

File Copy

To: T. H. Huffman

From: D. C. Skokna
Date: October 22, 1990

Subject: ABERDEEN MONTHLY PROGRESS REPORT
SEPTEMBER, 1990

VISTA

Interoffice
Communication

Safety

There were no injuries reported during September. For FY1990, the plant experienced five recordable injuries (the safest year since we became Vista). As of 9/30, the plant's employees have completed 4,105 days (5,473,212 manhours) since the last lost time injury.

<u>FY 1990 Key Statistical Information</u>	<u>September</u>	<u>Y.T.D.</u>
PVC Production, MM Lbs.	41.5	457.4
Reactor Stream Factor, %	87.7	88.4
Resin Quality, % Prime	96.9	97.4
VCM Efficiency, Lbs./Lb.	1.00092	1.0005
Flexible Compound Production, MM Lbs.	5.4	71.3
Flexible Compound Quality, % Prime	96.3	97.9
Rigid Compound Production, MM Lbs.	5.5	60.9
Rigid Compound Quality, % Prime	99.8	99.4
Plasticizer Production, MM Lbs.	1.8	18.0
Plasticizer Quality, % Prime	87.4	85.7
Energy Use, (EUI, %)	< 5.8>	< 6.9>
Fixed Cost Variance, \$M	<351.4>	<105.9>
Variable Cost Efficiency Variance, \$M	< 40.9>	680.5

Operations

The Cleanwall Project started up successfully. Quality remains good.

The Low Molecular Weight Resin Expansion Project started up by making a batch of 5305 in D-600. Reactors 300, 400, 500, 741 and 742 were shut down for annual rupture disc changeout, hydroblasting and dye-penetrant testing.

September's production set a new thirty-day month record. The fourth quarter resin production (120.9MM pounds) set a new quarterly record, and the FY1990 production is an all time record.

Flexible compound demand was below average and inventories increased by 0.3MM pounds. PLENEX polymers development used thirty-three hours of Line I's time. In FY1990, production of millscrap was reduced from 2.0% of production to 1.2% (the current rate is under 1%). This accomplishment was the result of a natural team project.

T. H. Huffman

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Aberdeen Monthly Progress Report - September, 1990

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Rigid compound business was good all month. Several serious quality problems were reported at major accounts. Teams have been formed to investigate.

Costs

Variable costs were \$41M unfavorable due to an unfavorable product mix in the Compound Department partially offset by good raw material efficiencies in the resin and plasticizer units.

Fixed costs were \$351M unfavorable due primarily to a \$258M write-off of the Line III Expansion Project that was cancelled in 1984, and a \$43M unfavorable benefits clearance.

OMP

- All of the plant's natural teams met during the month.
- Twenty-two teams were recognized for project successes at the third annual Quality Appreciation Day held on September 24 in the plant's auditorium. The results of these teams' efforts will improve the quality of our products, productivity and the environment.
- The Area II Maintenance Natural Team made its presentation to Management. They justified the purchase of a portable steam cleaner. This investment will be recovered in under six months by reduced outside cleaning costs.
- The Area I Maintenance Natural Team made its presentation to Management. This team recommended changes to the placement and attachment of reactor manway covers to improve the safety of opening and closing the manways.
- Lou Makakanja, Nibco Inc.'s, Quality Engineer, visited the plant to explain Nibco's product quality data requirements and increased our understanding of Nibco's quality needs.
- Preliminary results show Aberdeen's Q-Scorecard at 10.8.

T. H. Huffman

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OMP - Continued

FY1990 Quality Highlights

- Flexible compound off-grade was reduced from 2% to 1.2% of production.
- Prime resin improved from 95.6% in FY89 to 97.4%.
- We received a 5 Star Rating from AT&T (flexible compound customer) - their highest.
- Reactor seal repairs were reduced from twenty-two in FY89 to seven in FY90.
- The graininess problem at Klockner (5305 resin) was solved.
- The contamination problem at Southwire (5415 resin) was solved. Southwire is our largest customer.

Waste Minimization FY90 Highlights

- Floor sweep, a hazardous waste, was reduced 26,000 pounds - a 39% reduction.
- Waste oil, also a hazardous waste, was reduced 279,000 pounds - a 43% reduction.
- VCM emissions were reduced 3629 pounds - a 5.5% reduction.
- Resin dust was reduced 175,000 pounds - a 66% reduction.
- A water recycle project in plasticizer reduced water use by 75 gpm.
- Paper and aluminum cans are being recycled.



D. C. Skokna
Plant Superintendent

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SAFETY - B. L. Trego

	<u>September</u>	<u>Fiscal</u> <u>Y.T.D. 1990</u>	<u>Fiscal</u> <u>Y.T.D. 1989</u>
First Aid	0	15	15
OSHA Recordable	<u>0</u>	<u>5</u>	<u>9</u>
Total Injuries	0	20	24
Number of Restricted Workday Cases	0	3	3
Number of Lost Workday Cases	0	0	0

Injuries by Department

Vinyl Operations	0	0	2
Compound Operations	0	5	4
Maintenance	0	13	14
Laboratory	0	1	1
Receiving/Warehouse	0	0	1
Office	<u>0</u>	<u>1</u>	<u>2</u>
Totals	0	20	24

Injuries by Type

Cuts and Abrasions	0	7	6
Eye Injuries	0	1	2
Burns	0	4	6
Bruises	0	2	4
Strains/Sprains	0	1	4
Stings	0	3	0
Other	<u>0</u>	<u>2</u>	<u>2</u>
Totals	0	20	24

Non-Occupational Injuries

Lost Workday Cases	0	8	4
Days Lost	11	212	57

Safety Record

Last lost time injury - 7/5/79
Days since - 4,105
Employee hours since - 5,473,212

On September 30, 1990, the employees of the Aberdeen plant completed 4105 days with no lost time injury.

The main topics for safety meetings during September were "Infection Control" and "Lift Truck Training".

SAFETY - Continued

The plant had only five OSHA recordable injuries in FY1990. This makes it the safest year since becoming Vista.

Routine dosimetry results for the month were:

<u>Chemical</u>	<u>< PEL</u>		<u>> PEL</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
VCM	74	100.0	0	0
Lead	4	100.0	0	0
Total Particulates	6	100.0	0	0

Monthly Injury Summary

No injuries were reported.

QUALITY MANAGEMENT PROCESS - T. J. Arbeiter

All of the plant's natural teams met during the month of September. Some of our team highlights for the month were:

- Area II Maintenance Natural Team made their presentation to Management justifying the purchase of a portable steam cleaner. The steam cleaner will pay for itself in less than six months by reducing outside cleaning costs. The steam cleaner will also save money by extending the life of expensive equipment.
- The Area I Maintenance Natural Team made their presentation to Management justifying modifications to the placement and attachment of reactor manway covers. The team explained how rotating the existing hinges, adding a second set of hinges (D700, 745), adding safety chains, and increasing the size of jacking bolts can save a life and reduce the amount of time required to open and close a reactor.

The plant held its third annual Quality Appreciation day on September 24 in the plant auditorium. Twenty-two Manager's Quality Awards were presented recognizing teams for the completion of their projects (up from eight in FY89). The teams receiving awards were:

- Project Engineering Natural Team (2)
- Millscrap Team
- Lab C-Shift Natural Team
- Maintenance Area II Natural Team (2)
- Maintenance Utilities Natural Team
- Maintenance Area I Natural Team
- Maintenance I&E Natural Team
- Maintenance Superintendent's Natural Team
- Mechanical Department Natural Team
- Maintenance Scheduler/Planner Natural Team
- Vinyl B-Shift Natural Team
- Lab/Vinyl Team
- Old Module Recovery System Maintenance Access/Safety Team
- Vinyl Reactor Blinding Team
- Plasticizer Team
- Compound D-Shift Natural Team
- Safety Department Natural Team (2)
- Security Natural Team
- Safety Shoe Purchasing Team

The projects completed by these teams will have a positive impact on the quality of our products, the productivity of our employees, the safety of our workplace and the quality of our environment.

QUALITY MANAGEMENT PROCESS - Continued

In addition to the above listed teams, Mike Kane, Senior Process Engineer, and former Quality Management Coordinator, was presented a Manager's Quality Award recognizing him for his contributions to the improvement of the quality systems at our plant.

Lou Makakanja, Quality Engineer, with Nibco, Inc., visited the plant on September 10. Our visit with Mr. Makakanja centered on Nibco's requirements for statistical data on product quality parameters. Lou was very helpful in increasing our understanding of Nibco's needs.

The Aberdeen Plant's final Q-Score for FY90 stands at 10.8, pending approval.

COST VARIANCES - D. C. Skokna

Variable Costs

<u>Product</u>	<u>September</u>	<u>1990 Variance.</u>	<u>\$M</u>
	<u>Efficiency</u>	<u>Price</u>	<u>Total</u>
PVC	\$ 63.5	<\$485.0>	<\$421.5>
Flexible Compound	< 50.3>	< 24.0>	< 74.3>
Rigid Compound	< 76.3>	< 101.4>	< 177.7>
Plasticizer	<u>22.2</u>	<u>21.8</u>	<u>44.0</u>
Total	<\$ 40.9>	<\$588.6>	<\$629.5>

PVC

The favorable efficiency variance is due primarily to below budget VCM usage and a favorable product mix.

Flexible Compound

The unfavorable efficiency variance is due to an unfavorable product mix.

Rigid Compound

Above budget use of TiO₂ (due to prior month's tank gauging problems - Y.T.D. TiO₂ variance is \$52.5M favorable), and an unfavorable product mix caused this month's unfavorable efficiency variance.

Plasticizer

Consumption of alcohols was under budget.

Price Variances

	<u>\$M</u>
- VCM	<\$614.0>
- Resin to Rigid Compound	< 100.4>
- Resin to Flexible Compound	< 75.4>
- Phthalic Anhydride	< 20.4>
- Plasticizers	13.9
- Natural Gas	32.2
- Alfol ^R 610 Alcohol	33.3
- Electricity	88.2
- Other Price Variances	<u>54.1</u>
Total	<\$588.6>

COST VARIANCES - Continued

Fixed Cost Variances

	<u>Variance - \$M</u>
- Payroll and Benefits	<\$ 37.7>
- MM&C	< 0.2>
- Miscellaneous	< 319.1>
- TI&D	4.7
- Clearances	< 0.9>
Total	<\$351.4>

Payroll and Benefits

The variance was due to an unfavorable \$43.2M benefits clearance.

M. M. & C.

Was at budget.

Miscellaneous

- Warehouse G/L - \$258.3M Unfavorable due to the write-off of the Line III expansion project that was cancelled in 1984.
- Outside Professional Services - \$25.4M unfavorable due to VMS charges (U.E.&C.).
- Wastehauling - \$33.5M unfavorable.

VINYL - J. D. Olson, J. M. Vinoski

Safety

The Vinyl Department had no first aid or OSHA recordable injuries during September. This completes an injury-free fiscal year for the department.

The monthly safety meeting topic was "Lift-Truck Training and Licensing."

General

1. The BUS-80 cleanwall system was started up this month. The system is performing well and quality remains good.
2. The low molecular weight resin system on D600 was started up and is functioning well.
3. Fiscal 1990 was a record production year for the Aberdeen Vinyl Department with 457.4 million pounds of resin produced. Also, production in September set a new thirty-day mark at 41.5 million pounds.
4. The resin raw materials in the 744 account were valued at \$308.9M.

	<u>Sept.</u>	<u>YTD</u>
- Production, MM Lbs.	41.5	457.4
- Daily Rate, M Lbs./C.D.	1383.3	1252.9
- Capacity Utilization Factor, %	108.4	98.2
- Total Reactor Charges	936.0	10672.0
- Charges/C.D.	31.2	29.2
- Reactor Stream Factor, %	87.7	88.4
- Rotary Dryer Stream Factor (#4-#8), %	89.8	83.2
- Fluid Bed Dryer Stream Factor, %	91.7	93.1
- Resin Quality, % Prime	96.9	97.4

Reactor Downtime

	<u>Hours</u>
- Operational downtime (recovery scheduling conflicts, New Module rinse/charge water conflicts, waiting for Q.C. data before charging, O-ring leaks, no place to dump).	462.0
- Maintenance downtime (reactor cleaning and valve repair on D742, seal change on D500, reactor cleaning, jacket welding, and gear-box repairs on D741, Old Module VCM line repairs, hydroblasting and condenser drilling and wiring upgrade on D300, D400 and D500).	425.5

VINYL - Continued

<u>Dryer Downtime</u>	<u>% of Total Downtime</u>
- Reactor limited production.	40.7
- Operational downtime (centrifuge plugs, dryer cleaning, and flameouts).	35.8
- Maintenance downtime (activator and centrifuge maintenance, star valve repairs, maintenance on dryer concentrate lines, repairs on activator air header, #8 Bird motor repair, and screener repairs).	23.5

Key Maintenance Work - J. B. Autrey, S. A. Truitt

- Reactors 300, 400, 500, 741 and 742 were shut down for annual rupture disc changing, hydroblasting and dye-penetration check. The junction box for each for of these reactors was replaced for upgrade and upkeep.
- The gearbox on reactor 741 was pulled and the spare was put under 741. The gearbox was removed from 600 and the old gearbox from 741 was placed under 600. The gearbox under 600 had severe pitting and wear on the bullgear. It will be rebuilt for a spare.
- D500 reactor seal was changed due to wear after nineteen months in service. It has been rebuilt for a spare.
- Number four Bird was taken out of service due to worn bushings. The spare was installed in its place. The Bird was rebuilt and is the current spare.

The motors on #8 Bird and #4 Bird were replaced due to bad windings and bearings.

- Seven major valves were changed out in the reactor area during the month.

COMPOUND - J. E. Nickerson, K. G. Akins

Safety

The Compound Department had no first aid cases or OSHA recordable injuries in September.

The topic of the monthly safety meeting was "Forklift Training" conducted by the Safety Department.

General

Flexible compound inventories rose to 7.72MM pounds in September. The failure of a roll mill motor and a coupling was responsible for sixty-two hours of downtime on Line III. PLENEX polymers production consumed thirty-three hours of production time on Line I.

Demand for rigid compounds remained steady in September. Several serious, and perhaps unrelated, quality problems have been reported at major accounts. Teams have been formed to investigate specific problems.

Plasticizer production continued to increase in September. During the month, 1.78MM pounds of plasticizers were produced. This was the highest production for fiscal year 1990.

<u>Compound Production</u>	<u>Operating Days</u>	<u>Production (M Lbs.)</u>		
		<u>Month</u>	<u>Avg./Day</u>	<u>Fiscal Y.T.D.</u>
Line I	30	1733	58	23186
Line III	29	3173	109	41106
Line V	14	<u>474</u>	<u>34</u>	<u>6988</u>
Total		5380	201	71280
% Prime		96.3		97.9
Capacity Utilization Factor		.670		.758

Downtime

Hours

Line I

- Product Changes	67
- PLENEX Polymer Testing	33
- Quality Problems & Control	22
- Miscellaneous Maintenance	9
- Dicer Problems and Maintenance	4

Line III

- Product Changes	71
- Roll Mill Maintenance	62
- Quality Problems & Control	14
- Miscellaneous Maintenance	11

COMPOUND - Continued

Line V

- Product Changes 44
- Quality Problems & Control 26
- Miscellaneous Maintenance 15
- Startup/Shutdown 11

	<u>Operating</u> <u>Days</u>	<u>Month</u>	<u>Production (M Lbs.)</u> <u>Avg./Day</u>	<u>Fiscal Y.T.D.</u>
Rigid Compound	30.0	5470	182	60923
& Prime		99.8		99.4
Capacity Utilization Factor		.926		.851

Downtime

Hours

- Product Changes 58
- Miscellaneous Maintenance 40
- Quality Problems & Control 17
- Welex Motor Replacement 16

	<u>Operating</u> <u>Days</u>	<u>Month</u>	<u>Production (M Lbs.)</u> <u>Avg./Day</u>	<u>Fiscal Y.T.D.</u>
Plasticizer	30.0	1781	59	18001
& Prime		87.4		85.7
Capacity Utilization Factor		.827		.672

Key Maintenance Work - J. B. Autrey, S. A. Truitt

- The vacuum jets in P-1 were pulled off reactors 1 and 2 to clean off the calcium carbonate buildup.
- Line I's #1 and #2 dicers were brought down according to the preventive maintenance schedule.
- Preventive maintenance was done on the crane.
- The motor on Line III front mill roll was replaced because of bad windings.

ENGINEERING - R. E. Polk, S. C. Hillman, M. R. Kane

PROJECTS IN DEVELOPMENT - GENERAL

Batch Water Stripper Reliability

The modifications which allow the batch water stripper water to be pumped to the cooling towers have been completed. The system is working well. The batch water stripper stream has been periodically high in VCM causing a potential spike at the inlet to the wastewater treatment system. TC regulations require that the VCM concentration at the wastewater system inlet be less than 200 ppb.

5305 Decalcified Resin

A HAZOP was performed on this project. A report will be issued shortly.

Production Model Building

Production model building for OASIS is essentially complete. A few customer specific models remain to be completed.

Dry Blend Contamination

Evaluation of the contamination related dry blend problems continues. There appear to be two separate and distinct problems. One is related to the surface pits found on extruded profiles. The pits are believed to be formed by small pieces of line scale which do not dissolve in the PVC melt. The other problem is related to gross contamination of the dry blend. The contamination problem is a periodic one. The most recent occurrences caused a customer's extruder screen pack to plug. Two events must occur simultaneously to cause a problem. The dry blend screener must fail (tear) and contamination must be present. This problem is under investigation with a capital project scheduled for the 2FQ91.

Low Molecular Weight Resin in D600

The new low mole dump system for D-600 was started up this month. One batch of 5305 was made with the system. Work continues to optimize the new controller.

ABERDEEN CHEMICAL PLANT
APPROVED CAPITAL PROJECTS
=====

AFE NUMBER	PROJECT DESCRIPTION	STATUS
A050	ALTERNATE NATURAL GAS PIPELINE	THE SYSTEM HAS BEEN STARTED UP AND IS OPERATIONAL. PUNCHLIST ITEMS ARE IN PROGRESS.
B010	VINYL VALVE UPGRADE	INSTALLATION IS IN PROGRESS AND PLANNED FOR COMPLETION IN OCTOBER.
A519	PLANT ELECTRICAL UPGRADE	CONSTRUCTION IS COMPLETE. THE PROJECT WILL BE CLOSED TO FIELD CHARGES IN OCTOBER.
A649	VINYL CONTROL SYSTEM MODERNIZATION	ENGINEERING IS IN PROGRESS. CONTROL ROOM CONSTRUCTION IS PLANNED FOR COMPLETION IN OCTOBER.
A909	INERTS REMOVAL MODIFICATIONS	CONSTRUCTION IS IN PROGRESS WITH COMPLETION SCHEDULED FOR NOVEMBER.
B619	PROPANE STORAGE AREA DELUGE SYSTEM	INSTALLATION IS COMPLETE. THE PROJECT WILL BE CLOSED TO FIELD CHARGES IN OCTOBER.
B629	COMPOUND REDLEND TRANSFER SYSTEM	INSTALLATION IS COMPLETE EXCEPT FOR PUNCHLIST ITEMS. FIELD CLOSURE IS PLANNED FOR OCTOBER.
B749	LEAD HANDLING AND EXPOSURE REDUCTION	INSTALLATION IS IN PROGRESS WITH COMPLETION PLANNED FOR NOVEMBER.
B849	COMPOUND LINE 3 SEMI-BULK LEAD HANDLING	LONG LEAD ITEMS HAVE BEEN PLACED ON ORDER. PROJECT COMPLETION IS PLANNED FOR 10/90.
B859	COMPOUND SILO BRIDGE BREAKING	LONG LEAD ITEMS HAVE BEEN PLACED ON ORDER. COMPLETION IS PLANNED FOR 10/90.
B899	RAILCAR CLEANING RACK	DESIGN IS IN PROGRESS. PROJECT COMPLETION IS PLANNED FOR 11/90.
F669	COMPOUND LINE 5 HEATED PLASTICIZER	THE PROJECT IS COMPLETE AND OPERATIONAL. IT WILL BE CLOSED TO FIELD CHARGES IN NOVEMBER.
F699	LOW MOLECULAR WEIGHT RESIN EXPANSION	INSTALLATION IS COMPLETE EXCEPT FOR PUNCHLIST ITEMS. THE SYSTEM HAS BEEN PLACED INTO OPERATION.
F779	DRYERS NO. 4 & 5 CONTAMINATION REDUCTION	INSTALLATION IS SCHEDULED FOR COMPLETION IN NOVEMBER.
G569	DRYBLEND DIV. VALVE AND CHUTE REPLACEMENT	DESIGN IS IN PROGRESS. PROJECT COMPLETION IS PLANNED FOR OCTOBER.
G659	NEW DRYER BARNHOUSES	THE ORIGINAL SCOPE OF WORK IS COMPLETE AND THE PROJECT WILL BE CLOSED TO FIELD CHARGES IN DECEMBER.
G719	COMPOUND SEWER REVISIONS	CLOSED TO FIELD CHARGES.
G759	WASTE OIL REDUCTION	CLOSED TO FIELD CHARGES.
G819	VCM SIGHT GLASS REPLACEMENT	DESIGN IS IN PROGRESS. PROJECT COMPLETION IS PLANNED FOR OCTOBER.
G839	PLANT WATER RECYCLE	DESIGN IS IN PROGRESS. PROJECT COMPLETION IS PLANNED FOR OCTOBER.
H769	PLANT DIVERTER VALVE REPLACEMENT	CLOSED TO FIELD CHARGES.
A540	REDUCED FLAME & SMOKE COMPOUND PROJECT	INSTALLATION IS COMPLETE ON ALL DESIRED MODIFICATIONS TO DATE. FIELD CLOSURE IS PLANNED FOR OCTOBER.
B570	OLD MODULE RECOVERY SYSTEM ACCESS	DESIGN IS COMPLETE. INSTALLATION IS PLANNED FOR 7/91.
B580	RECOVERY VACUUM PUMP PRESSURE RELIEF	DESIGN IS COMPLETE. INSTALLATION IS PLANNED FOR 7/91.
B600	PLASTICIZER LOADING AND UNLOADING REVISIONS	DESIGN IS IN PROGRESS WITH COMPLETION PLANNED FOR OCTOBER.
F590	DRYBLEND TRANSFER LINE ELBOWS	INSTALLATION IS COMPLETE. TESTING IS IN PROGRESS.
F650	5305 RESIDUAL VCM REDUCTION	CONSTRUCTION IS PLANNED TO BEGIN IN OCTOBER WITH COMPLETION IN JANUARY.
G560	TC SPILL CONTAINMENT	INSTALLATION IS COMPLETE EXCEPT FOR PUNCHLIST ITEMS.
G610	TC COMPLIANCE PROJECT	INSTALLATION IS COMPLETE EXCEPT FOR PUNCHLIST ITEMS.
G630	REACTOR SLURRY STRIPPING OPTIMIZATION	DESIGN IS IN PROGRESS WITH COMPLETION PLANNED FOR OCTOBER. INSTALLATION IS PLANNED FOR NOVEMBER.
H500	PLANT WATER SYSTEM	ENGINEERING IS IN PROGRESS. PROJECT COMPLETION IS PLANNED FOR MID-1991.
H510	WEST INCINERATOR REPLACEMENT	DELIVERY OF THE INCINERATOR IS PLANNED FOR 3/91. PROJECT COMPLETION IS PLANNED FOR 5/91.
H520	MISCELLANEOUS CAPITAL PROJECTS < \$15K	ENGINEERING IS IN PROGRESS ON 38 PROJECTS.
H620	EAST INCINERATOR REPLACEMENT	DELIVERY OF THE INCINERATOR IS PLANNED FOR 5/91. PROJECT COMPLETION IS PLANNED FOR 7/91.
L530	FURNITURE AND OFFICE EQUIPMENT	CLOSED TO FIELD CHARGES.

ENVIRONMENTAL - F. G. Jeanson

Water

All wastewater discharge parameters were met for the month of September.

Work continued on preparation of the NPDES permit application. Samples were taken of all the outfalls. Results from these samples will be available in the first part of October. All other items in the permit application were completed. A meeting was set up in October with the State to review our water permit application once it is completed.

Waste

Shipments for the month included:

- One bulk load of API sludge to CWM in Emelle, AL.
- Two bulk loads of stormwater solids to CWM in Emelle, AL.

Two applications for hazardous waste treatment facilities were submitted by private companies to the State.

Superfund

The remedial investigation (RI) plan was revised to include the State's comments. A revised schedule for completion of the RI was sent to the State. Completion of final report is scheduled for February, 1991. Start-up of the RI will be in the second week of October.

Air

Work continued on air permitting issues. A meeting was held with Legal, Environmental and the Plant to discuss our options and the contractor proposals. One contractor was chosen. A follow-up clarification letter was sent to the contractor to get a more specific estimate for their services.

Toxicity Characteristic

The BUS-80 systems were completed and reactor rinse to the sewer was eliminated. Testing of our wastewater to pond #3 showed it to be below the 200 ppb limit. Samples of our filter cartridges were taken and sent to a contract lab for TCLP analysis.

Miscellaneous

I attended the Vinyl Institute Health, Safety and Environmental Meeting and the Vinyl Chloride Safety Association conference this month.

A FDA audit was conducted by Corporate Environmental and Legal.

I attended the MMA Environmental update.

I shipped a bulk load of vent dust to Royal Flex in Canada.

ENERGY CONSERVATION - D. A. Moore

September, 1990

Fiscal Y.T.D.

I. Energy Conservation Data

A. Unadjusted EUI	<6.0%>	< 6.7%>
B. Adjusted EUI	<5.8%>	< 6.9%>
C. BTU/Lb. Product	2645.0	2624.0
D. Total Energy Consumption MMM BTU	136.51	1584.69

II. Plant Energy Conservation Program

A. Maintenance

There were fourteen energy related items completed in September, 1990. Twelve of these items were steam leak repairs. The remaining two were steam trap repairs.

III. Boiler Operation

<u>Boiler</u>	<u>Combustion Efficiency %</u>	
	<u>September, 90</u>	<u>Fiscal Y.T.D.</u>
No. 1	83.2%	83.4%
No. 2	83.1%	83.2%
No. 3	83.0%	83.0%

HUMAN RESOURCE REPORT

SEPTEMBER, 1990

Personnel - J. E. Beall

Employment

Joseph R. Ganc - Process Engineer - New Hire
Greg S. Norman - Project Engineer - New Hire

Promotions/Transfers

NONE

RETIREMENTS

None

TERMINATIONS/RESIGNATIONS

Carma Cook - Summer Process Engineer

TO/FROM LEAVE OF ABSENCE

ABERDEEN PLANT**MONTHLY PERSONNEL REPORT****SEPTEMBER, 1990**

EMPLOYMENT		NEW HIRES		MO	YTD
Salaried	78	Salaried/Transfer	2	2	6
Hourly	171	Hourly	0	0	0
Temporary	2	Temporary	0	0	6
TOTAL	251	TOTAL	2	2	12

DEPARTMENTS	#EMPLOYEES	M	F	%M	%F	DEPARTMENT TURNOVER		%
						MO.	YTD	
WAREHOUSE	15	8	0	53%	0	0	0	0
GENERAL PLANT	12	5	0	42%	0	0	4	44.4%
MAINTENANCE	41	9	0	22%	0	0	1	3.2%
LABORATORY	24	6	2	25%	8.3%	0	1	5.5%
COMPOUND	41	25	1	61%	2.4%	1	1	3.2%
VINYL	33	10	1	30%	3.0%	1	1	4.0%
PLASTICIZER	5	2	0	40%	0	0	1	26.7%
SUB TOTAL	171	65	4	38%	2.3%			
SALARIED	78	6	18	7.7%	23.1%			

APPLICATIONS	NO	%	PLANT TURNOVER	No	%
Month	0	0	Hourly Month	0	0
YTD	0	0	YTD	1	.8%
Minority	0	0	Salaried Month	0	0
Female	0	0	YTD	4	6.8%

ABERDEEN CHEMICAL PLANT
 DEPARTMENTAL HOURS ANALYSIS REPORT
 DISTRIBUTION LIST RMS, JFC, JVC, DEPARTMENT HEADS, FILE
 10/ 2/89 THRU 9/30/90

FY 1990

DEPT	STR TIME HRS WKD	OVERTIME HOURS		OVERTIME AS A % OF STR TIME	ABSENCE HRS LOST	ABSENCE AS A % OF STRAIGHT TIME			YEAR-TO- DATE	VACATION HOURS
		OVERTIME NONCONTROL	OVERTIME HOURS CONTROL			SICKNESS	PAID	OTHER NONPAID		
YARD	15728.00	396.00	1995.25	15.20	794.50	3.36	1.07	0.63	5.05	1424.00
UTILITY	7730.25	240.00	1298.25	19.90	278.25	3.57	0.00	0.03	3.60	776.00
MAINTENANCE	65157.75	371.75	9171.00	14.65	2407.75	2.27	0.50	0.92	3.70	6552.00
QC LAB	34896.00	634.00	2820.50	10.04	1235.50	1.89	0.86	0.79	3.54	2368.00
JANITORS	3967.50	0.00	120.00	3.02	25.50	0.00	0.40	0.24	0.64	336.00
WAREHOUSE	12629.25	0.00	1006.50	7.97	1838.75	14.03	0.19	0.34	14.56	1120.00
STORES	3607.75	0.00	73.75	2.04	49.25	0.22	0.00	1.14	1.37	364.00
DEVELOPMENT LAB	10908.00	124.50	904.25	9.43	61.50	0.22	0.00	0.34	0.56	1256.00
DRY BLEND	12020.25	168.00	1110.25	10.63	225.75	0.10	1.20	0.58	1.88	744.00
COMPOUND	75366.00	904.00	7578.75	11.26	2914.75	2.56	0.71	0.60	3.87	4392.00
VINYL	75504.75	1918.50	7769.75	12.83	1860.75	1.25	0.45	0.77	2.46	4528.00
PLASTICIZER	9617.75	156.00	582.75	7.68	252.50	1.25	0.25	1.13	2.63	856.00
GENERAL HELPERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL PLANT	327133	4962.75	34431.00	12.04	11944.75	2.37	0.57	0.71	3.65	3.65 24716.00

TOTAL PLANT HOURS FOR JURY DUTY..... 108.00
 TOTAL PLANT HOURS FOR NATIONAL GUARD/RESERVE DUTY..... 1025.50
 TOTAL PLANT HOURS FOR DEATH IN FAMILY..... 744.00

ABERDEEN CHEMICAL PLANT
DEPARTMENTAL HOURS ANALYSIS REPORT
DISTRIBUTION LIST RMS, JFC, JUV, DEPARTMENT HEADS, FILE
9/ 3/90 THRU 9/30/90

SEPTEMBER, 1990

DEPT	OVERTIME HOURS		OVERTIME AS A % OF STR TIME		ABSENCE AS A % OF STRAIGHT TIME				YEAR-TO-DATE		VACATION HOURS
	STR TIME HRS WRKD	OVERTIME HOURS NONCONTROL	STR TIME	AS A % OF STR TIME	ABSENCE HRS LOST	SICKNESS	PAID	OTHER NONPAID	TOTAL	DATE	
YARD	1244.00	48.00	106.00	12.38	16.00	0.00	0.00	1.29	1.29	4.94	96.00
UTILITY	564.00	24.00	113.50	24.38	0.50	0.00	0.00	0.09	0.09	3.53	108.00
MAINTENANCE	5169.75	16.00	705.75	13.96	30.25	0.00	0.00	0.59	0.59	3.73	472.00
QC LAB	2739.50	96.00	223.75	11.67	84.50	3.07	0.00	0.02	3.08	3.60	184.00
JANITORS	304.00	0.00	5.00	1.64	0.00	0.00	0.00	0.00	0.00	0.63	0.00
WAREHOUSE	992.00	0.00	110.75	11.16	160.00	16.13	0.00	0.00	16.13	14.33	88.00
STORES	263.75	0.00	2.00	0.76	0.25	0.00	0.00	0.09	0.09	1.34	40.00
DEVELOPMENT LAB	888.00	16.00	61.50	8.73	0.00	0.00	0.00	0.00	0.00	0.55	48.00
DRY BLEND	889.50	36.00	95.25	14.76	36.00	0.00	2.70	1.35	4.05	1.84	84.00
COMPOUND	5948.50	228.00	330.75	9.39	88.75	1.41	0.00	0.08	1.49	3.90	212.00
VINYL	5780.75	164.00	623.00	13.61	182.25	2.91	0.00	0.25	3.15	2.42	368.00
PLASTICIZER	792.00	24.00	25.75	6.28	24.00	0.00	3.03	0.00	3.03	2.95	0.00
GENERAL HELPERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL PLANT	25575.75	652.00	2403.00	11.94	622.50	1.94	0.19	0.31	2.43	3.65	1700.00

TOTAL PLANT HOURS FOR JURY DUTY..... 0.00
TOTAL PLANT HOURS FOR NATIONAL GUARD/RESERVE DUTY..... 0.00
TOTAL PLANT HOURS FOR DEATH IN FAMILY..... 48.00

ADMINISTRATIVE SERVICES - D. A. Barclay

Safety

There were no reportable safety instances during the month of September. Tommy Cummings, Plant Accountant, fell at his home and broke his hip. He will be absent from work at least three months.

Quality

At month-end, we had five natural teams with a total of thirty-eight points for an average per team of 7.6 points.

Statistics

<u>Processed</u>	<u>Month</u>	<u>Y.T.D.</u>
Invoices	913	12,996
Working Fund Checks Written	36	244
Cost Savings Through Bid Process	\$5,478	\$166,638

Packaged Finished Goods Inventory

	<u>Month-End Lbs.</u>
Compound "A" Grade	3,904,664
Compound Off-Grade (BC & H)	453,487
Compound MSP - 90	90,112
Millscrap	175,008
Dry Blend "A" Grade	271,497
Dry Blend Off-Grade	25,308
Resin Type I	441,800
Resin Type III	44,950
Vacuum Dust	301,046
Obsolete/Overaged Compound	<u>1,224,973</u>
Total Packaged Warehouse	6,932,845

ABERDEEN CHEMICAL PLANT
SHIPPING ANALYSIS
SEPTEMBER 1990

-SHIPMENTS BY PRODUCTS-	MONTH			YTD		
	PUBLIC	IPT/ITC	EXCH/TOLL	PUBLIC	IPT/ITC	EXCH/TOLL
RESIN-BULK	26,607,310	7,005,000	0	248,718,502	110,724,940	2,307,050
RESIN-PACKAGED	235,322	228,950	0	3,623,250	2,428,450	0
FLEXIBLE COMPOUND-BULK	372,670	1,428,450	0	14,963,230	13,035,680	0
FLEXIBLE COMPOUND-PACKAGED	3,070,457	270,764	0	37,800,639	1,964,435	0
NEW BUSINESS	22,698	0	0	94,116	0	0
RIGID COMPOUND-BULK	4,242,240	534,750	0	38,904,310	10,427,950	0
RIGID COMPOUND-PACKAGED	391,401	0	0	2,608,109	288,723	0
TOLLING - BULK	0	0	916,860	0	0	8,750,600
TOLLING - PACKAGED	0	0	0	0	0	164,565
PLASTICIZER	216,800	173,450	433,380	2,043,040	2,427,700	2,603,290
TOTAL	35,158,978	9,718,464	1,350,240	348,755,996	141,277,938	13,905,505

-SHIPMENTS BY MODE-

BULK:	RAILCAR	CUSTOMER PICKUP	COMMON CARRIER	TOTAL
SEPTEMBER				
RESIN	172	25	27	224
FLEXIBLE COMPOUND	9	0	5	14
RIGID COMPOUND	27	0	25	52
PLASTICIZER	1	0	15	16
TOTAL SEPTEMBER	209	25	72	306

YTD				
RESIN	1,808	313	656	2,777
FLEXIBLE COMPOUND	142	11	52	205
RIGID COMPOUND	292	21	191	504
PLASTICIZER	24	0	76	100
TOTAL YTD	2,266	345	975	3,586

PACKAGED:	CUSTOMER PICKUP	COMMON CARRIER	TOFC	CONTAINER	AIR/UPS	TOTAL
SEPTEMBER						
RESIN	5	15	0	0	8	28
FLEXIBLE COMPOUND	21	79	0	0	6	106
RIGID COMPOUND	1	12	0	0	0	13
PLASTICIZER	0	0	0	0	0	0
TOTAL SEPTEMBER	27	106	0	0	14	147

YTD						
RESIN	36	167	0	0	91	294
FLEXIBLE COMPOUND	270	890	5	0	71	1,236
RIGID COMPOUND	20	102	0	1	2	125
PLASTICIZER	0	3	0	0	1	4
TOTAL YTD	326	1,162	5	1	165	1,659

LABORATORY - J. M. Edwards, Jr.

- A. **Safety** - There were no safety incidents in the Laboratory during September. The monthly safety meeting topics were "Forklift Training" and "Infection Control Training".
- B. **Customer Contacts** - Lou Macakanja with Nibco visited the Plant to talk to us about our 5265 quality. We discussed the 5265 windows of control and how we could improve our communication with Nibco. Lou told us how important it is for us to look at our quality data in a statistical light and a customer's perspective. He told us that we need to be proactive on explanations for trends and out-of-control points.
- C. **Customer Q.C. Problem Reports and CNR's**

8/27 Southwire, Carrollton, GA

Southwire reported that two compartments of 5415, railcar #580005, had high contamination and rejected the car. Aberdeen Q.C. retains and samples taken from the returned car all showed to be within specification.

9/18 Vinylume, Youngstown, OH

Vinylume reported having problems with several gaylord boxes of RP-180 WHT 141. The product did not melt down like previous shipments of RP-180. Also, the product has a "magnetic" quality in that it sticks to your hand. The Aberdeen Technical Service Lab is investigating.

9/20 Formtech, Stow, OH

Formtech reported white streaking in brown profile made from RP-91 WHT 110. Their scrap rate increased from 0.25% to 4.0%. Attempts to duplicate this white streaking in the lab have failed. Samples have been sent to Austin R&D to identify the composition of the white streaks.

10/01 Southwire, Carrollton, GA

Southwire reported that two compartments of 5415, railcar #45873, had high contamination and rejected the car. Samples sent from Carrollton to Aberdeen showed high contamination and Aberdeen Q.C. retains showed high contamination. This material was made during a start-up of the fluid bed dryer after being down for cleaning and maintenance.

LABORATORY - Continued

D. Product Waivers

<u>Customer</u>	<u>Product</u>	<u>Reason</u>	<u>No.</u>
Blane Polymers	5395	Particle Size	1 R/C
Dayton Extruded Plastics	RP-151 WHT 145	Color	1 R/C
Gold Bond	RP-28 WHT 122	% on 40 Mesh	1 R/C

E. RVCM Summary

RVCM of In-Process Samples

The following is a summary of residual VCM results on in-process samples. None of the reactor daily averages exceeded 400 ppm RVCM during the month of September, 1990.

	<u>Reactor</u> <u>Slurries</u>	<u>Drier</u>	
		<u>5265</u>	<u>5305</u>
Number of Samples	934	38	100
Average RVCM, ppm	149	0.156	0.391

RVCM of Shipment Samples

The following is a summary of the residual VCM analysis of shipment samples for the month of September, 1990.

<u>Product</u>	<u>Number of Samples</u>	<u>Average RVCM, ppm</u>
5265	38	0.077
5305	151	0.094
5385	68	0.213
5395	8	0.169
5415	34	0.038
Dry Blend	56	0.051
Debox	20	0.123
Pond	4	1.127

LABORATORY - Continued

F. Resin Process Capabilities (based on dryer "regulars")

	<u>5265</u>	<u>5305</u>	<u>5385</u>	<u>5395</u>	<u>5415</u>
Bulk Density	0.57	0.80	1.38	1.46	1.42
Inherent Viscosity	0.82	1.33	0.69	0.49	0.67
(vs. 0.715 - 0.744)	----	0.52	----		
L Color	7.56	2.67	3.78	6.00	6.17
A Color	4.00	4.33	----		
B Color	5.67	3.00	2.33	1.44	6.00
% on Pan	0.71	0.85	1.93	1.39	3.00
(vs. 2%, max.)	----	----	----	----	0.50
% thru 140 Mesh	0.46	0.48	2.22	0.36	3.64
Mets I.R.	----	----	----	7.33	2.99
(vs. 95% of control)	----	----	----	----	1.44
Hard Particles, (% > 10)	----	----	5.8	----	0.5
Average particle size, microns	131	137	158	1.38	174

G. Flexible Compound Quality Summary

	<u>Adjustments</u>		<u>Rejections</u>	
	<u>M Lbs.</u>	<u>(%)</u>	<u>M Lbs.</u>	<u>(%)</u>
Hardness	75.0	<1.38>	3.2	<0.06>
Color	85.9	<1.58>	43.6	<0.80>
Hard Particles	----	----	195.3	<3.59>
Contamination	----	----	4.5	<0.08>
Dicing	----	----	10.5	<0.19>
Cross Contamination	----	----	18.2	<0.33>
Streamers	----	----	4.8	<0.09>
Metal	----	----	1.7	<0.03>
Total	160.9	<2.96>	281.8	<5.19>

H. Rigid Compound Quality Summary

	<u>Rejections</u>	
	<u>M Lbs.</u>	<u>(%)</u>
Torque Rheometry	5.3	<0.10>
Color	7.5	<0.14>
Total	12.8	<0.24>

I. Miscellaneous

1. All six laboratory natural teams met once during the month.
2. The "Symphony" software proved to be unacceptable to use as a database program for raw material certificates of analysis and specifications. "Paradox" was purchased this month and recording was started on this new software.

SAMPLE SHIPMENTS

SEPTEMBER 90

RESIN

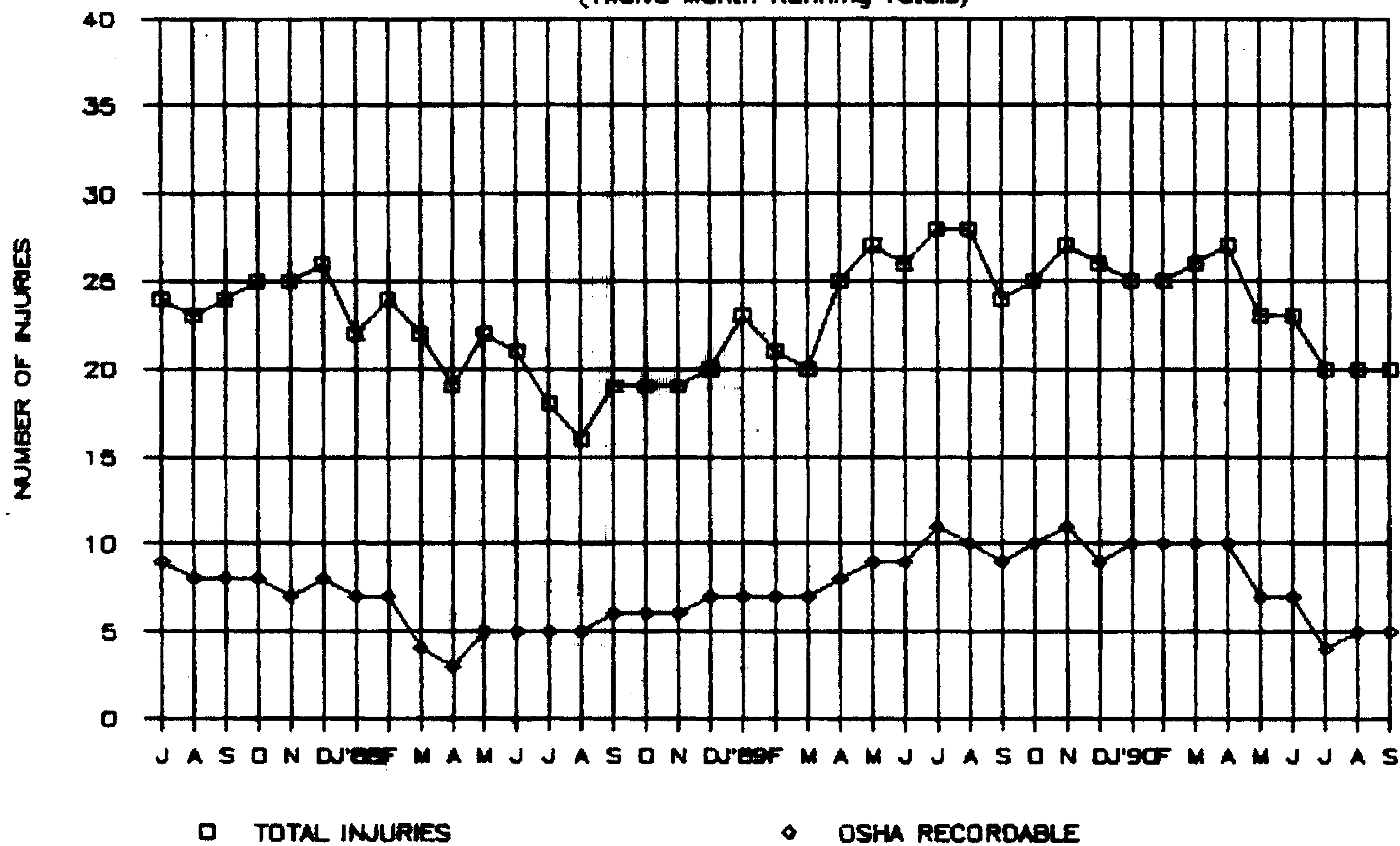
<u>Ship Date</u>	<u>Product</u>	<u>Amount</u>	<u>Customer</u>
9/04/90	5385	50 lbs	Henkel Corporation
9/05/90	5415(New Tech.)	50 lbs.	Essex Group
9/05/90	5385(New Tech.)	800 lbs.	Uniroyal Plastics
9/05/90	5415(New Tech.)	1000 lbs.	Pierce Plastics
9/06/90	5415(New Tech.)	50 lbs.	Southwire Company
9/06/90	5415(New Tech.)	50 lbs.	United Technologies
9/05/90	5305(New Tech.)	50 lbs.	Leon Plastics
	5385(New Tech.)	50 lbs.	
	5415(New Tech.)	50 lbs.	
9/11/90	5385	100 lbs.	RESISTENCIAS KARSTAN
9/12/90	5395(New Tech.)	50 lbs.	Twitchell
9/20/90	5385	100 lbs.	Henkel Corporation
9/25/90	5415	2 X 5 lbs.	Achilles USA, Inc.

COMPOUND

<u>Ship Date</u>	<u>Product</u>	<u>Amount</u>	<u>Customer</u>
9/13/90	Millscrap Chunks	3 lbs.	Wexford International
9/19/90	27121 NAT	100 lbs.	Mr. Mike Skoag
9/20/90	MSP90 Pellets	5 lbs.	Wexford International
9/26/90	35852 NAT	50 lbs.	Rohm & Haas
9/27/90	17462 BLK	50 lbs.	Coalman Cable

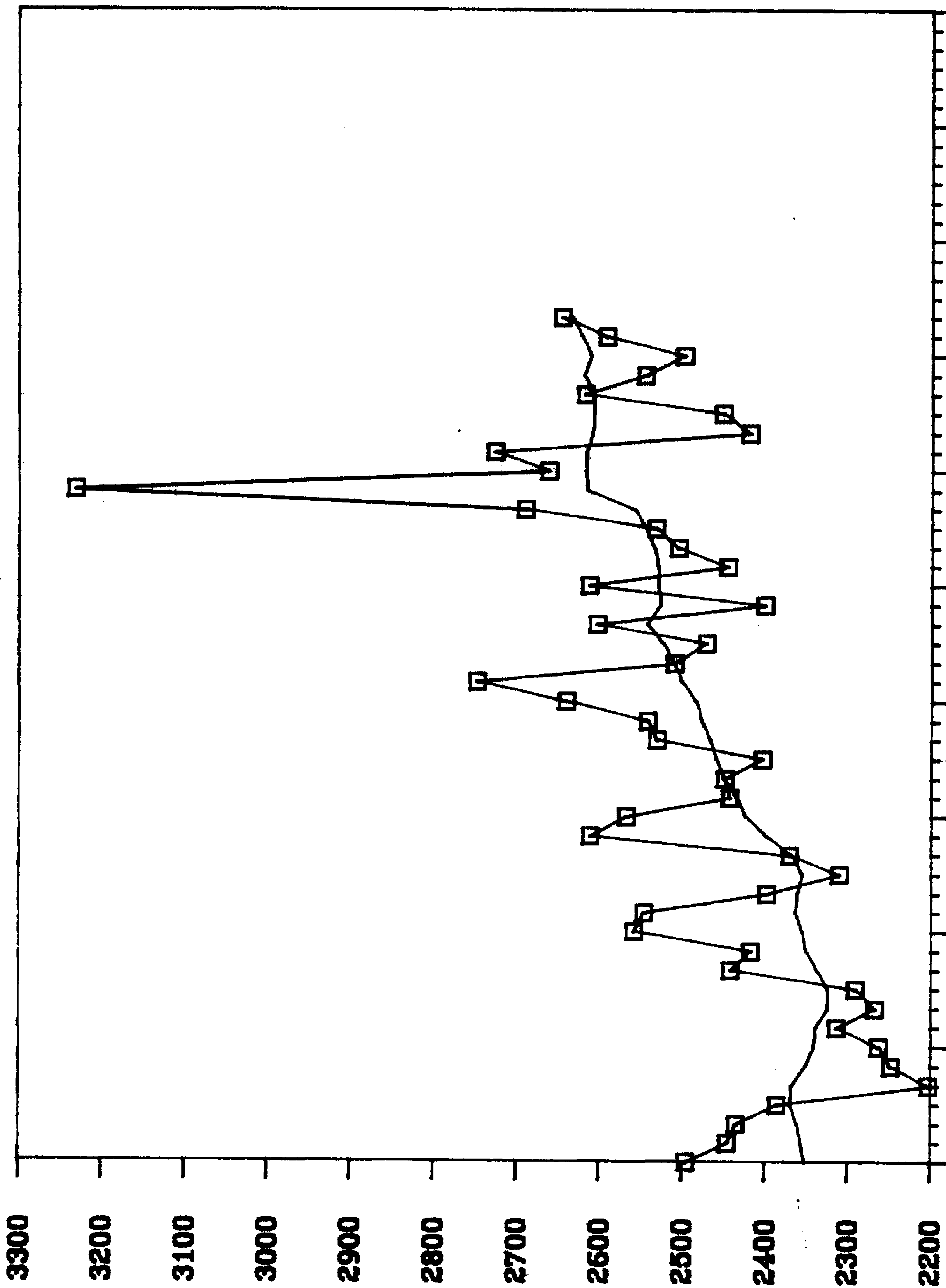
ABERDEEN CHEMICAL PLANT INJURIES

(Twelve Month Running Totals)



ABERDEEN ENERGY CONSUMPTION

BTU/LB



JAN 87 JUL 87 JAN 88 JUL 88 JAN 89 JUL 89 JAN 90 JUL 90 ERR ERR

□ MONTHLY

— 12 MONTH AVERAGE

MONTH