COMPANY CONFIDENTIAL

Monsanto

Anniston Plant

TECHNICAL SERVICES DEPARTMENT

MONTHLY REPORT

Anniston

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

General Offices

H. S. Bergen
H. C. Carder
W. R. Robirds
D. 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

OTHER LOCATIONS

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

Summary

July, 1969

Cost Improvement Results

	Est. Act.	Target	% of Target
Month	$112,237(1)	$66,275	169%
YTD	$300,376	$306,000	98.2%

(1) Biphenyl productivity and Chlorine Plant shutdown contribution include YTD adjustments as follows:

Due to increase in Santowax R demand the Tubular Unit has been run as a polyphenyl production unit rather than a biphenyl producer. The increase in savings represents this change for January thru July 1969.

Basis for the manpower reduction from shutdown of the Chlorine Plant included the operating personnel only. Due to the shutdown, plant manpower requirements have been reduced 27 men instead of 14. Adjustment made for May & June to new basis.

Organic Division

Solid Aroclor yield improvement instrumentation project is scheduled for August completion and start-up.

New chlorine unloading facilities for Parathion were started up 7/30 without incident. This together with completion of mercury flasking from the old cell house and signing of a mercury sales contract complete major TSD responsibilities on the chlorine shutdown project. Correction of minor checklist items and continuing design liaison on Cell House dismantling are remaining active areas.

DSW 551284

COMPANY 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 exerpted for him. The report must not be sent outside the Company without written approval and the recipient is accountable for its safe keeping, exerpting or otherwise disclosing of its contents and for its proper disposal."

STLCOPCB4089701

Organic Division (Cont'd)

Muriatic Acid produced a "water white" record of 1.936 $\bar{M}$ # in July. The coalescer and catch tank continue to operate effectively with 50% of product samples analyzed thus far less than $\angle 2$ ppm organics. PR&D is active in development of an analytical characterization of Staley Grade acid for routine control. The 150,000 gallon Muriatic acid storage tank is in service.

Agricultural Division

Sulfur Recovery Project was reviewed with CED on 7/24. CED is now active on the project with Anniston personnel supplying liaison help. Final PR&D Process amendment has been issued as basis for design.

Higher N_2 sparge and Cl_2 levels during July have increased parathion chlorinator yields significantly. Tests will continue in August.

A project has been approved to correct low heat transfer rates in #3 chlorinator due to jacket fouling by replacement with a new vessel. Payout time on this project is less than 30 days on methyl and installation is being expedited by use of critical path planning and close coordination with maintenance. Installation to begin early week of 8/11 with EDC 8/15.

Design and Drafting

A project to improve the emergency power supply for Parathion (replace one, recondition the second) has been forwarded for approval. Installation is targeted for late September.

Pollution Control

Preparation of Aroclor-HCl waste audit report underway. Sampling started in Parathion and PNP Departments for audit.

Quality

The Plant Quality Score was 87.6, down 1.5 from June with a YTD score of 87.6 against a 1969 target of 95.0 minimum. Aroclor 1242 shows increasing evidence of a wider isomer range. Solubility of Aroclor 5460, color and free chlorine of Muriatic show unfavorable trends.

J. C. Landwehr

jw

DSW 551285

STLCOPCB4089702

ORGANIC DIVISION
1969 TSD COST IMPROVEMENT

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Sol.Aro.Level	TAR				2250	2250	2250	2250	2250	2250	2250	2250	2250
Ind.& -Still SpG	EST				-	-	-	-					
AFE 3015	ACT				-	-	-						
Solid Aro.	TAR	2600	2600	2600	2600	2600	2600	2600	2600	2600	-	-	-
Lower 5060	EST	1500	5490	4890	2150	4670	8000	4230					
Soft. Point	ACT	1500	5490	4890	2150	4670	8000						
Sol.Aro.-Still	TAR				160	170	160	170	160	170	160	170	160
Coolant temp.	EST				-	-	-	-					
AFE 3015	ACT				-	-	-						
Sol.Aro.-Chlorton	TAR				390	390	390	390	390	390	390	390	390
Batch End	EST				-	-	-	-					
AFE 3015	ACT				-	-	-						
Sol.Aro. Yield	TAR					2750	2750	2750	2750	2750	2750	2750	2750
SW/R Composition	EST					-	-	-					
AFE 3016	ACT					-	-						
Solid Aro.	TAR					1080	1080	1080	1080	1080	1080	1080	1080
Montar 5 Flake	EST					-	-	-					
AFE 2949	ACT					-	-						
Sol.Aro.	TAR	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Blend 4465	EST	1690	1920	1680	1490	710	1180	990					
	ACT	1690	1920	1680	1490	710	1180						
Sol.Aro.-Verti-	TAR	70	80	70	80	70							
cal Still Cond.	EST	70	90	90	90	90	-	-					
AFE 2324	ACT	70	90	90	90	90	-						
Sol.Aro.Cl_2	TAR			940	940	950							
T/C Dock	EST			0	-	-							
AFE 2342	ACT			0	-	-							
Sol.Aro.-New Cl_2	TAR						950	940	950	940	950	940	950
Unload - No Delay	EST					900	2330	2050					
CED 1831	ACT					900	2330						
Solid Aro.-Flake	TAR	3000	3000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
& Drum	EST	0	0	1000	2000	2000	2000	3000					
CED 1430	ACT	0	0	1000	2000	2000	3000						
Liq.Aro.	TAR	3000	3000	-	-	-	-	-	-	-	-	-	-
48-53 M #/yr.	EST	0	5500	-	-	-	-	-					
AFE 2545	ACT	0	5500	-	-	-	-	-					
Liq.Aro.-No.2	TAR										3000	3000	
Still Entrain Sep.	EST												
AFE 3093	ACT												
Liq.Aro.-Montar	TAR			1080	1080	1080	1080	1080	1080	1080	1080	1080	1080
Disposal	EST			0	0	0	0						
AFE 2952	ACT			0	0	0	0						
Warehouse	TAR	2000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Reduce Manpower	EST	2000	2000	2000	3000	3000	3000	3000					
CEA 1452	ACT	2000	2000	2000	3000	3000	3000						
Liq.Aro.New	TAR			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Burners #3 Still	EST			0	0	1500	3000	900					
	ACT			0	0	1500	3000						
Biphenyl Relocate	TAR	500	500	500	500	500	500	500	500	500	500	500	500
No. 1 Preheat	EST	1500	0	1560	1870	0	0	1500					
CEA 1892	ACT	1500	0	610	1370	0	0						
HB-40	TAR	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
2nd Autoclave	EST	2230	2580	0	600	9000	6000	5600					
AFE 3102	ACT	3490	2420	0	600	10,400	8600						

DSW 551286

STLCOPCB4089703

ORGANIC DIVISION
1969 TSD COST IMPROVEMENT

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BiØ Improve Tower Treat. AFE 3155	TAR					450	450	450	450	450	450	450	450
	EST					0	0	0					
	ACT					0	0						
Improve Plt. Power Factor	TAR					900	900	900	900	900	900	900	900
	EST					0	500	900					
	ACT					0	500						
Central Air System	TAR									1000	1000	1000	1000
	EST												
	ACT												
Optimize Rx Time	TAR		2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
	EST		0	3420	0	0	0	2940					
PNP	ACT		0	3420	0	0	0						
Reduce Mole Ratio NaOH/PNCB PNP	TAR				4000	4000	4000	4000	4000	4000	4000	4000	4000
	EST				0	0	0	0					
	ACT				0	0	0						
New Wash Water Pump - PNP AFE 2998	TAR					50	50	50	50	50	50	50	50
	EST		25	50	50	50	50	50					
	ACT		25	50	50	50	50						
Automatic pH Control PNP	TAR										500	500	500
	EST												
	ACT												
HCl Filter Pump	TAR	330	330	340									
	EST	330	330	340									
	ACT	330	330	340									
New Blow Tank	TAR	200	200	200	200	200	200						
	EST	200	200	200	200	500	200						
HCl	ACT	200	200	200	200	200	200						
150,000 Gal.-HCl Storage Tank AFE 2468	TAR				1760	1760	1780	1760	1760	1780	1760	1760	1780
	EST				-	0	0	2640					
	ACT				-	-	0						
Produce Staley Grade Acid AFE 3076	TAR							780	780	790	780	780	790
	EST							-					
	ACT												
Cl_2 Plt. Shutdown	TAR						8880	8880	8880	8880	8880	8880	8880
	EST					8880	6655	42885					
CEA 1831	ACT					2230	6655						
Hg Recover from Residue	TAR	250	250	250	250								
	EST	3910	0	0	0								
	ACT	3910	0	0	0								
Hg Wash Tank	TAR	250	250	250	250								
	EST	0	0	0	0								
AFE 2802	ACT	0	0	0	0								
Biphenyl Productivity	TAR	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600
	EST	0	9000	15,000	0	0	0	30780					
	ACT	1800	5900	13500	0	0	0						
Total Organic By Month M $	TAR	23.3	26.8	29.3	37.5	42.3	51.1	51.6	51.6	51.6	52.7	53.5	50.6
	EST		27.1	30.2	11.5	36.3	39.165	107.4					
	ACT	16.5	23.8	27.8	11.4	25.75	45.9						
Total Organic YTD M $	TAR	23.3	50.1	79.4	116.9	159.2	210.3	261.9	313.5	365.1	417.8	471.3	521.9
	EST		46.9	78.8	79.6	115.9	144.4	258.5					
	ACT	16.5	40.3	68.1	79.5	105.2	151.1						

* $22955 adjustment included for May & June.

** $27,780 adjustment included for months January thru June.

DSW 551287

STLCOPCB4089704

AG DIVISION
1969 TSD COST IMPROVEMENT

		ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Cooling Tower Repiping AFE 2598	TAR					420	420	410	410	420	420	410	420	420
	EST					0	0	0	0					
	ACT					0	0	0						
Optimize N_2 & Cl_2 Levels	TAR					6600	6700	6700	6600	6700	6700			
	EST					0	0	0	0					
	ACT					0	0	0						
Increase Waste Acid Sales	TAR					400	300	300	400	300	300	400	300	300
	EST					0	0	0	0					
	ACT					0	0	0						
Chlorinator R.I.	TAR								250	250	250	250	250	250
	EST								0					
AFE 2244	ACT													
EVOP Condensation Rx.	TAR	750	750	500								500	750	750
	EST	0	0	12,615										
	ACT	0	0	12,615										
Cl_2 Unloading	TAR								5000	5000	5000	2000	2000	2000
	EST								0					
CEA 1831	ACT													
Recycle Wash Water AFE 2960	TAR								290	290	290	290	290	290
	EST								0					
	ACT													
Parathion Recovery	TAR											5800	5800	5800
	EST													
AFE 2655	ACT													
Reduce Acetone Losses	TAR											4300	4300	4300
	EST													
	ACT													
Formulations	TAR					1600	1600	1600	1600	1600	1600			
	EST					3000	6600	10,000	4510					
AFE 2897	ACT					4300	10,400	9288						
Change Cooling H_2O Item 737 AFE 3067	TAR					125	125	125	125	125	125	125	125	125
	EST					120	180	155	272					
	ACT					120	180	171						
Well H_2O to Jets	TAR											500	500	500
	EST													
	ACT													
Ag. Division by Month	TAR	750	750	500	9145	9145	9135	14675	14685	14685	14575	14485	14485	
	EST			12,615	3,120	6,780	10,155	4842						
	ACT	0	0	12,615	4,420	10,580	9459							
Ag. Division YTD	TAR	750	1500	2000	11145	20290	29425	44100	58785	73470	88045	102530	117015	
	EST			12,615	15,735	23,815	37,770	41,916						
	ACT	0	0	12,615	17,035	27,615	37,074							
	TAR													
	EST													
	ACT													
Organic Div. Untargeted - HCl Catch Tank	TAR						0	0						
	EST						5000	6250	5960					
	ACT						0	9350						

DSW 551288

STLCOPCB4089705

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

Aroclor Safety Audit	Safety	TSD Objective A - 1

Completed project premise on Biphenyl-Santowax backflow into chlorine lines from chlorinators.

Sent out project premise for relocation of emergency chlorinator vents for west liquid chlorinators.

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

Density gages installed on chlorinator and still receiver circulating lines. Radiation detector for #4 still level alarm also installed. Remaining work consists of connecting gages to indicators and recorders in control room and installing radioactive source for level alarm. calibration of instruments and start-up targeted for August.

Therminol System	Potential Lost Sales	TSD Objective B - 8 (h)

Project 3216 (Alter Therminol Distribution System) has been approved for $3,850 capital and $19,390 expense. The project will be installed with the Solid Aroclor Expansion.

Debottleneck Liquid Aroclor Stills	Yield & Capacity Increase	TSD Objective B - 8 (i)

The project to install an entrainment separator in the number 2 Aroclor still system was transmitted to Maintenance for construction on July 7.

The field test of Aroclor Standard Manufacturing Process Tentative Amendment "B" has been delayed because of a color problem in finished Aroclors. The color problem was traced to No. 2 still and is presently being run at a slower rate. This has eliminated the color problem.

BIPHENYL-SANTOWAX W. G. Niemeyer, D. A. Self (V. R. Haupt)

Debottleneck Biphenyl & S/W Refinement to 87.6 M lbs/yr. Biphenyl	Capacity Increase	TSD Objective B - 7 (a)

The new gas burner installed in the Santowax reboiler furnace on June 12 continues to perform well. Production requirements have recently caused a shift to maximum Santowax and minimum biphenyl production. A capacity test run will be conducted on the Santowax distillation column as soon as the SW/C feed flow meter is re-installed.

STLCOPCB4089706

BIPHENYL-SANTOWAX (Cont'd)

Low Biphenyl Santowax for FDA 5460	Sales Support	TSD Objective B - 7 (b)

Results of the June test run were issued in a Progress Report, TSD Job No. 370:875, report No. 2, on July 16, 1969. Test results show that we cannot routinely produce Santowax C with less than 0.03% biphenyl without additional cooling in the distillation area. On July 25, 1969, the tempered water cooler tubes were drilled out. This additional cooling will help, but we still have inadequate cooling water flow to the tempered water cooler. Analysis of the entire biphenyl-Santowax cooling water piping is now in progress to determine if a booster pump will solve the problem.

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

CED approved funds for the Plant to complete all remaining items on this project.

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

High temperature target meters are still out of service. Design for by-pass loops with blow out connections was issued on July 3, 1969. The by-pass loops were fabricated during the week of July 28. They will be installed as soon as possible.

Alter Crude Biphenyl Flow Meter	Process Study	TSD Objective B - 7 (e)

The complete design package was transmitted to Maintenance on July 3, 1969. Installation of this project No. 3270 will provide better control of the biphenyl distillation column.

Prediction and Control of Dust Explosion Potential in Biphenyl Flaker Packaging System	Safety	TSD Job No. 931

Issued a project premise on July 23, 1969 recommending a nitrogen fluidization on the bagger and a vent pipe from the feed hopper to the roof.

DSW 551290

STLCOPCB4089707

BIPHENYL-SANTOWAX (Cont'd)

Designed Experiment for No. 1 Biphenyl Furnace	Process Study	TSD Objective B - 7 (e)

Plan to conduct a 10 day test run on No. 1 biphenyl furnace, starting the week of August 4, to determine how major variables effect the product split and conversion.

Install Secondary High Level Alarm on Biphenyl Column	Safety	TSD Job No. 817

Drafting started on July 25, 1969.

Install Knockout Tank on Santowax Jet Vent	Safety	TSD Job No. 862

Requested quotations on tank. Drafting scheduled for September, 1969.

HB-40 J. W. Mattern (V. R. Haupt)

HB-40 Control Variable Study	Process Study With $10 M Potential Savings	TSD Objective B - 12 (d)

Process will be investigated to correlate operating variables with high color production and at the same time determine if catalyst usage can be reduced without effecting production.

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

Central Chlorine Unloading - CEA 1831	TSD Backup of Manufacturing Representative - Savings $53,300	TSD Objective B - 6 (a)

Revision of automatic shut-off controls for the Aroclor dock began with the installation on one unloading spot. Tests on revised dock appear very good. Should complete tests in August.

HCl G. L. Moore, K. G. Hale (A. G. McCarty)

Production of Staley Grade Acid - AFE 3076	New Earnings $28.8 M Potential Savings $71 M	TSD Objective B - 10 (c)

Coalescer and catch tank contributed greatly to a record production of 1.936 M pounds of water white acid and $6000 savings (excluding new earnings) were

STLCOPCB4089708

HCl (Cont'd)

achieved. Fifty percent of analyzed product acid samples have had organic contents of <2 ppm on a random basis. PR&D work is continuing to evaluate analytical techniques for routine control of process to produce Staley Grade Acid.

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

Storage tank has been put into service and is operating satisfactorily. Savings of $2600 were gained during July.

Issue HCl Manufacturing Improvement Plan	Planning	TSD Objective B - 1 (b)

Completion of final draft delayed because of free Cl_2 problems. Finished draft will be completed in August.

Reduce High Free Cl_2 in Muriatic Acid	Quality	TSD Job No. 950

Priority has been given to the new quality problem of free residual chlorine in product acid - this problem has occurred in the last few months only.

Due to lack of background data on free Cl_2, no correlation to changes in the Aroclor process has been made yet. Since the problem is cyclic, data will be taken under good and poor levels of free Cl_2. Preliminary tests should begin in August. Interim actions have been taken to revamp the deteriorated fume collection system on acid loading dock to handle the HCl fumes evolved from tank cars and trucks during air blowing. Design and installation was also completed to air blow those acid storage tanks connected to the scrubber jet.

PNP K. G. Hale (A. G. McCarty)

Debottleneck to 1.8 M #/mo.	Capacity Savings $27,500	TSD Objective B - 9 (a)

There were no letdown problems during the month. Production rates (#/hr. basis) were above standard and a savings of $2940 resulted. Overall production was hurt by high downtime (79.4% on-stream).

Installation of a new filter wash pump, scheduled in August, will correct a present bottleneck to realizing increased production from solution of reactor letdown problems.

DSW 551292

STLCOPCB4089709

NIRAN K. G. Hale, D. W. Dudley, T. W. Lawrence, J. L. Gaines (A. G. McCarty)

Demonstrate Parathion Recovery	Savings $17,500 10-15% Reduced COD	TSD Objective B - 5 (a)

No change in status. Construction in progress on test facilities.

Acetone Recovery	Savings $12,900 20% Reduction COD	TSD Objective B - 5 (i)

Ejectors on No. 3 and No. 4 condensation reactors were exchanged 7/30. Recovery tests for Methyl parathion will resume in early August. Drafting is scheduled for completion 8/8. Project premise was circulated for approval 7/23.

Central Chlorine Unloading for Niran	Savings $21,000	TSD Objective B - 6 (a)

The chlorine unloading facilities were started up 7/30. Operations to date very smooth. Rate has not been demonstrated due to lack of air pad. Production to work with maintenance in rebuilding air pad compressor system.

No. 3 Chlorinator Long Cycle Time	Profit on New Sales: $25,000/mo. Savings: $5,000/mo in Productivity	TSD Job No. 927 TSD Objective B - 5

Replacement of No. 3 chlorinator approved. Prefabrication will begin 8/4/69 - a slippage of one week due to delay in delivery of materials. Actual installation to begin week of 8/11/69 with EDC of 8/15/69.

Improve Chlorinator Cooling System	Profit on New Sales & Savings: $48,000/mo. per 1/2 hour Reduction in Chlorination Time	TSD Objective B - 5 (g)

Gathering of information on boiling systems from literature and other sources is almost complete. Possible approaches are being considered based on this information and evaluation of the existing operation.

Sulfur Recovery from Residue	$271,000/yr. Net Savings 40% Reduction in SO_2	TSD Objective B - 5 (d)

Project details were reviewed by CED and Anniston personnel on 7/24-25. The project was turned over to CED. Anniston TSD will provide assistance as necessary for CED requests.

Final PR&D report on Process Changes and Corrosion Studies was issued on 7/24.

STLCOPCB4089710

NIRAN (Cont'd)

Optimize Cl_2 & N_2 Levels	Savings $40,000	TSD Objective B -5

Higher N_2 sparge and Cl_2 levels resulted in $6,600 savings in July compared to June YTD yields. Further optimization of levels will continue during August.

Manufacturing Improvement Plan		TSD Objective B - 1 (c)

Preparation of Parathion MIP in progress with EDC of 8/15 for rough draft.

Wash Water Recycling	Savings - $7,400 and 7-8% Reduced Hydraulic Load to Waste Treatment	TSD Job No. 815

Preliminary tests indicate that the aqueous wash column effluent stream can be successfully used as a washing solvent in the prewash settlers. Further tests will be made when minor repairs are made to existing piping. Recommendations for new piping will follow conclusion of the tests; no EDC is presently available.

Waste Treatment Aeration Basins Air Cooling	Waste Treatment Capacity Increase	TSD Job No. 939

TSD evaluation indicates that injection of water into the aeration blower air will be ineffective in cooling the basins. Further evaluation of methods for reducing the basin temperature is necessary.

PROCESS AND QUALITY ANALYSIS J. L. Murphree, Allen Hale (W. B. Dunlap)

Process Surveillance

The first semi-annual recalculation of control chart standards is 75% complete. All finished product with 25 lots per year and/or 500,000 pounds produced will be covered by updated control charts.

Optimum Test Frequency TSD Job No. 951

A statistical review of all process control analyses showed a justified reduction totally 233 man hours of lab time per month, equivalent of $2,300 per month savings to Production on specific control testing.

STLCOPCB4089711

PROCESS AND QUALITY ANALYSIS (Cont'd)

PNP - Monitor of Critical Variables	Potential Savings $60,000	TSD Objective C - 3 TSD Job No. 839

Strong correlations have been found between batch yield and PNP loading to carbon towers, temperature and pressure of reactor, caustic concentration of the charge. No relationship was found between PNP batch quality and batch yield.

Automatic Still Control	Potential Savings $79,000	TSD Job No. 964

A Task Force (Dunlap, Lawrence, Veazey) was assigned the problem of defining a control system for the Parathion Intermediate Stills which will obtain the cost improvement predicted by statistical studies of 1968. A Phase I study was laid out to identify and quantify the effect of control parameters. AFE request will be written to cover instrumentation. A progress report is being written.

ENGINEERING DESIGN AND SERVICES

Mechanical/Electrical/Instrument Design and Drafting	J. C. Price, J. A. Veazey, R. V. Carlisle, R. L. Brewer, J. K. Rennie, J. Childress (W. F. Taffee)

Formal bids are now being accepted for dismantling of chlorine facilities.

Flasking of mercury was completed in early July - arrangements to return leased equipment now in progress.

Verbal approval, in the amount of $15 M, has been received to purchase a new emergency generator for use in the Parathion department. The project (AFE-3305 - $41.9 M) was forwarded for approval on 7/18/69.

Projects forwarded for approval:

Purchase New Emergency Generator, Recondition Existing Generator, and Relocate Both - Parathion Dept. (AFE-3305 - $41.9 M), Replace Sight Windows in Niran Cubicles (AFE-3141 Rev. 1 - $0.5 M).

Drafting in progress on the following projects:

Acetone Recovery (Niran), Provide Facilities to house Biphenyl Pilot Plant (Biphenyl), Revision of Electrical Drawings - as built (Niran).

Review drawings were completed for the following projects:

Chlorinator Replacement - Niran (AFE-3290 - $15.5 M), HCl Water-Loop Replacement (AFE-3240 - $8.3 M).

STLCOPCB4089712

ENGINEERING DESIGN AND SERVICES (Cont'd)

Construction drawings were completed for the following projects:

Revise piping for Santowax Flow Instruments (portion of AFE-3016 - $16 M), Sulfur Recovery P&I, (final drawings), Fire Pump Capacity Check Equipment (AFE-3227 - $4.1 M).

UTILITIES ENGINEERING J. C. Price, M. L. Marcum (W. F. Taffee)

Results of treatment of the Biphenyl Cooling Tower Treatment were inconclusive because of the fouled condition of the system. The system was shutdown for cleaning in late July and savings of $450 per month will start in August. Continued final design of Steam and Water Meter Projects with completion scheduled for August 15. Started reviewing steam plant operation and collecting data for preparation of Steam Plant MIP.

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

A complete breakdown of plant improvement projects and of all other projects that have been deferred for 1969 and 1970 as a result of profit improvement was forwarded to W. E. Chandler.

AFE-3293 - $7.1 M - Upgrade Existing Fire Water System was forwarded for approval. Design packages were forwarded for: Surfacing Fire Lane To Benzene Tank Farm (AFE-3277 - $1.0 M) and Surfacing Drain Pad Under Niran Loading Dock (AFE-3213 - $3.0 M).

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

Complaints	Community and Government Relations	TSD Objective F - 2

Three air pollution complaints were received during July. Two were attributed to SO_2 fumes and one resulted from HCl fumes being released to the atmosphere while blowing acid cars.

Waste Audits Aroclor, HCl, Niran and PNP	Pollution Abatement	TSD Objective F - 3

Waste audits of the Aroclor and HCl departments have been completed. All samples have been analyzed and the report is now being prepared. Waste audits of the Niran and PNP departments are now being conducted. We expect to be finished with these audits by the middle of August.

STLCOPCB4089713

POLLUTION CONTROL (Cont'd)

Waste Treatment

All wastes were effectively treated during July. There were some problems with pluggage of the hold tank drain lines. Average daily values for Monsanto effluents are as follows.

	Average Daily	Specifications
PNP	1.0 ppm	5 ppm
COD	128 ppm	< 200 ppm
Parathion	0.11 ppm	< 1.0 ppm (Max.)
BOD	6.0 ppm	< 200 ppm

PLANT LABORATORIES G. W. Miller

PROCESS RESEARCH AND DEVELOPMENT J. T. Bell

Of the 110 mandays available in July, 50 mandays were expended on projects scheduled in the 1969 PR&D Program. In addition, 17 mandays were utilized in the preparation of a sales sample of low color Aroclor 5460 and in the study of HB-40 Color Improvements. The remaining mandays were used for supervisory, vacation, illness, and miscellaneous activities.

Sulfur Recovery — Sulfur Refinement for Reuse — I. Ransaw

PR&D report (Job No. 370-600, Report No. 11) was issued 7/23/69 and the study reviewed with CED on 7/25/69. The project has been terminated by plant research with issuance of this final process amendment.

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

The evaluation of attapulgus clay as an absorbant for the refinement of Aroclor 1242-phenyl glycidyl ether mix is now scheduled for completion by 8/8/69. This project has been extended past the tentative completion date 7/3/69 as recorded in the project work plan.

HB-40 Process Studies — Determine Process Variables — W. H. Howard

A project work plan was issued 7/15/69 with project completion scheduled for 9/12/69. The system has been assembled but start-up problems have delayed progress by approximately 10 days.

Biphenyl Tubular Pilot Studies — Obtain Desired Biphenyl/Terphenyl Ratio — J. L. Brown

Verbal approval of the project to cover capital and experimental expense for this study has been received. Drawings for a small block house for the pilot unit are scheduled for completion by 8/1/69.

Muriatic Acid — Organics Level Determination — I. Ransaw

A project work plan was issued 7/2/69 with completion scheduled for 7/29/69. The study will be extended to 8/5/69 because of vacation scheduling.

STLCOPCB4089715

PLANT LABORATORIES (Cont'd)

PROCESS RESEARCH AND DEVELOPMENT (Cont'd)

Low Color Aroclor 5460 — Preparation Sales Sample — G. L. Arnett

Approximately 7 lbs. of the requested sample has been prepared. The effort has been delayed 15 days by illness.

HB-40 Color Improvements — Column Absorption — J. T. Bell

A work plan was issued 7/7/69 and the initial work completed. A study of various bed lengths is to be included prior to project completion.

ANALYTICAL AND QUALITY CONTROL S. O. Kemp

Complaint Report

Quality

Number	Material	Customer	Reason
9-A-69	Aroclor 5460	Swift	Lumps and Foreign Material
10-A-69	HB-40	Pure Chemicals Ltd.	Color
11-A-69	Aroclor 5460	Upaco	Off Color Lumps

YTD Quality Complaints/100 Shipments 0.27 Target 0.20

STLCOPCB4089716

COMMUNITY RELATIONS, PERSONNEL, RECRUITING, AND DEVELOPMENT

Community Relations

1. J. C. Landwehr attended AIA meeting in Birmingham on July 14 concerned with pending legislation to establish an Air Pollution Control Commission.

Recruiting

1. Mr. G. W. Richey, B.S. Electrical Engineering graduate, August 1969 from McNeese State, accepted an offer for position as Electrical/Instrument Engineer and will report August 18.

2. Mr. Brode Morgan, B.S. Electrical Engineering graduate, August 1969 from University of Arkansas, accepted an offer for position as Electrical/ Instrument Engineer and will report September 2.

3. Mr. J. O. House accepted our offer of employment as Senior Design Engineer and will report August 18.

Development

1. G. W. Miller and J. L. Brown attended Instrument Seminar on Gas Chromatography in Birmingham, July 29.

2. Liberty Mutual Insurance Company sponsored "Safety Management Seminar" at Holiday Inn July 29-30. Those attending were W. B. Dunlap, K. G. Hale, V. R. Haupt, W. G. Niemeyer, J. A. Veazey, J. T. Bell, S. O. Kemp, and M. D. Turner.

Visitors

1. P. W. Gallier, CED, visited July 23 concerning Parathion still temperature control.

2. July 24-25, V. W. Schotte and H. S. Trail, CED, visited concerning Sulfur Recovery Project, CEA 1971.

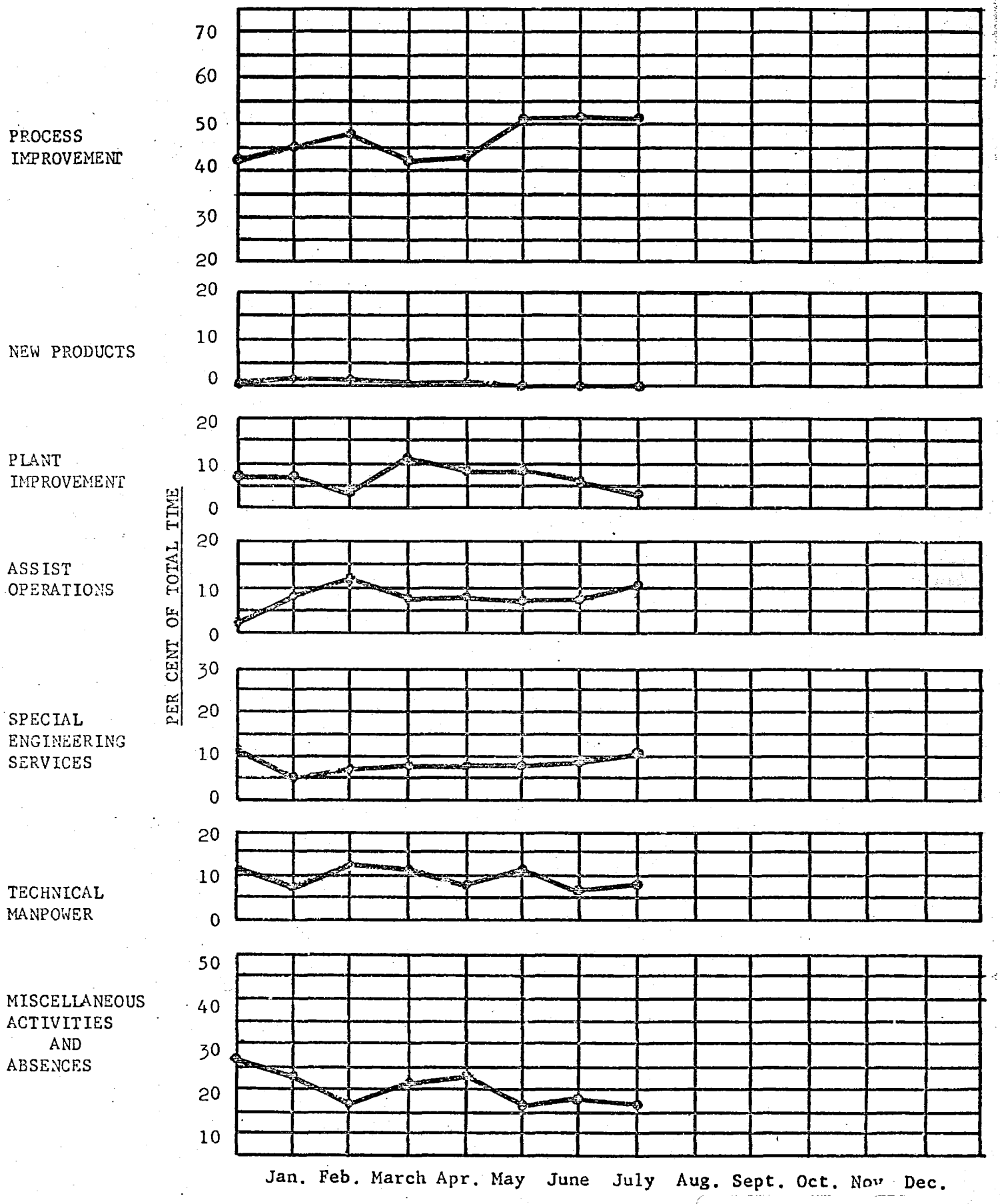
3. Claude Saunders, Project Manager CEA 8008, visited concerning chlorine dismantling.

4. M. P. Breiner, Supervisor Equipment Disposal Section, visited concerning chlorine dismantling.

DSW 551300

STLCOPCB4089717

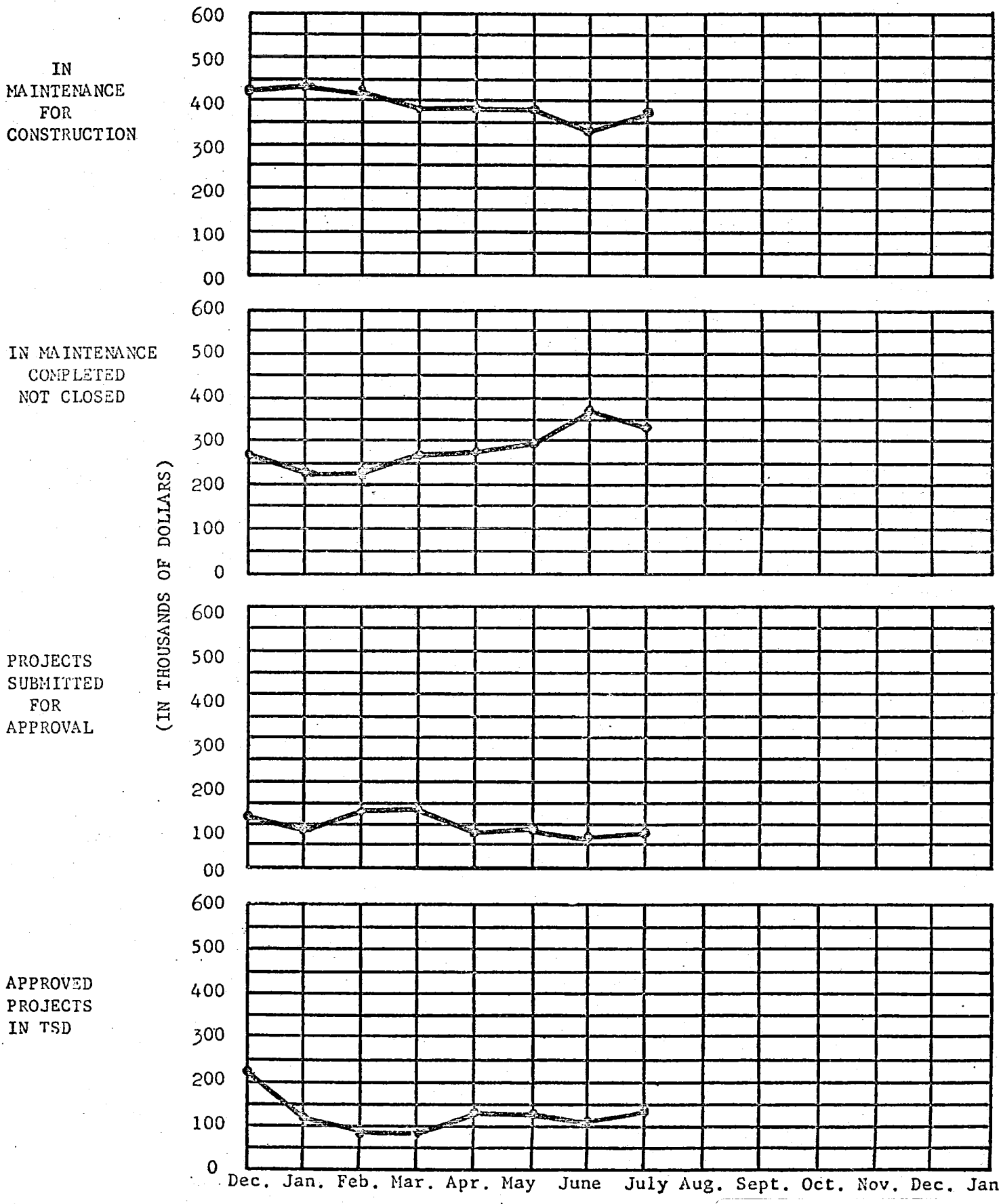
DISTRIBUTION OF TIME BY TECHNICAL SERVICE



DSW 551301

STLCOPCB4089718

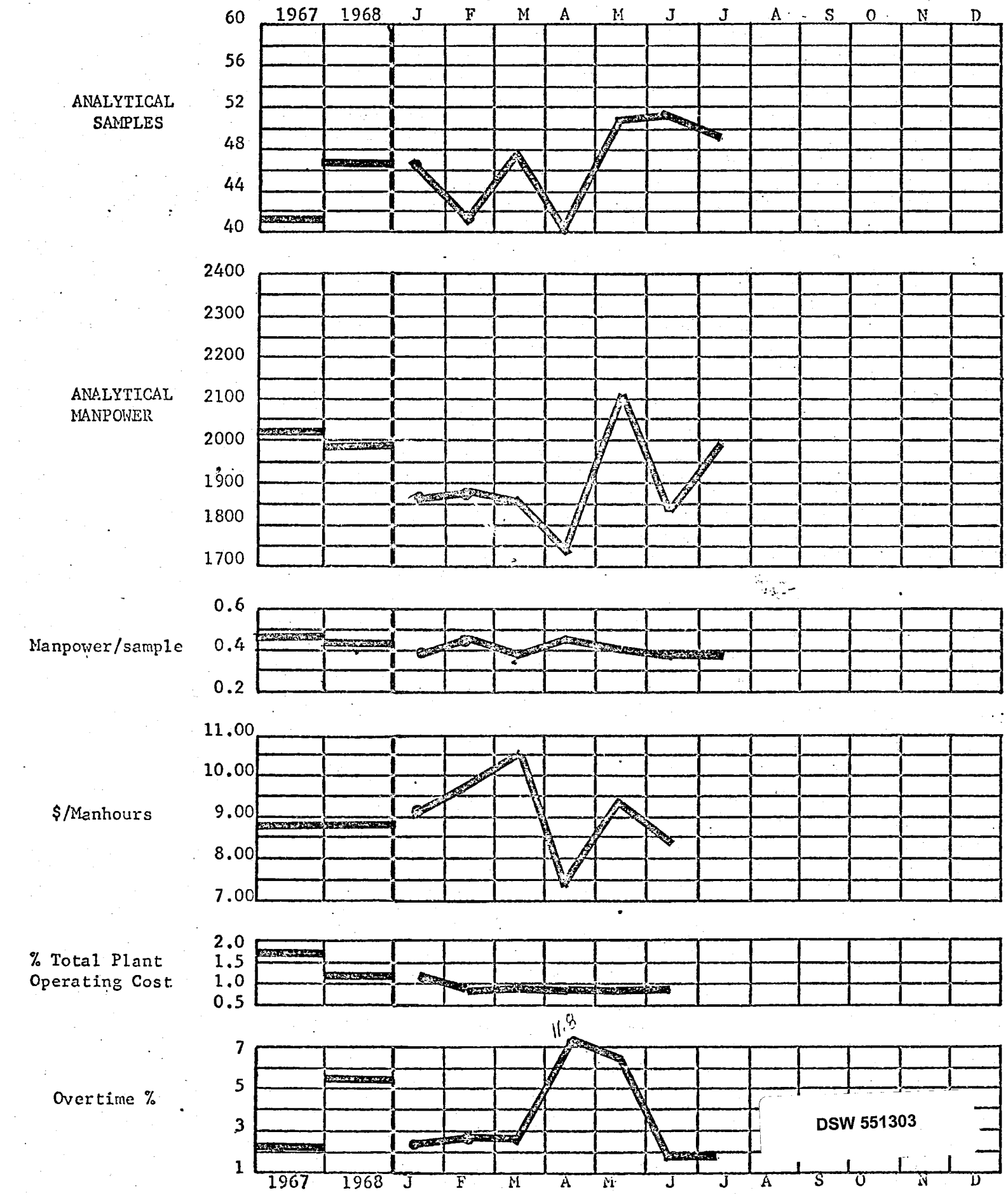
TSD PROJECT SUMMARY



DSW 551302

STLCOPCB4089719

LABORATORY ADMINISTRATION



STLCOPCB4089720