

Monsanto

Anniston Plant

TECHNICAL SERVICES DEPARTMENT

MONTHLY REPORT

Anniston

C. K. Eastman
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Summary

October, 1969

Cost Improvement Results

	Est. Act.	Target	% of Target
Month	\$49,693	\$67,275	74.0%
YTD	\$481,914	\$505,845	95.3%

General Offices

H. S. Bergen
C. Carder
Danna (5)
P. B. Hodges
D. B. Hosmer (2)
W. A. Kuhn
J. A. Morgan
W. R. Robirds
J. E. Smith
J. A. Stephens
R. J. Stratmeyer
H. S. Trail

The ten day work stoppage and contingency planning and training put a crimp in normal department activities. However, Anniston TSD and Laboratory are now the proud possessor of the following qualified operators, analysts, and mechanics:

1 Biphenyl Chief plus 2 Operators, 1 Aroclor Chief plus 2 Operators, 1 Biphenyl/Aroclor Bagging Operator, 1 Flaker and Drumming Operator, 3 HB-40 Operators, 2 PNP Operators and 1 P₂S₅ Operator. For Parathion we have 2 Thio Acid, 2 Chlorinator, and 2 Condensation Reaction Operators, 1 Intermediate Area Chief, 2 Waste Treatment and Slurry Operators, 1 Washing and 1 Drumming Operator. We have a half dozen Material Handlers qualified in palletizing, fork lift operation, car loading, and plain hard work, as well as three Security Guards, two Switchboard Operators, a daily Newspaper Publisher and a very popular Newscaster.

OTHER LOCATIONS

A. H. Forsten -
Alvin, Texas

D. W. Jackson -
WGK

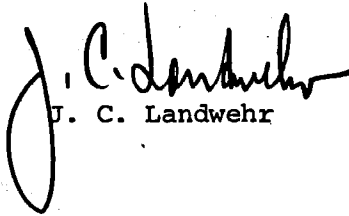
M. Patrick -
So. 2nd St.

Five Analysts were qualified; provided needed analytical services and painted the laboratory. In the maintenance area an Instrument Technician, a Millwright and one of two qualified salaried Welders were supplied. Even though MIP's, Progress Reports, Evaluations, and Project Management lost out for about four weeks, a wealth of the best experience was gained and an outstanding dedication to Monsanto and the Anniston Plant was demonstrated.

DSW 377534

Quality Control

The Plant Quality Score was 83.1 - down 3.0 from September with a YTD score of 87.7 against a 1969 target of 95.0 minimum.


J. C. Landwehr

:kd

DSW 377535

STLCOPCB4099267

ORGANIC DIVISION
1969 TSD COST IMPROVEMENT

	ANNUAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BiO Improve	TAR					450	450	450	450	450	450	450	450
Tower Treat.	EST					0	0	0	584	645	50		
AFE 3155	ACT					0	0	0	585	645			
Improve Plt.	TAR					900	900	900	900	900	900	900	900
Power Factor	EST					0	500	900	900	900	950		
	ACT					0	500	830	990	980			
Central Air	TAR									1000	1000	1000	1000
System	EST									-	-		
	ACT									-			
Optimize Rx Time	TAR		2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
	EST		0	3420	0	0	0	2940	1260	0	0		
PNP	ACT		0	3420	0	0	0	2940	2370	0			
Reduce Mole	TAR				4000	4000	4000	4000	4000	4000	4000	4000	4000
Ratio NaOH/PNCB	EST				0	0	0	0	0	0	0		
PNP	ACT				0	0	0	0	0	0			
New Wash Water	TAR					50	50	50	50	50	50	50	50
Pump - PNP	EST		25	50	50	50	50	50	50	50	50		
AFE 2998	ACT		25	50	50	50	50	50	50	50			
Automatic pH	TAR										500	500	500
Control	EST										0		
PNP	ACT												
HCl Filter	TAR	330	330	340									
Pump	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	TAR				1760	1760	1780	1760	1760	1780	1760	1760	1780
Storage Tank	EST				-	0	0	2640	3290	2990	3500		
AFE 2468	ACT				-	-	0	2830	3430	3125			
Produce Staley	TAR							780	780	790	780	780	790
Grade Acid	EST							-	-	-	-		
AFE 3076	ACT							-	-	-			
Cl ₂ Plt. Shutdown	TAR						8880	8880	8880	8880	8880	8880	8880
	EST					8880	6655	4285	19900	19900	19900		
CEA 1831	ACT					2230	6655	2855	19900	19900			
Hg Recover from	TAR	250	250	250	250								
Residue	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	TAR	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600	5600
Productivity	EST	0	9000	15,000	0	0	0	30780	2700	0	0		
	ACT	1800	5900	13500	0	0	0	30780	2700	0			
Total Organic By	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
Month M \$	EST		27.1	30.2	11.5	36.3	39.65	107.4	538.4	49.41	40820		
	ACT	16.5	23.8	27.8	11.4	25.75	45.9	110.2	258.16	51930			
Total Organic	TAR	23.3	50.1	79.4	116.9	159.2	210.3	261.9	315.5	365.1	417.8	471.3	521.9
YTD M \$	EST		46.9	78.8	79.6	115.9	144.4	258.5	315.13	368.86	2412202		
	ACT	16.5	40.3	68.1	79.5	105.2	151.1	261.27	319.45	2371382			

* \$22955 adjustment included for May & June

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

DSW 377536

STLCOPCB4099268

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	7730	3475			
Soft. Point	ACT	1500	5490	4890	2150	4670	8000	4230	7730	3475			
Sol.Aro.-Still	TAR				160	170	160	170	160	170	160	170	160
Coolant temp.	EST				-	-	-	-	-	-	-		
AFE 3015	ACT				-	-	-	-	-	-	-		
Sol.Aro.-Chlor	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	220	-	10		
	ACT	1690	1920	1680	1490	710	1180	990	220	-			
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	2320	1650	2360		
CED 1831	ACT					900	2330	2050	2320	1650			
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	3000	3000	3000		
CED 1430	ACT	0	0	1000	2000	2000	3000	3000	3000	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	0	0	-	-		
AFE 2952	ACT			0	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	3000	3000	3000		
CEA 1452	ACT	2000	2000	2000	3000	3000	3000	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	0	-	0		
	ACT			0	0	1500	3000	900	-	-			
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	0	-	0		
CEA 1892	ACT	1500	0	610	1870	0	0	1500	-	-			
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	4200	500	1000		
AFE 3102	ACT	3490	2420	0	600	10400	8600	7450	6950	750			

DSW 377537

STLCOPCB4099269

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	EST				0	0	0	0	0	0	0		
AFE 2598	ACT				0	0	0	0	0	0			
Optimize N ₂ & Cl ₂ Levels	TAR				6600	6700	6700	6600	6700	6700			
	EST				0	0	0	0	0	0			
	ACT				0	0	0	0	0	0			
Increase Waste Acid Sales	TAR				400	300	300	400	300	300	400	300	300
	EST				0	0	0	0	0	0	0		
	ACT				0	0	0	0	0	0			
Chlorinator R.I.	TAR							250	250	250	250	250	250
	EST							0	0	0	0		
AFE 2244	ACT							0	0	0			
EVOP Condensation Rx.	TAR	750	750	500							500	750	750
	EST	0	0	12,615							0		
	ACT	0	0	12,615									
Cl ₂ Unloading	TAR							5000	5000	5000	2000	2000	2000
	EST							0	0	1580	730		
CEA 1831	ACT							0	0	1580			
Recycle Wash Water	TAR							290	290	290	290	290	290
	EST							0	0	0	0		
AFE 2960	ACT							0	0	0			
Parathion Recovery	TAR										5800	5800	5800
	EST										0		
AFE 2655	ACT												
Reduce Acetone Losses	TAR										4300	4300	4300
	EST										0		
	ACT												
Formulations	TAR				1600	1600	1600	1600	1600	1600			
	EST				3000	6600	10,000	4570	2000	3950	1000		
AFE 2897	ACT				4300	10,400	9288	4570	1205	2675			
Change Cooling H ₂ O Item 737	TAR				125	125	125	125	125	125	125	125	125
	EST				120	180	155	272	333	310	218		
AFE 3067	ACT				120	180	171	272	333	310			
Well H ₂ O to Jets	TAR										500	500	500
	EST										0		
	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	4033	13,710	8873		
	ACT	0	0	12,615	4,420	10,580	9459	4842	6488	12435			
Ag. Division YTD	TAR	750	1500	2000	11145	20290	29425	44100	58785	73470	83804	102530	117015
	EST			12,615	15,735	23,815	37,770	41,916	45,949	62,114	69,712		
	ACT	0	0	12,615	17,035	27,615	37,074	41,916	48,404	60,839			
Ag. Division untargeted-R.M. Charges optimization	TAR								0				
	EST								1700	3690	2870		
	ACT								1700	3690			
Organic Div. Untargeted - HCl Catch Tank & Coalescer	TAR					0	0	0	0				
	EST					5000	6250	5960	4690	13300	7000		
	ACT					0	9350	6817	4920	15355			
Ag Div.-Untargeted	TAR												
	EST								-	4180	4055		
#3 Cl ₂ Change out	ACT								3250	4180			

DSW 377538

STLCOPCB4099270

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

Evaluate Quaterphenyl- Polyphenyl Effects on Solid Aroclor Yields	1969 Savings \$63,200 NFC \$14,000	TSD Objective B - 8 (a)
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Start-up and calibration of instruments now in progress.

Porocel Columns CED 2132	Assist Production	TSD Job No. 930
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Second test of Porocel Columns to treat chlorobenzenes produced slightly improved results. Further surveillance of operations are planned.

The Aroclor columns were started up on October 14; however, the plant work stoppage forced them to shut down. They were re-started on October 28. Initial results are favorable.

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

Debottleneck Biphenyl - Santowax Distillation Area to 87.6 M lbs./yr. Biphenyl	Capacity Increase	TSD Objective B - 7 (a)
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The high temperature (Foxboro) Santowax C flowmeter was put back in operation on October 16. This meter will be calibrated during the week of November 3. A capacity/performance test run will be conducted on the Santowax distillation column during the week of November 10. The capacity of this column is required to develop the HB-40 Expansion scope now in progress.

Designed Experiment Run on No. 1 Biphenyl Furnace	Process Study	TSD Objective B - 7 (e)
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Results and test data were published in a progress report dated October 3, 1969. Test results were also sent to Management Information and Systems Department at the General Offices for regression analysis to be run on the computer.

HCl L. O. Chambers, K. G. Hale, (A. G. McCarty)

Production of Staley Grade Acid - AFE -3076	New Earnings \$288 M Potential Savings \$71,000	TSD Objective B - 10 (c)
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Plant pilot carbon treatment studies are still targeted to begin in November. Delivery of necessary test equipment is expected by 11/12. Test plans were discussed with Pittsburgh Carbon representative on 11/3.

Issue HCl MIP	Planning	TSD Objective B - 1 (b)
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Plant review and revisions have been completed, issuance of final revisions was delayed 2 weeks due to work stoppage. TPM review remains prior to issuing the report.

DSW 377539

STLCOPCB4099271

HCl - continued

Reduce High Cl ₂ in Muriatic Acid	Quality	TSD Job No. 950
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Transmittal was completed to provide a temporary air blowing system for #7 storage tank. Installation should be completed in November.

PNP L. O. Chambers, K. G. Hale, (A. G. McCarty)

Debottleneck to 1.8 M	Capacity Savings \$27,500	TSD Objective B - 9 (a)
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No change in status. Tests to optimize PNCB usages were delayed due to work stoppage. Tests are scheduled during Niran turnaround when PNP production rates are not critical. No savings were obtained in October.

PNP Dust Flammability	Safety (S&PP Audit)	TSD Job No. 814
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PNP dust was submitted to the Pensacola Plant for explosive test. A report will be issued following collection of data and comments.

NIRAN D. W. Dudley, T. W. Lawrence, (A. G. McCarty)

Demonstrate Parathion Recovery	Savings \$17,400 10-15% Reduced COD	TSD Objective B - 5 (a)
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No change in status. Construction in progress on test facilities.

Acetone Recovery	Savings \$12,900 20% Reduced COD	TSD Objective B - 5 (i)
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Formal approval of project 3340, Acetone Recovery, was received 10/25/69. The project is scheduled for installation during the fall turnaround beginning 11/3/69. Gross savings of \$40,000/yr. will result from an expenditure of \$32,125 capital and \$28,600 expense.

Central Chlorine Unloading - Niran	Savings \$21,000	TDF Objective B - 6 (a)
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No change in status. Tests of air pad will be made during winter.

Improve Chlorinator Cooling System	Profit New Sales and Productivity Savings \$48,000/mo. per 0.5 hr. Reduction in Chlorination Time	TSD Objective B - 5 (g)
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Tentative Process Amendment has been prepared. Progress Report covering evaluation will be circulated with the Tentative Process Amendment.

NIRAN - continued

Improve Intermediate Distillation Capacity	Capacity	TSD Job No. 972
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Initial contacts with thin-film processing equipment vendors have been made. Plans are being made for additional and more thorough discussions.

Replace Nitrogen with HCl for Chlorination Sparge	Savings \$60,000	TSD Job No. 603
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No change from September.

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

Process Surveillance

Control charts detected a lower level of biphenyl quality in tank cars than in flaked product. A statistical review of analytical and operating factors proved that Tank #113 tends to accumulate any low quality material and loads it into cars, while the flaker feed tank is charged with high-grade product.

PNP-Identification of Critical Variables	Potential Savings \$60,000	TSD Objective C - 3 TSD Job No. 839
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A final report was written on identification and control of depressurization variables. The critical control variable has been found to be adequate separation of boiling point and crystallizing point. A process control system was tested over 5-months and has successfully demonstrated capability of maintaining an average let-down cycle time of 23 minutes, with 92% of all batches below 30 minutes, and with no incidents of serious pluggage.

Niran Still Control	Potential Savings \$79,000	TSD Job No. 964
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Control equipment was ordered. Design and drafting is scheduled for the fourth quarter. Installation EDC is 3/1/70.

ENGINEERING DESIGN AND SERVICES

<u>Mechanical/Electrical/Instrument Design and Drafting</u>	J.C. Price, J.A. Veazey J.O. House, G.W. Richey B.D. Morgan, R.V. Carlisle R.L. Brewer, J.K. Rennie (W. F. Taffee)
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Installation of the new Plant Fire Alarm system was completed and tested successfully on 10/10/69. The system will be put into operation as soon as all employees are trained in its operation.

DSW 377541

STLCOPCB4099273

ENGINEERING DESIGN AND SERVICES - continued

6.

Due to the work stoppage, transmittal of Project 3118 - \$9.7 M, Modify Agitator Interlocks on all critical vessels in the Niran department, will be delayed until November.

The evaluation, design and safety review were completed and the design package was forwarded for Temporary Tank Car Cleaning Facility (Niran) AFE 3351 - \$2.0 M. Evaluation of a permanent facility is underway.

A set of Heating and Insulation Standards for process lines containing Biphenyl, Santowax, solid Aroclors and Montars was completed and forwarded.

The H₂S Monitor, intended for use in the Niran department, has been received and work is underway to install the unit so that a test may be made to determine if it will perform satisfactorily.

Two A.F.E.'s were written, forwarded and approved - the projects are; (AFE 3363 - \$3.2 M) Construct Barricades Around Aroclor Still Heaters, (AFE 3362 - \$2.6 M) Replace Sight Glasses in PNP and Santowax.

Installation of the new Niran Emergency Generator (AFE 3305 - \$41.9 M) was begun on 10/22/69. Startup is targeted for 11/7/69.

Following the fire in the Aroclor motor control center on 9/27/69, TSD assistance was requested by the Maintenance department to verify the condition of the transformer. During testing, an insulation failure of an adjacent feeder was discovered and consequently corrected, thus preventing a possible recurrence of the failure.

DraftingIn progress:

Renovate Niran Control Room and Lunchroom (AFE 3369 - \$19.5 M), Modify Agitator Interlocks in Niran (AFE 3118 - \$9.7 M), Dismantle Santowax M&P Benzene - Extraction Portion (AFE 3359 - \$27.7 M), Install Grating Over Niran Process Trench (AFE 3367 - \$3.1 M), Replace #1 Benzene Feed Tank (AFE 3371 - \$ to be determined).

Construction drawings were completed for the following projects:

Install Fire Water Jockey Pump (AFE 3293 - \$4.5 M), Install Drainage Pad at Niran Dock (AFE 3213 - \$3.0 M).

UTILITIES ENGINEERING

J. C. Price, J. O. House, (W. F. Taffee)

Transmitted the design package for Test Heat Exchanger on Biphenyl/Cooling Water System (AFE 3282 - \$1.4 M). Forwarded Improvement Items for inclusion in Aroclor MIP and started preparation of Utilities Improvement Items for PNP and P₂S₅ MIP's. Continued evaluation of project to replace existing

DSW 377542

STLCOPCB4099274

UTILITIES ENGINEERING - continued

compressors with a Central Air Compressor (estimated gross savings \$12.0 M - 16.0 M per year). Because of work stoppage, the issuance of a premise for this project has been delayed to mid-December; for the project to Improve Plant Power Factor, to mid-November, and the issuance of the Steam Plant MIP until mid-January.

PLANT IMPROVEMENT

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

AFE 3367 - \$3.1 M - for Grating Over Process Trench West Side Niran Warehouse, was forwarded and approved. AFE 3369 - \$19.5 M - for Upgrading Niran Control Room and Lunchroom to Meet Anniston Plant Standards, was forwarded for approval.

Design Packages were forwarded for: Upgrading Existing Fire Water System (AFE 3293 - \$7.1 M) and Drain Pad at Niran Loading Dock for Temporary Tank Car Washing (AFE 3213 - \$4.9 M).

POLLUTION CONTROL

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

Air and H ₂ O Pollution Complaints	Community and Governmental Relations	TSD Objective B - 2
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No air or water pollution complaints were received at the Anniston Plant during October.

Choccolocco Creek Wildlife Studies	Pollution Abatement	TSD Objective F - 4
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Drs. Gunning and Suttters completed their Fall survey of Choccolocco creek during October. They collected fish and other aquatic animals from three points in Choccolocco creek (one above treatment plant and Snow Creek, two below). Representative samples were sent to Organic Research on October 27, for P.C.B. analysis by Dr. Tucker's group.

Eimco Filter Unit at Waste Treatment	Production Assistance	TSD Objective F - 4 TSD Job No. 808
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Construction was completed by 10/13, but start-up was delayed until 10/31 because of work stoppage. Initial water batches have verified pump and mechanical portions of the unit.

DSW 377543

STLCOPCB4099275

POLLUTION CONTROL - continuedWaste Treatment

All wastes were effectively treated during October. No major problems were encountered at waste treatment. Average daily values for Monsanto's effluent are as follows:

	<u>Average daily</u>	<u>Specifications</u>
PNP	1.0 PPM	5 PPM
COD	116.0 PPM	200 PPM
Parathion	.08 PPM	1.0 PPM
BOD	5.0 PPM	200 PPM

DSW 377544

STLCOPCB4099276

PROCESS RESEARCH AND DEVELOPMENT

J. T. Bell

Of the 115 mandays available to PR&D in October, 26 mandays were expended on projects listed in the 1969 PR&D Program. Non-scheduled work, illness, and supervision accounted for 15 mandays with the remaining time used in contingency operations.

Blend Scavenger Refinement (Aroclor)	Improved Aroclor Electrical Properties	J. L. Brown
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Completion of evaluation of Type 4A Molecular Sieve as an absorbant for electrical properties refinement of Aroclor 1242-Phenyl Glycidyl Ether mix is now targeted for 11-17. Changes in the work plan of 9/26 were necessitated by the plant contingency plan.

HB-40 Process Studies	Determine Process Variables	W. H. Howard
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Equipment problems continue to delay project progress. Current estimate for project completion is 11/14.

Biphenyl Tubular Pilot Studies	Obtain Desired Biphenyl/Terphenyl Ratio	J. L. Brown
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The contract for construction of the Pilot Building has been let and construction is scheduled to begin on 11/3. Estimated time for construction is 30 days.

Low Color Aroclor 5460	Develop Alternate Process	G. L. Arnett
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A PR&D report (Job No. 446-507, Report No. 2) has been issued detailing an alternate process for the preparation of Low Color Aroclor 5460. Corrosion studies are in progress in St. Louis on mixtures of Aroclor 5060, NaOH, and lime.

Parathion Isomer Reduction	Increased Yields	G. L. Arnett
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Work is in progress to determine the effect of various solvents on isomeric distribution. A revised work plan is to be issued 11/4 to reflect changes in project status.

DSW 377545

STLCOPCB4099277

PROCESS RESEARCH AND DEVELOPMENT (Cont'd)

Parathion Condensation

Reaction Studies Increased Yields I. Ransaw

The laboratory study to develop a method for determining the percent conversion in the condensation reaction with the wash steps minimized will be terminated 10/31. The results will be evaluated and a revised work plan will be issued by 11/4 based on this evaluation.

Aroclor 5460

Acetone Insolubles Quality G. L. Arnett

Laboratory distillations have determined that the acetone insoluble material(s) is found in the last 1/3 of the distillation. This insoluble material has been isolated and forwarded to St. Louis for analysis.

ANALYTICAL AND QUALITY CONTROL

S. O. Kemp

Complaint Report

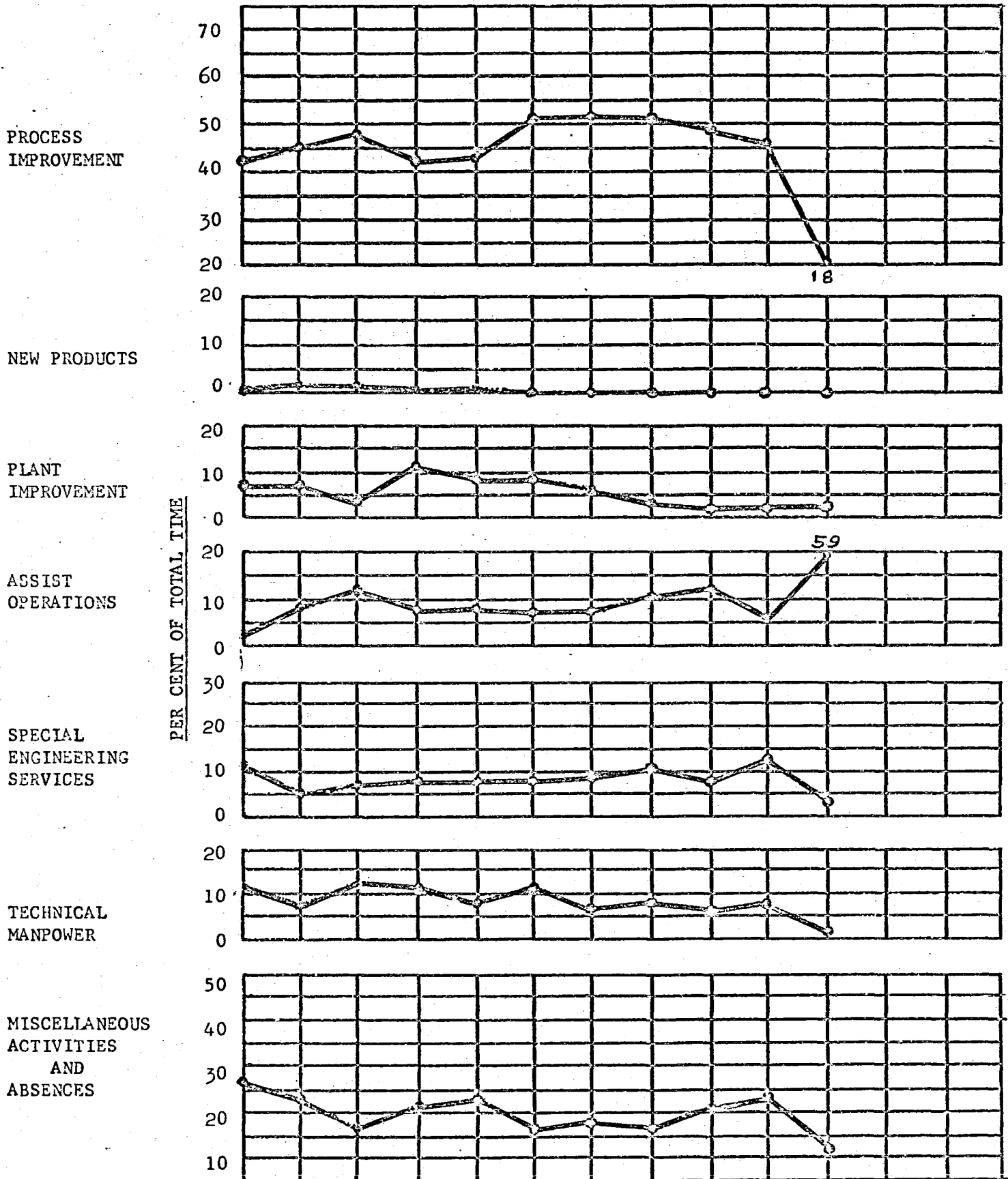
Quality

<u>Number</u>	<u>Material</u>	<u>Customer</u>	<u>Reason</u>
15-A-69	Therminol 66	Parkson Industrial Equipment Company	Low boiling

YTD Quality Complaints/100 Shipments 0.25 Target 0.20

DISTRIBUTION OF TIME BY TECHNICAL SERVICE

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



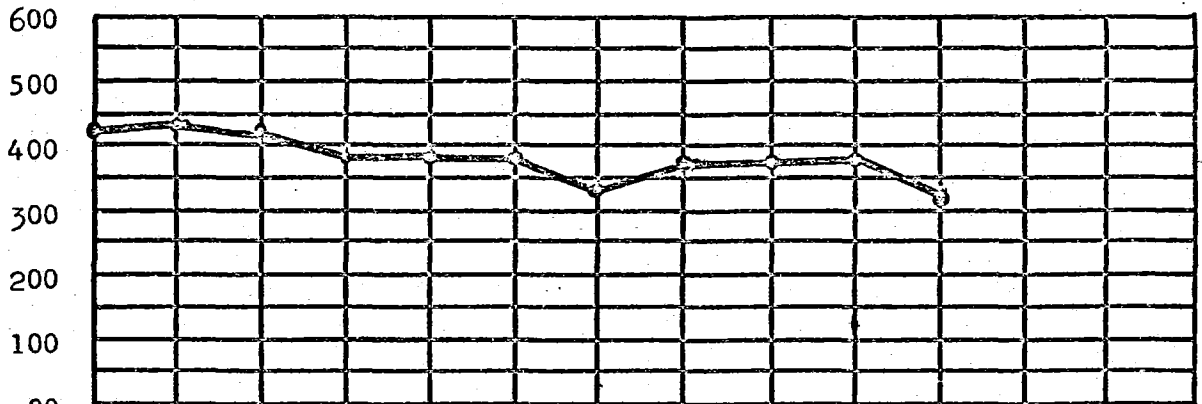
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DSW 377547

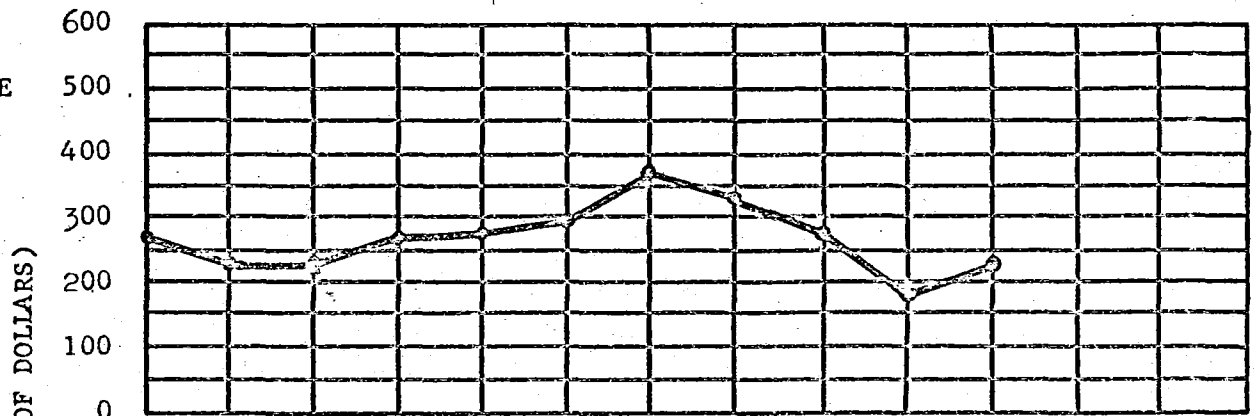
STLCOPCB4099279

TSD PROJECT SUMMARY

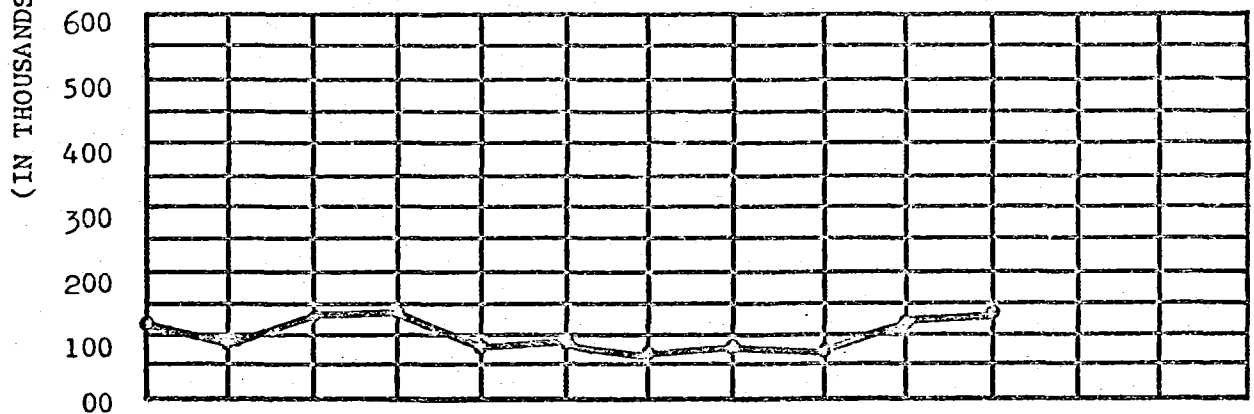
IN
MAINTENANCE
FOR
CONSTRUCTION



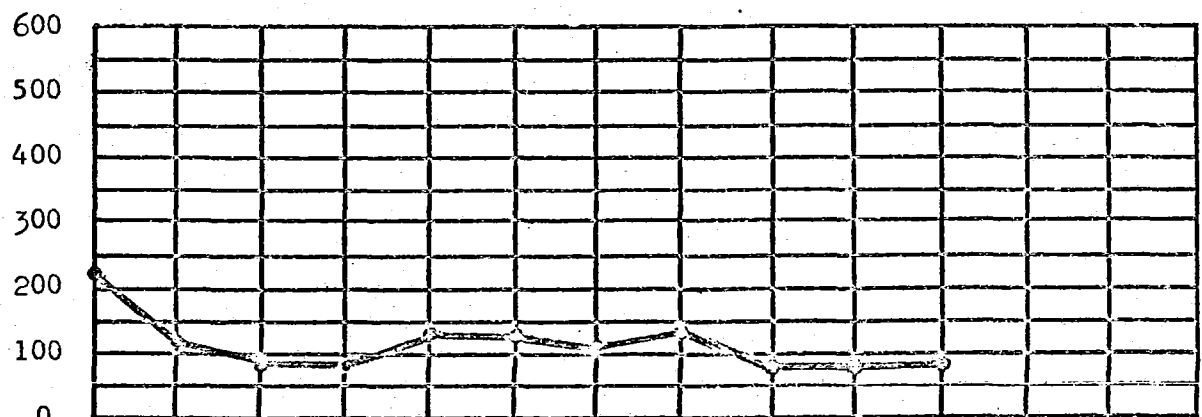
IN MAINTENANCE
COMPLETED
NOT CLOSED



PROJECTS
SUBMITTED
FOR
APPROVAL



APPROVED
PROJECTS
IN TSD



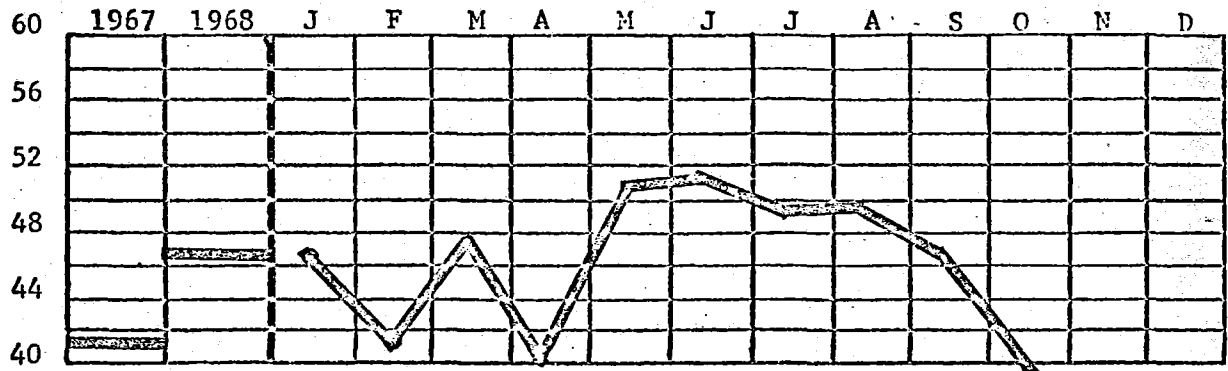
Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan.

DSW 377548

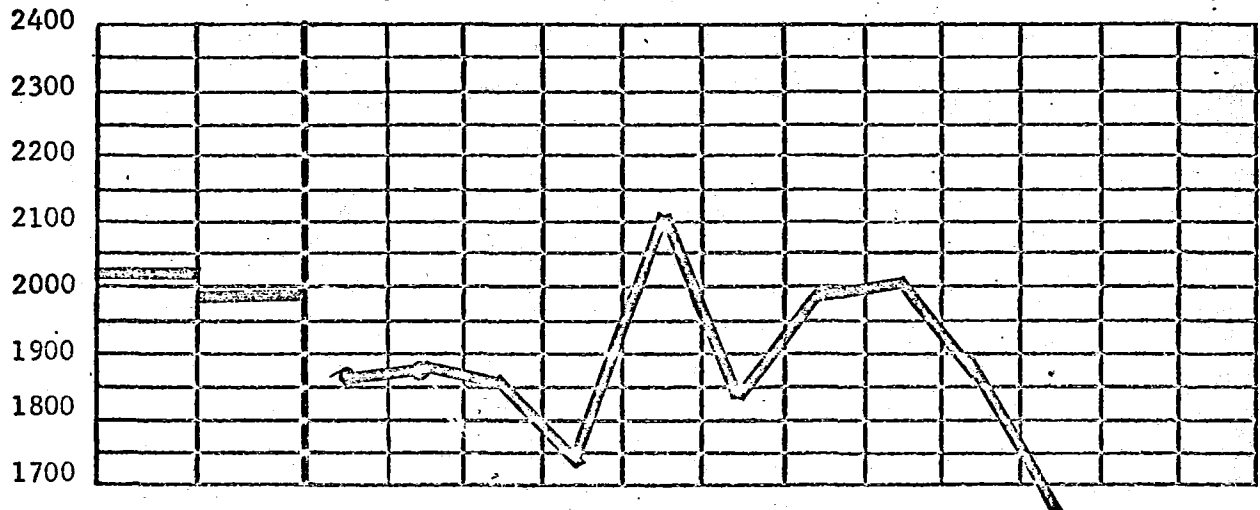
STLCOPCB4099280

LABORATORY ADMINISTRATION

ANALYTICAL
SAMPLES



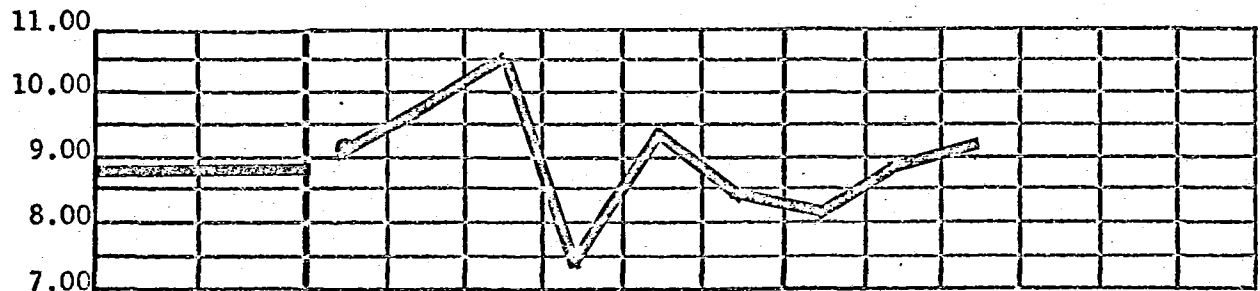
ANALYTICAL
MANPOWER



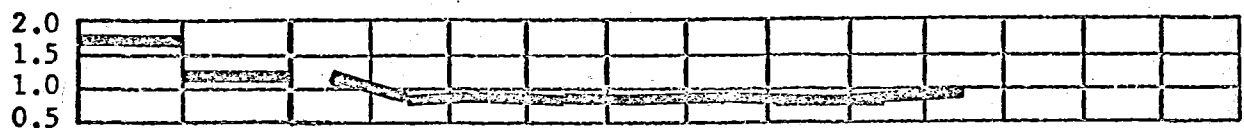
Manpower/sample



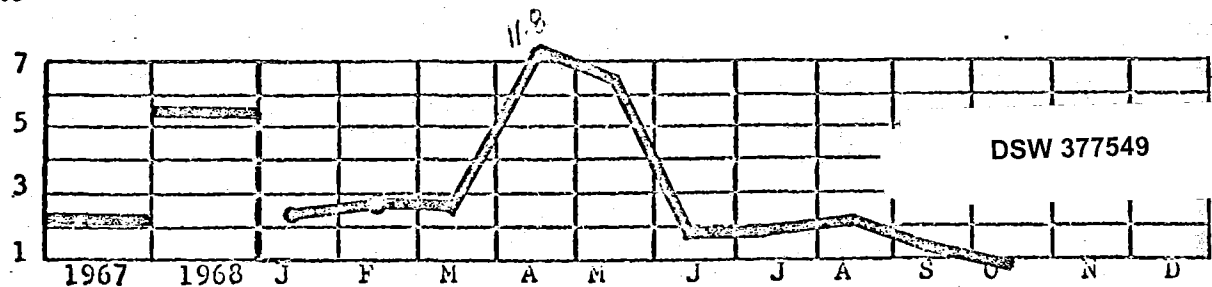
\$/Manhours



% Total Plant
Operating Cost



Overtime %



DSW 377549