHNICAL SERVICE

Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

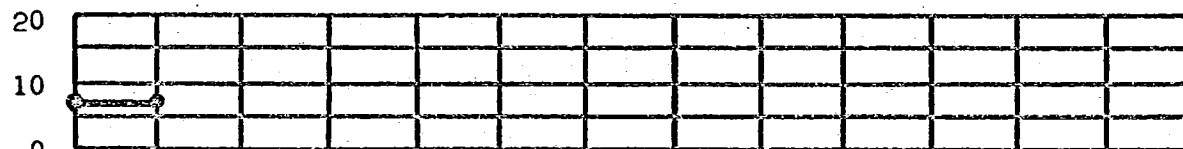
PROCESS
IMPROVEMENT



NEW PRODUCTS



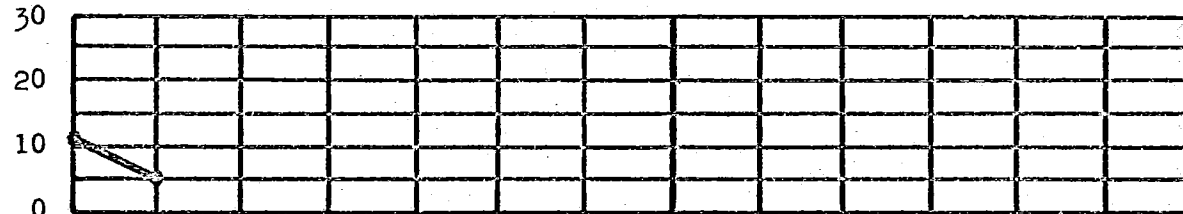
PLANT
IMPROVEMENT



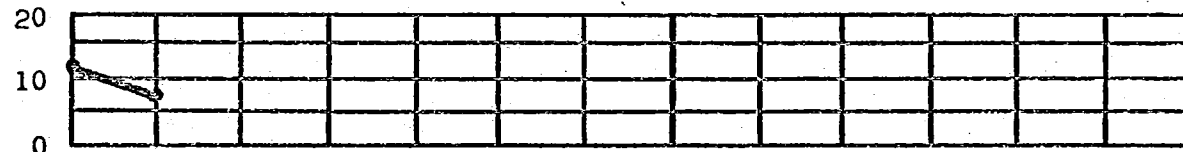
ASSIST
OPERATIONS



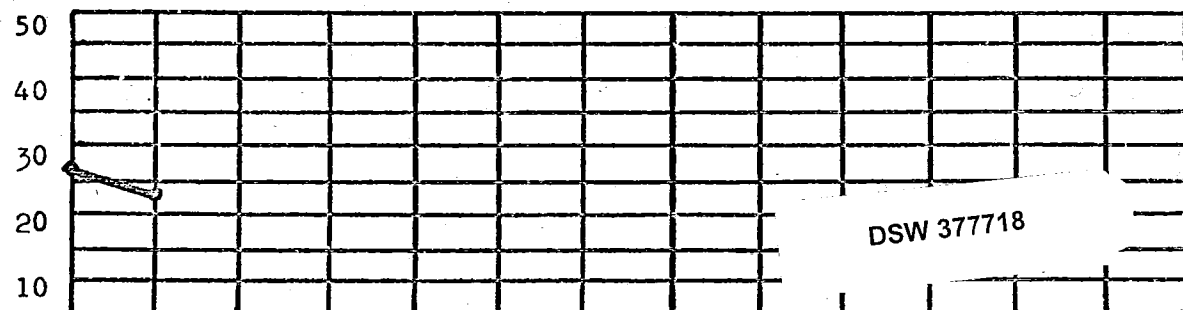
SPECIAL
ENGINEERING
SERVICES



TECHNICAL
MANPOWER



MISCELLANEOUS
ACTIVITIES
AND
ABSENCES

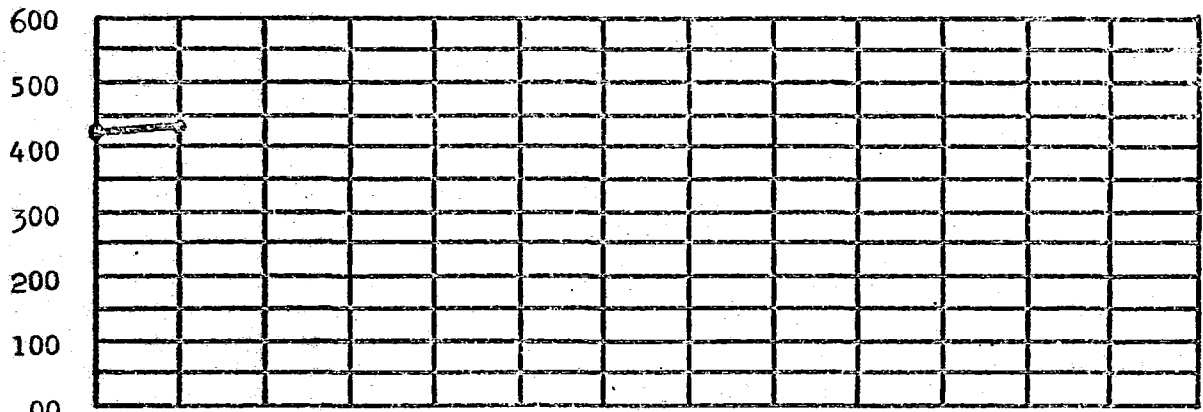


DSW 377718

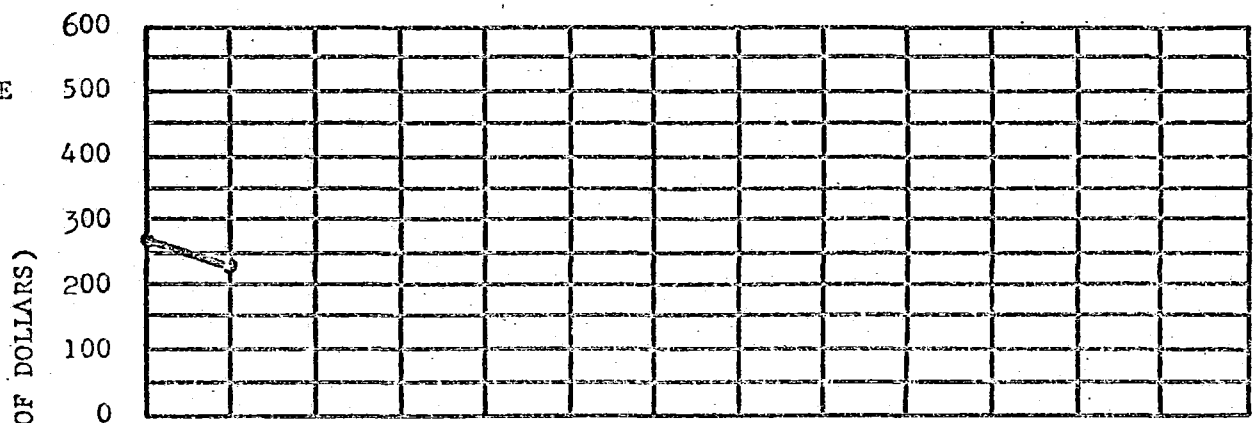
Jan. Feb. March Apr. May June July Aug. Sept. Oct. Nov. Dec.

TSD PROJECT SUMMARY

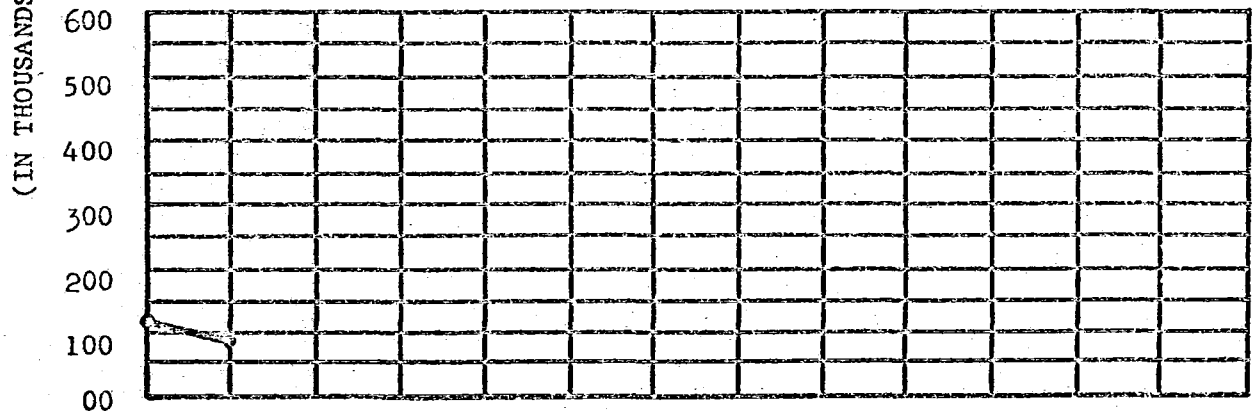
IN
MAINTENANCE
FOR
CONSTRUCTION



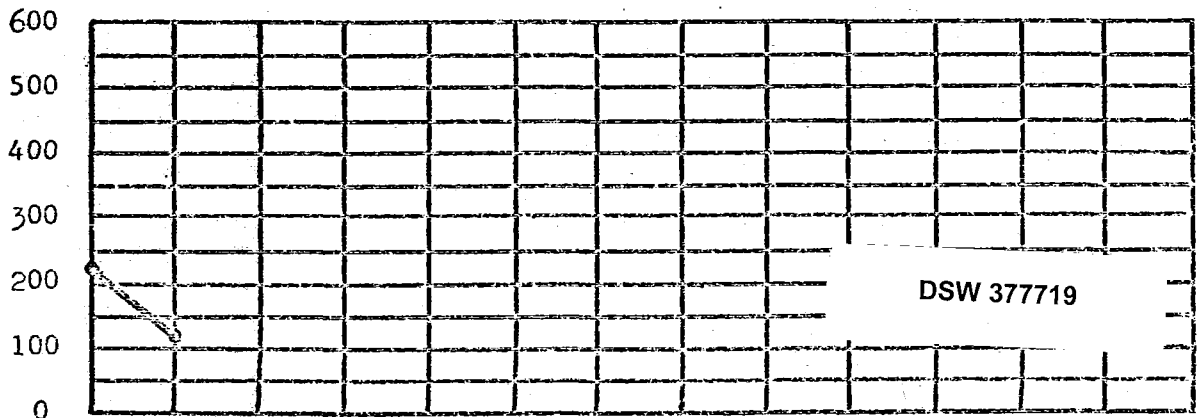
IN MAINTENANCE
COMPLETED
NOT CLOSED



PROJECTS
SUBMITTED
FOR
APPROVAL



APPROVED
PROJECTS
IN TSD

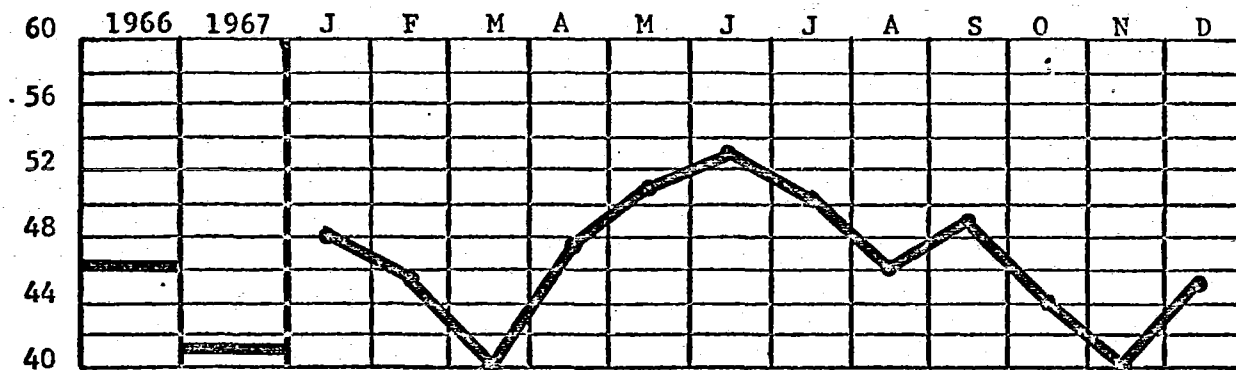


Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan.

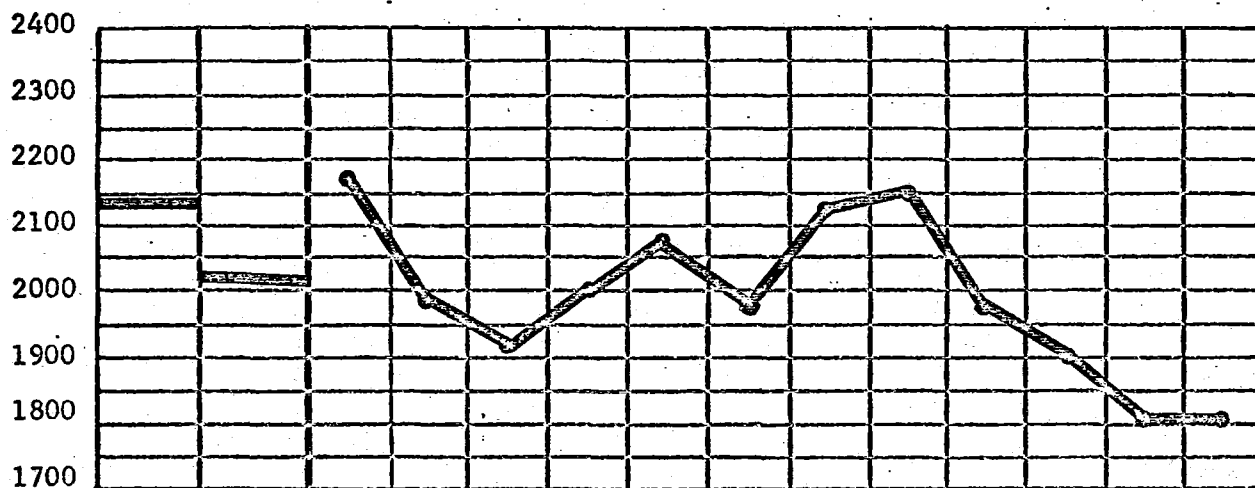
DSW 377719

LABORATORY ADMINISTRATION

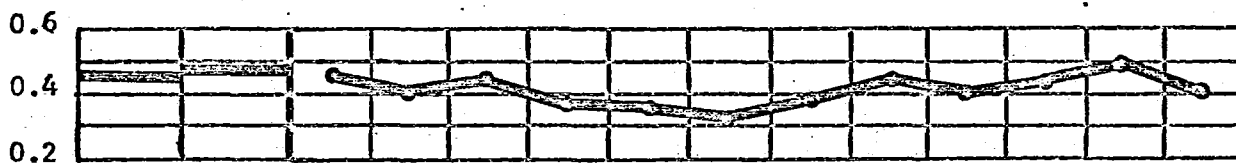
ANALYTICAL
SAMPLES



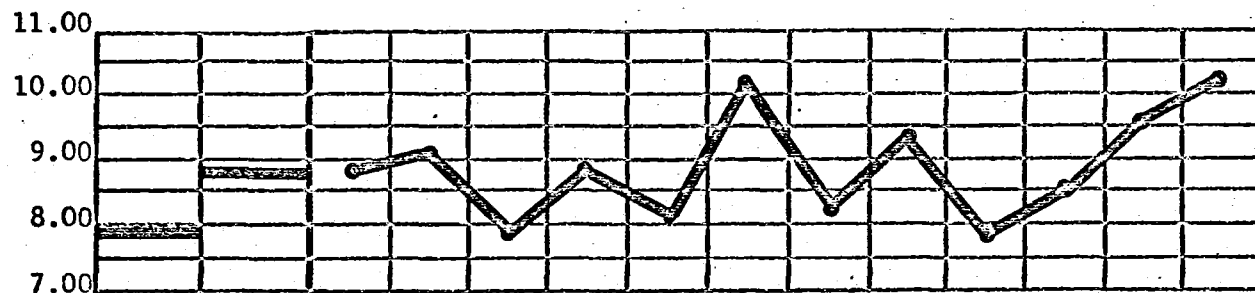
ANALYTICAL
MANPOWER



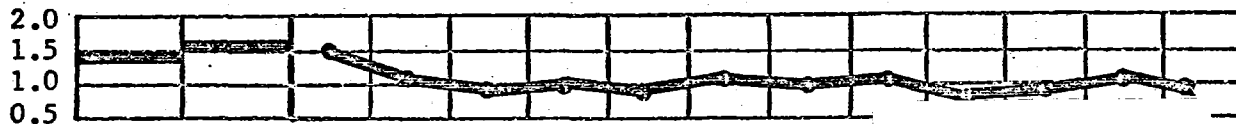
Manpower/sample



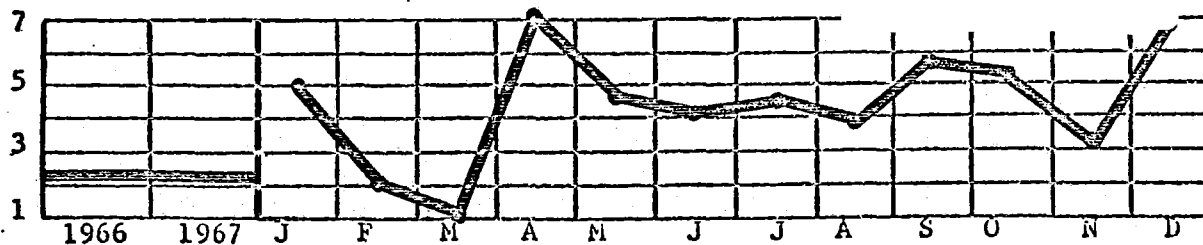
\$/Manhours



% Total Plant
Operating Cost



Overtime %



DSW 377720

LABORATORY ADMINISTRATION

