COMPANY CONFIDENTIAL

Monsanto

Anniston Plant

TECHNICAL SERVICES DEPARTMENT

MONTHLY REPORT

Anniston

J. T. Bell
J. L. Corder
A. G. Hill
G. L. Jessee
L. C. Lahman
J. C. Landwehr
H. E. Schulte
W. F. Taffee

General Offices

H. C. Carder
D. Danna (5)
M. W. Farrar
P. B. Hodges
F. J. Holzapfel
D. B. Hosmer
R. E. Howard
W. K. Johnson
C. F. Luecke
W. R. Richard
W. R. Robirds
C. W. Roos
J. R. Savage
J. E. Smith
J. A. Stephens

South Second St.

P. O. DeGarmo

Other Locations

A. H. Forsten - Alvin, Texas

D. W. Jackson - W.G.K.

Summary

DECEMBER 1970

COST IMPROVEMENT RESULTS

	Est. Act.	Target	% of Target
Month	$70,190	$52,175	134%
YTD	$896,400	$728,905	123%

Specialty Products

PR&D work on PCB removal from waste water is continuing. The final report on PCB removal by sand filtration will be issued 1-8-71. The carbon adsorption studies of the Aroclor sump effluent have continued for three months with removal to less than 10 ppb in the first of 4 five-foot long columns. The experimental work will be terminated and reported as soon as the Monsanto-vendor (Calgon Corporation) development of scale-up factors is complete. The reactor-clarifier studies to evaluate PCB removal by addition of a cheap solid adsorbent (such as clay, limestone, etc.) followed by solids removal by flocculation-clarification are targeted to begin by 2-1-71.

AFE 3643 ($25.3M capital and $9.7M expense) submitted to allow production and storage of low color Solid Aroclor 5460.

Construction on CEA 1482 (HB-40 Expansion) was resumed the week of 12-20-70 after receipt of the old (repaired) autoclave. The vessel was reinstalled and successfully started up on 12-23-70 using the new automatic temperature control system. The new automatic Santowax charging system was completed and successfully demonstrated on 12-30-70, thereby eliminating use of the old preheat tanks. Dismantling of these tanks was begun on 12-31. Final project completion date is still not firm due to continued ironworker strike.

DSW 014900

AN-306

CONFIDENTIAL INFORMATION

"This document contains confidential information which is the property of Monsanto Company. Only those portions of the document relevant to a duly authorized individual's need to know may be excerpted for him. The report must not be sent outside the Company without written approval and the authorized recipient is accountable for its safe keeping, excerpting or otherwise disclosing of its contents and for its proper disposal. The document remains the property of Monsanto Company and shall be returned within two months to its author, except upon special authorization to hold for a longer period."

STLCOPCB4003276

Newport Santowax arrived at the plant and is stored in the pond until needed. AFE 3718 ($10M) has been submitted to modify equipment to distill to Santowax R. It will cost 9.2¢ per pound to convert to Santowax R.

Multipoint injection of Cumene Promoter, as outlined in Polyphenyl Pilot Studies Work Plan V, is now targeted to begin on 1-13-71 upon completion of provisions for three point promoter injection. This is designed to measure the accumulative effect of cumene on biphenyl conversion. The EDC of this phase is now 2-15-71.

Phase I of the EVOP in Aroclor 5460 has shown a significant 2.2% increase in yield from closer regulation of crude softening points. The three months of EVOP study have averaged 1.5 lbs./cwt lower Santowax R usage, with December setting a record low for 1970 (.6% below standard).

Repairs on the No. 1 (old) HCl Neutralization Pit are 70% complete. Construction has been slowed by rain; however, return of the pit to service by 2-1-71 is still firm. Approximately 20 tons of limestone inerts and 260 pounds of Aroclor were pumped from the No. 2 (new) pit on 12-18-70, thereby extending the solids removal life of the new pit.

The final issue of the Electrical Preventive Maintenance Program was completed and published on 12-24-70, completing this TSD responsibility resulting from the Aroclor Motor Control Center fire on schedule. A cooperative TSD-Maintenance program will now be undertaken to apply this program in-plant.

All equipment has been ordered for modification of Aroclor chlorine unloading facilities to complete CEA 1831 variance. Design will be transmitted and equipment will be on hand by late February. The equipment is on hand and design is 90% complete for a hygrometer instrument to measure dew point of chlorine pad air to assist in maintaining dry pad air.

General Chemicals

HCl Off-Gas Catch Tank Replacement - Field installation complete with exception of repairs to concrete. The new catch tank has modifications including a coke bed and "York" demister pad. A pumpout system including a level indicator was also installed to enable improved handling of collected organics and future potential for recycle to Aroclor plant.

Muriatic Acid Department Fume Collection & Scrubbing System. Formal project approval was received. Design was completed and review drawings are in circulation. All equipment and materials expected on hand by 1/15/71. EDC for transmittal to Maintenance 1/15/71.

Agricultural Division

Rough draft of Niran Safety Audit submitted to superintendent for approval.

All refined ethyl PCT from storage tank has been decolorized and shipped to customers.

DSW 014901

Quality Control

The Plant Quality Score was 86.5, up 3.5 from November, with a YTD score of 84.4 against a target of 95.0. The semiannual process capability report showed improved process control.

Pollution Control

All Aroclor waste water samples were collected by Pollution Control personnel during December. These samples were the most consistent to date and causes for each of four unusually high daily discharges were known. No instances of sample contamination existed. The results from the Aroclor air sampling program were communicated to management during December..

J. C. Landwehr

:kd

STLCOPCB4003278

PLANT LABORATORIES

ANALYTICAL AND QUALITY CONTROL - S. O. Kemp

Complaint Report

Quality

Number	Material	Customer	Reason
NY-116-P	Biphenyl	Textile Products Company	Caking

YTD Quality Complaints/100 Shipments 0.29

Target 0.20

STLCOPCB4003279

COMMUNITY RELATIONS, PERSONNEL, RECRUITING AND DEVELOPMENT

Personnel Development

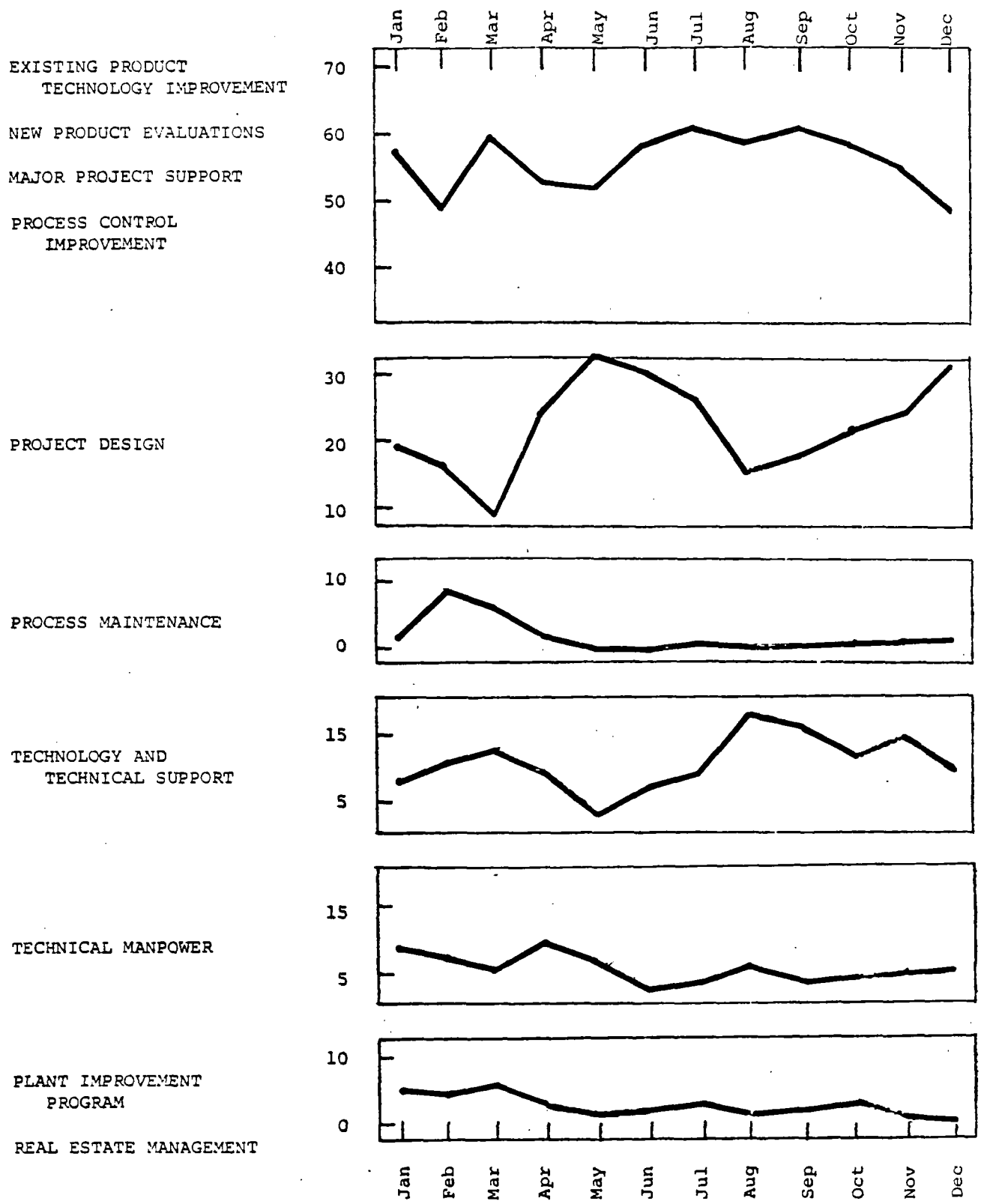
1. Billy Secrest returned to Georgia Tech after finishing his first quarter working as Co-Op under the supervision of W. B. Dunlap. (December 24)

2. J. C. Landwehr attended TSD Superintendents Meeting in St. Louis, December 10-11.

3. TSD/LAB Departmental Safety Meeting was held December 17, 1970 with topic of PROCESS DESIGN FOR PROCESS SAFETY.

STLCOPCB4003280

1970 DISTRIBUTION OF TIME BY TECHNICAL SERVICE



DSW 014905

STLCOPCB4003281

ORGANIC DIVISION

1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SPECIALTY PRODUCTS	TAR												
	EST												
	ACT												
Disposal of Liquid Montar	TAR			1080	1080	1080	1080	1080	1080	1080	1080	1080	1080
	EST			0	0	0	0	0	0	0	-	0	0
	ACT			0	0	0	0	0	0	0	0	0	
#3 Aroclor Still New Burners	TAR		1500		1500								
	EST		600		500								
	ACT		600		500								
#2 Still Entrainment Separator	TAR							3000			3000		
	EST							0			-		
	ACT							0			0		
1242 Distillation Productivity	TAR			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	EST			0	100	1000	1520	2565	2000	1210	660	900	0
	ACT			0	100	1000	1520	2565	2000	1210	660	900	
	TAR												
	EST												
	ACT												
SPECIALTY PRODUCTS	TAR												
	EST												
	ACT												
Flaking & Drumming Facilities Headcount	TAR	3000	3000	2000	1000	1000							
	EST	3000	3000	2000	1000	1000							
	ACT	3000	3000	2000	1000	1000							
Solid Aroclor Instrumentation	TAR				3750	3750	3750	3750	3750	3750	3750	3750	3750
	EST				0	0	0	0	0	0	-	0	0
	ACT					0	0	0	0	0	0	0	
Sandvik Belt	TAR							2250	2250	2250	2250	2250	2250
	EST							0	0	0	-	0	0
	ACT							0	0	0	0	0	
Add Tray Stripping Sections to Santowax	TAR				4580	4580	4580	4580	4580	4580	4580	4580	4580
	EST				0	0	0	0	0	0	-	0	0
	ACT				0	0	0	0	0	0	0	0	
Cl_2 Bulk Handling Facilities	TAR	2000	2000	2000	2000								
	EST	3500	3550	1950	3440								
	ACT	3500	3550	3050	3440								
Solid Aroclor Expansion	TAR		30000	50000							30000		
	EST		49500	50000	10000	36000	24000	20000	17900	43000	72000	70000	55000
	ACT		51900	55900	10500	38500	23500	24700	27600	45000	86000	85900	
Chlorinator Back Pressure	TAR									360	360	360	360
	EST									0	-	0	0
	ACT									0	0	0	
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												

DSW 014906

STLCOPCB4003282

ORGANIC DIVISION

1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SPECIALTY PRODUCTS	TAR												
	EST												
	ACT												
Aroclor Warehouse Reduced Headcount	TAR	1000	1000	1000									
	EST	1000	1000	1000									
	ACT	1000	1000	1000									
Improved Santowax Yield	TAR			4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
	EST			5900	2800	5800	4000	970	6630	6280	1910	5200	5885
	ACT			4450	2800	5800	4000	970	6630	6280	1910	5200	
HB-40 Reduce Nickel Catalyst Usage	TAR			700	700	700	700	700	700	700			
	EST			1330	525	1230	425	0	0	540		920	0
	ACT		1160	1335	525	2080	565	0	0	450		775	
Substitution of Santowax C for Santowax R	TAR											20000	20000
	EST											0	0
	ACT											0	
	TAR												
	EST												
	ACT												
GENERAL CHEMICALS	TAR												
	EST												
	ACT				(PNP,	HCl)							
Biphenyl Cooling Water Treatment	TAR	600	600	600	600	600	600	600					
	EST	670	680	580	600	670	440	290					
	ACT	670	680	580	600	675	440	290					
PNP Modify Acidifier Dump Valve System	TAR							625	625	625	625	625	625
	EST				625	625	625	625	625	625	-	-	-
	ACT				625	625	625	625	625	625	-	-	-
Install Entrainment Separator - Production	TAR							5500	5500	5500	5500	5500	5500
	EST							0	0	0	-	-	-
	ACT							0	0	0	-	-	
Optimize Reactor Variables-PNP	TAR	3150	3150	3150	4630	4630	4630	4630	4630	4630	4630	4630	4630
	EST	520	1277	2164	127	1604	0	1525	1780	2368	-	-	-
	ACT	520	3016	2164	127	1605	0	1525	1780	2368	-	-	
Re-use Well Water	TAR										500	500	500
	EST										-	-	-
	ACT										-	-	
Untargeted PNCB Heel Credits	TAR												
	EST		2275	563	3078	1650	920	410	550	753			
	ACT		2275	563	3078	1650	920	410	550	753			
HCl HCl Catch Tank & Coalescer	TAR	5700	5700	5700	5700	5700							
	EST	2500	7560	9000	10300	6545							
	ACT	2500	7560	9000	10300	6545							
150 M Gallon Storage Tank	TAR	4300	4300	4300	4300	4300	4300						
	EST	4300	4300	4300	4300	4300	4300						
	ACT	4300	4300	4300	4300	4300	4300						
HCl Instrumentation	TAR				1875	1875	1875	1875	1875	1875	1875	1875	1875
	EST			4000	12300	3440	6500	3940	8160	12900	0	9700	9300
	ACT			4000	12300	3440	6500	3940	8160	10400	0		
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												

DSW 014907

STLCOPCB4003283

ORGANIC DIVISION
1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	TAR												
	EST												
	ACT												
	TAR												
PLANT WIDE	EST												
	ACT												
Improve Plant Power Factor	TAR	950	950	950	950	950	950						
	EST	900	900	916	790	800	845						
	ACT	940	914	840	790	810	845						
Central Air Compressor	TAR										1000	1000	1000
	EST										-	-	-
	ACT										-	-	
	TAR	19900	19900	19900	19900	9950							
Chlorine Plant Shutdown	EST	19900	19900	19900	19900	9950							
	ACT	19900	19900	19900	19900	9950							
RTN Cooling Water to Tower Cooling Conveyor - P_2S_5	TAR							25	25	25	25	25	25
	EST							0	0	0	-	-	-
	ACT							-	-	-	-	-	
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
Total Organic Month - M $	TAR	40.6	72.1	96.88	58.07	44.62	27.97	34.12	30.52	30.88	64.68	51.68	51.68
	EST	36.29	94.54	103.6	70.39	74.61	43.58	30.33	37.65	67.68	74.57	86.72	70.19
	ACT	36.33	99.86	109.1	70.89	77.98	42.22	35.03	47.35	67.09	88.57	102.48	
Total Organic YTD - M $	TAR	40.6	112.7	209.6	267.6	312.3	340.2	374.3	404.9	435.7	500.4	552.1	603.8
	EST	36.29	130.9	239.8	315.7	390.8	437.7	467.7	510.0	587.6	661.4	762.1	848.1
	ACT	36.33	136.2	245.3	316.2	394.1	437.3	472.4	519.7	586.8	675.4	777.9	

DSW 014908

AG DIVISION
1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PARATHIONS	TAR												
	EST												
	ACT												
Replace #3 Chlorinator	TAR					3500	3500	3500	3500				
	EST				4860	2340	0	0	0				
	ACT				4860	2340	0	0					
Improve Cl_2- Still Yields	TAR					3000	3000	3000	3000	3000	3000		
	EST					0	0	0	0	0	-		
	ACT					0	0	0	0	0	-		
Increase Chlor- inator Coolings	TAR								8500	8500	8500		
	EST								0	0	-		
	ACT								0	0	-		
Acetone Recovery	TAR	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	
	EST	1957	1069	1225	1935	130	715	0	0	0	-	-	
	ACT	1957	1069	1225	1935	130	715	0	0	0	-	-	
Chlorine Unloading	TAR	2250	2250	2250	3200	3200	3200	3200	3200				
	EST	3634	4237	3350	1406	3431	2430	1750	2710				
	ACT	3634	4237	3350	1406	3431	2430	1750	2710				
Optimize Methyl PNP/PCT Ratio	TAR					3000	3000	3000	1500				
	EST					0	0	0	0				
	ACT					0	0	0	0				
Optimize Ethyl PNP/PCT Ratio	TAR	500	750	750								500	50
	EST	0	2641	0								-	
	ACT	0	2641	0								-	
Change Cooling H_2O - Item 737	TAR	200	200	200									
	EST	310	230	270									
	ACT	310	230	270									
Untargeted: Plant Test - ~~Freon-21~~	TAR												
	EST				2430	5270							
	ACT				2430	5270							
	TAR												
	EST												
	ACT												
Total AG - Month M $	TAR	5.75	6.0	6.0	6.0	15.5	15.5	15.5	22.5	14.3	14.3	3.3	.
	EST	5.90	8.17	4.85	10.63	11.2	3.15	1.75	2.71	0	-	-	-
	ACT	5.90	8.17	4.85	10.63	11.2	3.15	1.75	2.71	0	-	-	
Total AG YTD M $	TAR	5.75	11.75	17.75	23.75	39.25	54.75	70.25	92.75	107.1	121.4	124.7	125.
	EST	5.90	14.08	18.92	29.55	40.73	43.87	45.62	48.33	48.33	48.33	48.33	48.
	ACT	5.90	14.08	18.92	29.55	40.73	43.87	45.62	48.33	48.33	48.33	48.33	
	TAR												
	EST												
	ACT												
Total Plant Month M $	TAR	46.35	78.1	102.9	64.07	60.12	43.47	49.62	53.02	45.18	78.98	54.98	53.1
	EST	42.19	102.8	108.5	81.02	85.79	46.72	32.08	40.36	67.68	74.57	80.72	70.-
	ACT	42.2?	108.0	113.9	81.52	89.15	45.36	36.78	50.06	67.09	88.57	102.48	
Total Plant YTD M $	TAR	46.35	124.5	227.3	291.4	351.5	395.0	444.6	497.6	542.8	621.8	676.7	728.
	EST	42.19	145.0	258.8	345.3	431.5	481.6	513.3	558.3	635.7	709.7	810.4	896.4
	ACT	42.23	150.3	264.2	345.8	434.9	481.2	518.0	568.0	635.1	723.7	826.2	

DSW 014909

STLCOPCB4003285

COMPANY CONFIDENTIAL

Anniston

J. T. Bell
J. L. Corder
A. G. Hill
G. L. Jessee
L. C. Lahman
J. C. Landwehr
H. E. Schulte
W. F. Taffee

General Offices

H. C. Carder
D. Danna (5)
M. W. Farrar
P. B. Hodges
F. J. Holzapfel
D. B. Hosmer
R. E. Howard
W. K. Johnson
C. F. Luecke
W. R. Richard
W. R. Robirds
C. W. Roos
J. R. Savage
J. E. Smith
J. A. Stephens

South Second St.

P. O. DeGarmo

Other Locations

A. H. Forsten - Alvin, Texas

D. W. Jackson - W.G.K.

Monsanto

Anniston Plant

TECHNICAL SERVICES DEPARTMENT

MONTHLY REPORT

Summary

NOVEMBER 1970

COST IMPROVEMENT RESULTS

	Est. Act.	Target	% of Target
Month	$86,720	$54,975	157%
YTD	$810,423	$676,730	120%

Organic Division

Issued progress report on 50/50 - biphenyl/Santowax C split test on the Polyphenyl Tubular Unit stating capacity as 92 M lbs./yr.

Issued progress report on explosion hazard of biphenyl flaking. Nitrogen purge will be used to prevent this.

Santowax R deficit report written showing maximum of 8 M lbs. deficit in 1971. This can be made up by stockpiling Aroclor 5460 (in progress), recovering Santowax from pond, and importing it from Newport. This will be updated depending on final forecasted needs for 1971. A "sample" (80 M lbs.) of Newport Santowax ordered in October is expected to arrive in December. Plans have been made to handle and refine this material for use in Aroclor 5460 and HB-40.

Construction was temporarily suspended on the HB-40 Expansion (CEA 1482) on 11-25-70 after successful demonstration of the new autoclave, Therminol system, motor control center and storage facilities. Work is scheduled to resume in mid-December pending return of the old autoclave after repair. Final completion date is not firm due to continued ironworker strike.

DSW 014910

AN - 306

CONFIDENTIAL INFORMATION

"This document contains confidential information which is the property of Monsanto Company. Only those portions of the document relevant to a duly authorized individual's need to know may be excerpted for him. The report must not be sent outside the Company without written approval and the authorized recipient is accountable for its safe keeping, excerpting or otherwise disclosing of its contents and for its proper disposal. The document remains the property of Monsanto Company and shall be returned within two months to its author, except upon special authorization to hold for a longer period."

STLCOPCB4003286

The promoter scanning study and mid-point injection phase of the Polyphenyl Pilot Studies outlined in PR&D Work Plan V are complete. Results were distributed in the mid month report of 11-16-70. The next phase involving evaluation of multipoint injection of cumene has begun and is targeted for completion by 2-1-71.

Carbon adsorption studies of the Aroclor sump effluent are continuing. Efforts are directed toward obtaining design data. The effluent PCB level is still <10 ppb.

Aroclor - detail design of facilities for nitrogen padding of chlorine cars 95% complete. Equipment will be ordered first week of December.

A project premise for Experimental Removal of Solids from the Plant Effluent was approved during the month.

Agricultural Division

PR&D studies show that recycle of filtered organic residue from 96% chlorinated Methyl Intermediate into the next thio acid charge shows promise for increasing yields. Work is continuing to more fully evaluate this possible process.

Anniston TSD assisted in an evaluation to determine the economics of producing TPA (Trimethylphosphoric Triamide) in idle equipment at the Parathion Plant. Two alternates were considered for the production of approximately 60,000 pounds of TPA: one for production of TPA in a thio acid reactor and one for a chlorinator-still unit. The final decision will be made in early December.

HCl - Project 3512 - Catch Tank: All prefabrication has been completed with field installation expected during December. Project 3690 - Fume Collection and Scrubbing: Verbal approval given in November, detail design 90% complete, initial orders for equipment out. Transmittal to Maintenance expected first week of January.

PNP - p-NPT evaluation completed for interim production at Anniston. Manufacturing costs, changeover costs, capacity and timing were submitted based on latest research information.

Quality Control

The Plant Quality Score was 83.0, up 6.2 from October, with a YTD score of 84.3 against a target of 95.0. A new lot numbering system on HB-40 was set up to protect the validity of statistical surveillance.

STLCOPCB4003287

Pollution Control

Several sets of air samples were collected and analyzed for PCB during November. A total of 237 water samples were analyzed. Testing to evaluate sampling and analytical errors in PCB analyses was commenced in November.

The cleaning of the No. 1 (old) HCl neutralization pit and bypass is 95% complete with rebuilding scheduled to begin in early December. Accumulated sludge in the No. 2 (new) pit was removed in early November thereby extending the effective life of the pit a significant amount.

J. C. Landwehr

:kd

STLCOPCB4003288

PLANT LABORATORIES

ANALYTICAL AND QUALITY CONTROL - S. O. Kemp

Complaint Report

Quality

Number	Material	Customer	Reason
EVT-33-P	Aroclor 5460	Colonial Press Co.	Material Caked Hard

YTD Quality Complaints/100 Shipments 0.29

Target 0.20

STLCOPCB4003289

COMMUNITY RELATIONS, PERSONNEL, RECRUITING AND DEVELOPMENT

Community Relations

1. G. L. Arnett attended "Parathion Study Review" in St. Louis, November 18, 19 and 20.

2. J. L. Brown and D. F. Pittman attended "Polyphenyl Pilot Study Review" in St. Louis, November 18, 19, and 20.

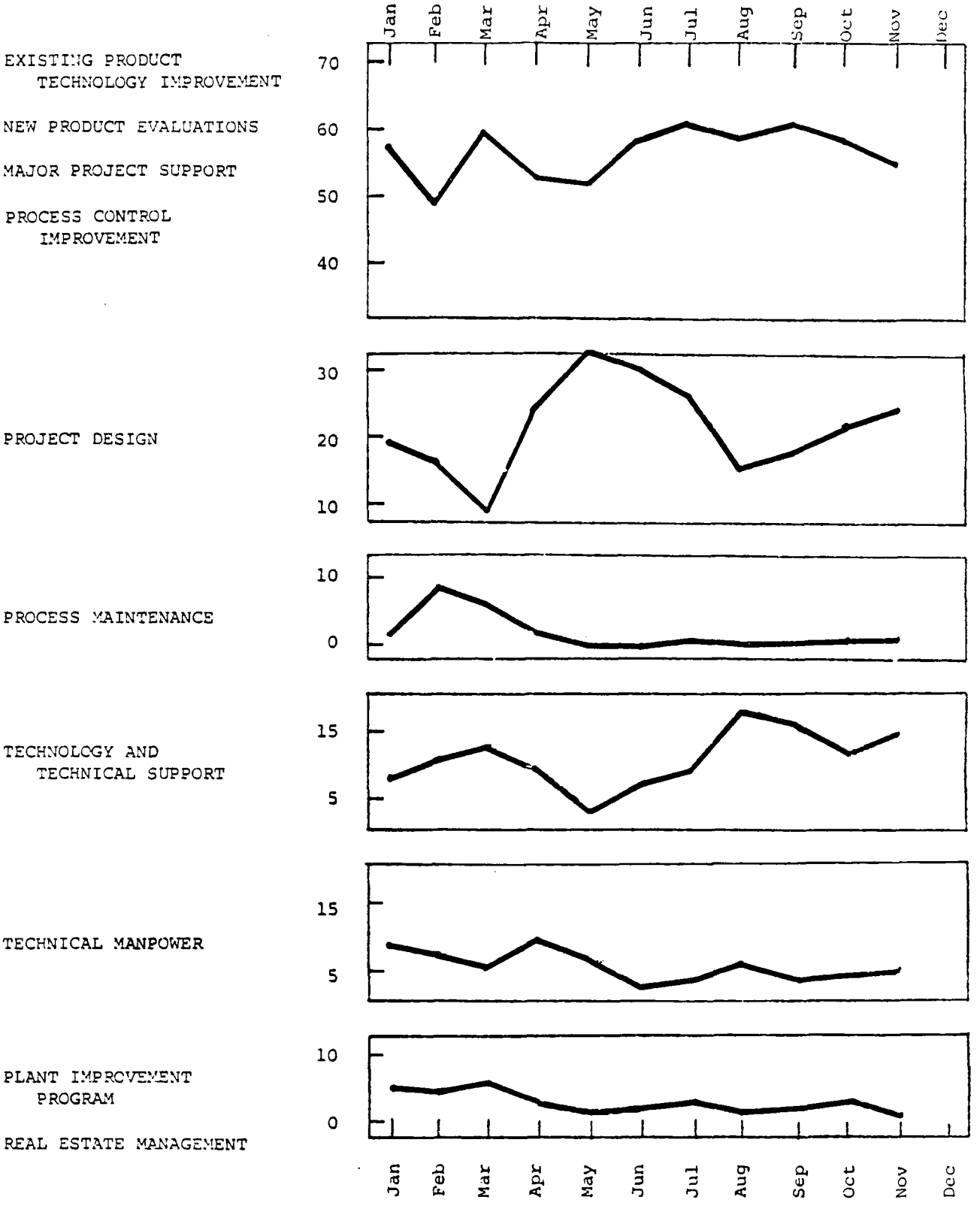
Visitors

1. W. R. Robirds visited the Anniston Plant, November 6th, concerning Parathion Improvements.

2. Tsukashima, MMK, visited the Anniston Plant, November 9 through 20, concerning Aroclor Liquid and Solid, Biphenyl, Santowax, and HB-40.

STLCOPCB4003290

1970 DISTRIBUTION OF TIME BY TECHNICAL SERVICE



DSW 014915

STLCOPCB4003291

ORGANIC DIVISION
1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FUNCTIONAL FLUIDS	TAR												
	EST												
	ACT												
Disposal of Liquid Montar	TAR			1080	1080	1080	1080	1080	1080	1080	1080	1080	1080
	EST			0	0	0	0	0	0	0	-	0	
	ACT			0	0	0	0	0	0	0	0		
#3 Aroclor Still New Burners	TAR		1500		1500								
	EST		600		500								
	ACT		600		500								
#2 Still Entrainment Separator	TAR							3000			3000		
	EST							0			-		
	ACT							0			0		
1242 Distillation Productivity	TAR			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	EST			0	100	1000	1520	2565	2000	1210	660	900	
	ACT			0	100	1000	1520	2565	2000	1210	660		
	TAR												
	EST												
	ACT												
PLASTICIZERS	TAR												
	EST												
	ACT												
Flaking & Drumming Facilities Headcount	TAR	3000	3000	2000	1000	1000							
	EST	3000	3000	2000	1000	1000							
	ACT	3000	3000	2000	1000	1000							
Solid Aroclor Instrumentation	TAR				3750	3750	3750	3750	3750	3750	3750	3750	3750
	EST				0	0	0	0	0	0	-	0	
	ACT					0	0	0	0	0	0		
Sandvik Belt	TAR							2250	2250	2250	2250	2250	2250
	EST							0	0	0	-	0	
	ACT							0	0	0	0		
Add Tray Stripping Sections to Santowax	TAR				4580	4580	4580	4580	4580	4580	4580	4580	4580
	EST				0	0	0	0	0	0	-	0	
	ACT				0	0	0	0	0	0	0		
Cl_2 Bulk Handling Facilities	TAR	2000	2000	2000	2000								
	EST	3500	3550	1950	3440								
	ACT	3500	3550	3050	3440								
Solid Aroclor Expansion	TAR		30000	50000							30000		
	EST		49500	50000	10000	36000	24000	20000	17900	43000	72000	70000	
	ACT		51900	55900	10500	38500	23500	24700	27600	45000	86000		
Chlorinator Back Pressure	TAR									360	360	360	360
	EST									0	-	0	
	ACT									0	0		
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												

DSW 014916

STLCOPCB4003292

ORGANIC DIVISION

1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FUNCTIONAL FLUIDS & PLASTICIZERS	TAR												
	EST												
	ACT			(AFFECTING BOTH BUSINESS GROUPS)									
Aroclor Warehouse Reduced Headcount	TAR	1000	1000	1000									
	EST	1000	1000	1000									
	ACT	1000	1000	1000									
Improved Santowax Yield	TAR			4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
	EST			5900	2800	5800	4000	970	6630	6280	1910	5200	
	ACT			4450	2800	5800	4000	970	6630	6280	1910		
HB-40 Reduce Nickel Catalyst Usage	TAR			700	700	700	700	700	700	700			
	EST			1330	525	1230	425	0	0	540		920	
	ACT		1160	1335	525	2080	565	0	0	450			
Substitution of Santowax C for Santowax R	TAR											20000	20000
	EST											0	
	ACT												
	TAR												
	EST												
	ACT												
GENERAL CHEMICALS	TAR												
	EST												
	ACT		(BIPHENYL, PNP, HCl)										
Biphenyl Cooling Water Treatment	TAR	600	600	600	600	600	600	600					
	EST	670	680	580	600	670	440	290					
	ACT	670	680	580	600	675	440	290					
PNP Modify Acidifier Dump Valve System	TAR							625	625	625	625	625	625
	EST				625	625	625	625	625	625	-	-	
	ACT				625	625	625	625	625	625	-		
Install Entrainment Separator - Production	TAR							5500	5500	5500	5500	5500	5500
	EST							0	0	0	-	-	
	ACT							0	0	0	-		
Optimize Reactor Variables-PNP	TAR	3150	3150	3150	4630	4630	4630	4630	4630	4630	4630	4630	4630
	EST	520	1277	2164	127	1604	0	1525	1780	2368	-	-	
	ACT	520	3016	2164	127	1605	0	1525	1780	2368	-		
Re-use Well Water	TAR										500	500	500
	EST										-	-	
	ACT										-		
Untargeted PNCB Heel Credits	TAR												
	EST		2275	563	3078	1650	920	410	550	753			
	ACT		2275	563	3078	1650	920	410	550	753			
HCl HCl Catch Tank & Coalescer	TAR	5700	5700	5700	5700	5700							
	EST	2500	7560	9000	10300	6545							
	ACT	2500	7560	9000	10300	6545							
150 M Gallon Storage Tank	TAR	4300	4300	4300	4300	4300	4300						
	EST	4300	4300	4300	4300	4300	4300						
	ACT	4300	4300	4300	4300	4300	4300						
HCl Instrumentation	TAR				1875	1875	1875	1875	1875	1875	1875	1875	1875
	EST			4000	12300	3440	6500	3940	8160	12900	0	9700	
	ACT			4000	12300	3440	6500	3940	8160	10400	0		
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												

DSW 014917

STLCOPCB4003293

ORGANIC DIVISION
1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	TAR												
	EST												
	ACT												
	TAR												
PLANT WIDE	EST												
	ACT												
Improve Plant	TAR	950	950	950	950	950	950						
Power Factor	EST	900	900	916	790	800	845						
	ACT	940	914	840	790	810	845						
Central Air	TAR										1000	1000	1000
Compressor	EST										-	-	
	ACT										-		
	TAR	19900	19900	19900	19900	9950							
Chlorine Plant	EST	19900	19900	19900	19900	9950							
Shutdown	ACT	19900	19900	19900	19900	9950							
RTN Cooling	TAR							25	25	25	25	25	25
Water to Tower	EST							0	0	0	-	-	
Cooling Conveyor - P_2S_5	ACT							-	-	-	-		
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
Total Organic	TAR	40.6	72.1	96.88	58.07	44.62	27.97	34.12	30.52	30.88	64.68	51.68	51.68
Month - M $	EST	36.29	94.54	103.6	70.39	74.61	43.58	30.33	37.65	67.68	74.57	86.72	
	ACT	36.33	99.86	109.1	70.89	77.98	42.22	35.03	47.35	67.09	88.57		
Total Organic	TAR	40.6	112.7	209.6	267.6	312.3	340.2	374.3	404.9	435.7	500.4	552.1	603.8
YTD - M $	EST	36.29	130.9	239.8	315.7	390.8	437.7	467.7	510.0	587.6	661.4	762.1	
	ACT	36.33	136.2	245.3	316.2	394.1	437.3	472.4	519.7	586.8	675.4		

DSW 014918

AG DIVISION
1970 TSD COST IMPROVEMENT

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PARATHIONS	TAR												
	EST												
	ACT												
Replace #3 Chlorinator	TAR					3500	3500	3500	3500				
	EST				4860	2340	0	0	0				
	ACT				4860	2340	0	0					
Improve Cl_2- Still Yields	TAR					3000	3000	3000	3000	3000	3000		
	EST					0	0	0	0	0	-		
	ACT					0	0	0	0	0	-		
Increase Chlor-inator Coolings	TAR								8500	8500	8500		
	EST								0	0	-		
	ACT								0	0	-		
Acetone Recovery	TAR	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	
	EST	1957	1069	1225	1935	130	715	0	0	0	-	-	
	ACT	1957	1069	1225	1935	130	715	0	0	0	-		
Chlorine Unloading	TAR	2250	2250	2250	3200	3200	3200	3200	3200				
	EST	3634	4237	3350	1406	3431	2430	1750	2710				
	ACT	3634	4237	3350	1406	3431	2430	1750	2710				
Optimize Methyl PNP/PCT Ratio	TAR					3000	3000	3000	1500				
	EST					0	0	0	0				
	ACT					0	0	0	0				
Optimize Ethyl PNP/PCT Ratio	TAR	500	750	750								500	50
	EST	0	2641	0								-	
	ACT	0	2641	0									
Change Cooling H_2O - Item 737	TAR	200	200	200									
	EST	310	230	270									
	ACT	310	230	270									
Untargeted: Plant Test - ~~Freon-21~~	TAR												
	EST				2430	5270							
	ACT				2430	5270							
	TAR												
	EST												
	ACT												
Total AG - Month M $	TAR	5.75	6.0	6.0	6.0	15.5	15.5	15.5	22.5	14.3	14.3	3.3	
	EST	5.90	8.17	4.85	10.63	11.2	3.15	1.75	2.71	0	-	-	
	ACT	5.90	8.17	4.85	10.63	11.2	3.15	1.75	2.71	0	-		
Total AG YTD M $	TAR	5.75	11.75	17.75	23.75	39.25	54.75	70.25	92.75	107.1	121.4	124.7	125.
	EST	5.90	14.08	18.92	29.55	40.73	43.87	45.62	48.33	48.33	48.33	48.33	
	ACT	5.90	14.08	18.92	29.55	40.73	43.87	45.62	48.33	48.33	48.33		
	TAR												
	EST												
	ACT												
Total Plant Month M $	TAR	46.35	78.1	102.9	64.07	60.12	43.47	49.62	53.02	45.18	78.98	54.98	52.1
	EST	42.19	102.8	108.5	81.02	85.79	46.72	32.08	40.36	67.68	74.57	86.72	
	ACT	42.23	108.0	113.9	81.52	89.15	45.36	36.78	50.06	67.09	88.57		
Total Plant YTD M $	TAR	46.35	124.5	227.3	291.4	351.5	395.0	444.6	497.6	542.8	621.8	676.7	728.
	EST	42.19	145.0	258.8	345.3	431.5	481.6	513.3	558.3	635.7	709.7	810.4	
	ACT	42.23	150.3	264.2	345.8	434.9	481.2	518.0	568.0	635.1	723.7		

DSW 014919