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

SEPTEMBER 1970

COST IMPROVEMENT RESULTS

	Est. Act.	Target	% of Target
Month	$67,676	$45,175	150%
YTD	$635,723	$542,780	117%

Organic Division

The new autoclave for HB-40 (CEA 1482) was installed in early September. Startup for the new vessel (using the existing therminol system) will be during the week of 10-5-70. Total TSD time expended on project this month was 369 hours.

A test run was begun on the Polyphenyl Tubular Unit to determine capacity and operating bottlenecks when attaining a 50/50 biphenyl/Santowax C split.

Redesign of the Aroclor chlorinator chlorine spargers was completed and Maintenance will fabricate two units to be installed and tested for chlorine efficiency (free chlorine in the HCl gas).

One batch of low color Aroclor 5460 was successfully produced and met all specs. Samples were sent to Marketing for evaluation. Cost will be less than one cent per pound. Progress report will be issued first week October.

A sampling/analysis program was started on Aroclor 5460 to determine relationship between biphenyl in Santowax R and PCB in 5460.

A project (AFE 3605) was forwarded for approval to decrease/contain Aroclor leaks to decrease the loss of PCB to the plant effluent ($15,300 capital and $6,850 expense).

DSW 014929

AN - 306

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Muriatic Acid - A design and safety review was held for Project 3512 Improved Organics Catch Tank in HCl Off-gas Line. Drawings were revised and the project will be transmitted the week of October 5.

Preliminary design proceeded on the HCl Fume Collection and Scrubbing System to reduce water load to the sewer and the need for subsequent PCB removal. An AFE will be submitted in mid October.

CED transferred $28,000 to the plant from CEA 1831 to modify Chlorine Unloading Facilities and provide nitrogen pad for unloading of cars. TSD began design of new facilities late in September.

Agricultural Division

Assistance was provided to determine causes for high raw material and acetone usage in the condensation step, and also to correct a color problem in stored refined intermediate. Some success was achieved in acetone usage and color correction. The raw material yield problem remained unsolved at month's end.

Field testing of the "Hydrocarbon Dilution of Still Residue" process amendment proceeded independently of "Chlorination In The Presence Of Acetone." A progress report is in preparation for issuing in October.

Process correlation studies on the parathion intermediate chlorinators, followed by a confirming process control experiment, have demonstrated a 4% yield improvement from optimization of chlorine flow rate. Instrumentation to provide automatic control have been installed on one reactor to give long-term confirmation for a potential $50,000 annual savings.

Quality Control

The Plant Quality Score was 76.9, down 11.0 from August, with a YTD score of 85.0 against a target of 95.0, and the lowest score of 1970. All departments except Parathion dropped sharply in quality scores.

Pollution Control

The new neutralization pit was started up on September 23. The PCB content in the pit effluent is running below the 10 PPB division goal. A skimmer has been installed on the Aroclor sump and preliminary indications are that it is working satisfactorily. An additional set of fish samples from Choccolocco Creek and the Coosa River were collected in September.

Start-up of the newly-constructed Trash Burner was successfully completed on 9-17-70.

J. C. Landwehr

:kd

DSW 014930

PLANT LABORATORIES

ANALYTICAL AND QUALITY CONTROL - S. O. Kemp

Complaint Report

Quality

None.

YTD Quality Complaints/100 Shipments 0.29

Target 0.20

STLCOPCB4003307

COMMUNITY RELATIONS, PERSONNEL, RECRUITING AND DEVELOPMENT

Community Relations

1. Dr. Fred Lippman, Ag Research, visited PR&D concerning Parathion Research.

2. Mallory visitors were here concerning the product - Aroclor, and worked with Chief Chemist, J. T. Bell on special analysis.

3. J. C. Landwehr attended A.I.Ch.E. meeting in Birmingham on September 23.

4. J. T. Bell and J. C. Landwehr went to Auburn, Alabama for Alabama Environmental Conference, September 30 and October 1.

Personnel Development

1. D. J. Johnson completed his summer of employment and returned to the University of Alabama on September 4.

2. D. G. Dixon, Co-Op student from Georgia Tech, completed his second quarter of work and returned to school on September 25.

3. D. A. Secrest, Co-Op from Georgia Tech, reported for work on September 28. Billy will report to W. B. Dunlap.

4. M. M. Marcum completed his second summer of work and returned to the University of Tennessee on September 4.

5. Department Safety Meeting was held two days, September 30 and October 1. Meeting was conducted by Tom Lawrence, Safety Supervisor.

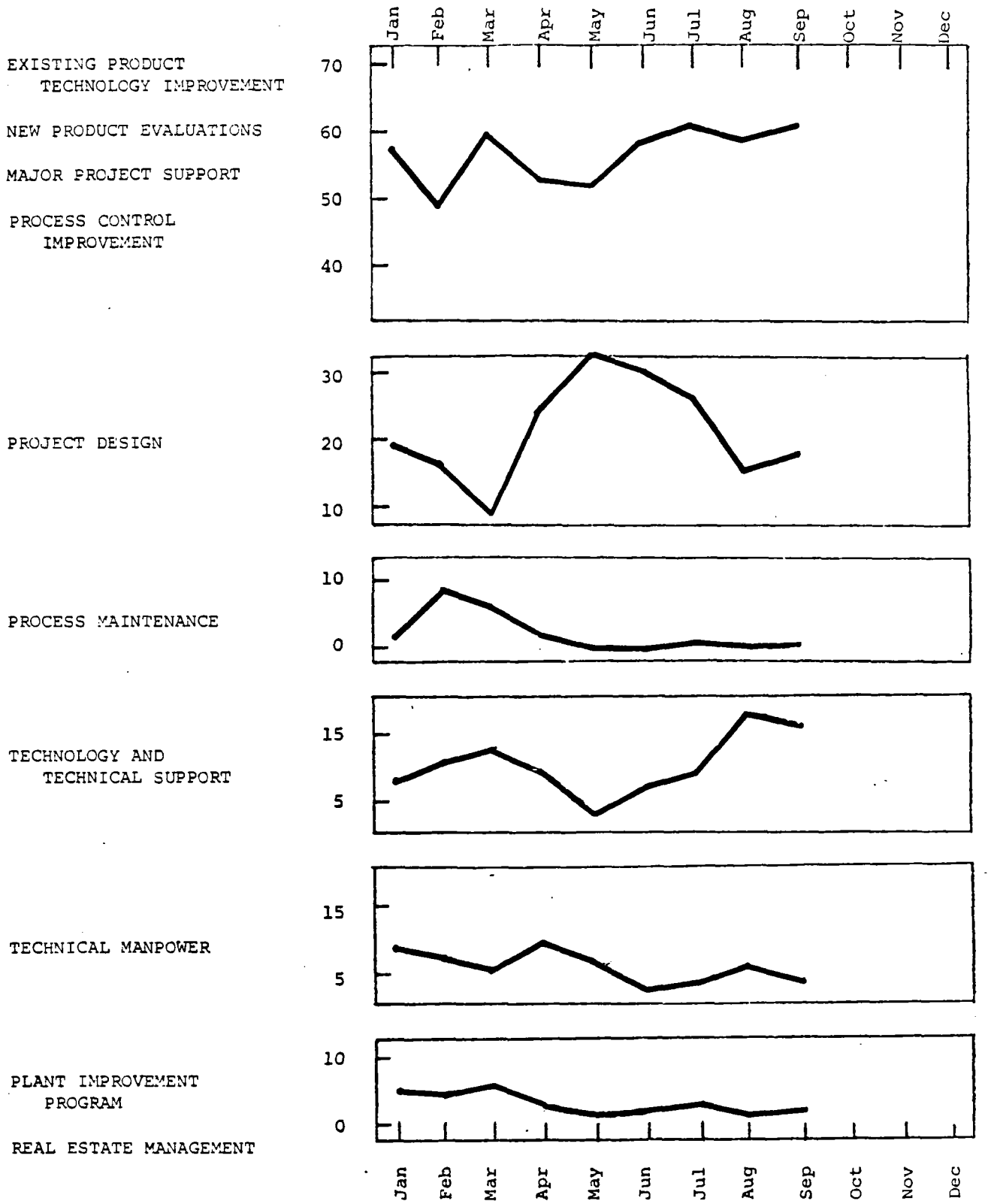
Visitors

1. P. E. Cherry, CED, visited plant on September 11 to discuss limestone neutralization pits and to look at construction of new pit.

2. Drs. Gunning and Suttkus conducted a biological survey of Choccolocco Creek and the Coosa River on September 22, 23, and 24.

STLCOPCB4003308

1970 DISTRIBUTION OF TIME BY TECHNICAL SERVICE



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STLCOPCB4003309

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			
	ACT			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					
1242 Distillation Productivity	TAR			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	EST			0	100	1000	1520	2565	2000	1210			
	ACT			0	100	1000	1520	2565	2000				
	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			
	ACT					0	0	0	0				
Sandvik Belt	TAR							2250	2250	2250	2250	2250	2250
	EST							0	0	0			
	ACT							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			
	ACT				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			
	ACT		51900	55900	10500	38500	23500	24700	27600				
Chlorinator Back Pressure	TAR				-					360	360	360	360
	EST									0			
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												

DSW 014934

STLCOPCB4003310

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			
	ACT			4450	2800	5800	4000	970	6630				
HB-40 Reduce Nickel Catalyst Usage	TAR			700	700	700	700	700	700	700			
	EST			1330	525	1230	425	0	0	540			
	ACT		1160	1335	525	2080	565	0	0				
Substitution of Santowax C for Santowax R	TAR											20000	20000
	EST												
	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				
Install Entrainment Separator - Production	TAR							5500	5500	5500	5500	5500	5500
	EST							0	0	0			
	ACT							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				
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				
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			
	ACT			4000	12300	3440	6500	3940	8160				
	TAR												
	EST												
	ACT												
	TAR												
	EST												
	ACT												

DSW 014935

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			
	ACT	36.33	99.86	109.1	70.89	77.98	42.22	35.03	47.35				
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			
	ACT	36.33	136.2	245.3	316.2	394.1	437.3	472.4	519.7				

DSW 014936

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				
Increase Chlor- inator Coolings	TAR								8500	8500	8500		
	EST								0	0			
	ACT								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				
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	.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				
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	125.1
	EST	5.90	14.08	18.92	29.55	40.73	43.87	45.62	48.33	48.33			
	ACT	5.90	14.08	18.92	29.55	40.73	43.87	45.62	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			
	ACT	42.23	108.0	113.9	81.52	89.15	45.36	36.78	50.06				
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	728.8
	EST	42.19	145.0	258.8	345.3	431.5	481.6	513.3	558.3	635.7			
	ACT	42.23	150.3	264.2	345.8	434.9	481.2	518.0	568.0				

DSW 014937