SAFETY - A. H. Sather

Occupational Injuries

| Injuries Treated | May | 1981 Year-to-Date | 1980 Year-to-Date |
|---|---|---|---|
| First Aid | 2 | 17 | 22 |
| Medical Cases | 0 | 2 | 9 |
| Restricted Workday Cases | 0 | 0 | 1 |
| Restricted Workdays | 0 | 0 | 3 |
| Lost Time | 0 | 0 | 0 |
| **Injuries By Department** | | | |
| Vinyl Operations | 1 | 3 | 8 |
| Compound Operations | 0 | 5 | 9 |
| Maintenance | 1 | 8 | 13 |
| Laboratory | 0 | 1 | 2 |
| Receiving and Warehouse | 0 | 1 | 0 |
| Office | 0 | 1 | 0 |
| **Injuries By Type** | | | |
| Cuts and Abrasions | 1 | 9 | 15 |
| Eye Injuries | 0 | 1 | 4 |
| Burns | 1 | 6 | 2 |
| Bruises | 0 | 2 | 7 |
| Strains and Sprains | 0 | 2 | 4 |
| Other | 0 | 1 | 0 |

Near Miss Chem Wash Spill

A mechanic suffered first and second degree chemical burns to the insides of his forearms as a result of chem wash contact during maintenance work on 741 reactor gearbox. The reactor had been chem washed extensively prior to turning it over to maintenance for repair. The atmospheric vent valve was open during this cycle and the chem wash was vented to the atmosphere through this line. Evidence of chem wash material was found on all portions of the reactor as well as on the concrete below the reactor. The mechanic contacted the spilled chem wash while he was removing the universal joint guard. The chem wash procedures now prohibit having the atmospheric vent valve open during periods when chem wash is being supplied to reactor condensers. Future changes to the modicon controller are planned to prevent having the atmospheric vent valve open while chem wash is being supplied to the condenser.

As of May 31, 1981, the plant operated a total of 696 days or 905,880 manhours without a disabling injury.

SAFETY - (continued)

Safety Meetings

Several topics were covered during May safety meetings. The topics included: April injury experience and preventive emphasis; proper use of hand tools; and characteristics and extinguishment of VCM fires.

Safety Audit

Field work for the 1981 safety audit was completed during the reporting period. All operating and maintenance areas were surveyed for safety hazards/problems and lighting.

Training

A total of ten (10) personnel received new employee orientation. Eight (8) of them were casual, one (1) a summer engineer and one (1) the plant accountant.

A new Vinyl Chief Operator - R. S. Kilgore - received safety permit training.

A total of 14 engineering and research personnel were given orientation regarding work practices and other requirements prior to the vinyl reactor variability study.

OSHA Compliance

Activity for the reporting period was limited to routine sampling as noted below. The results and overexposures are shown below.

| | < PEL | | ≥ PEL - Overexposures | |
|---|---|---|---|---|
| Chemical | Number | Percent | Number | Percent |
| VCM | 75 | 95 | 4 | 5 |
| Lead | 25 | 100 | 0 | 0 |
| Antimony | 25 | 100 | 0 | 0 |
| Total Particulates | 6 | 100 | 0 | 0 |

Overexposures

A total of four (4) overexposures to VCM were found. One occurred to a chief operator who did not wear a respirator and no specific cause identified. The remaining overexposures occurred to personnel who were wearing respirators. They occurred to: a mechanic who was repairing a VCM leak at the VCM tank farm, to a supervisor who was overseeing the dumping of a coarse batch, and to an "A" operator who was changing VCM filters in the new module.

VINYL - P. E. Markey

| | Month | Year to Date |
|---|---|---|
| 1. Total Production, MM Lbs. | 25.3 | 130.7 |
| 2. Production Rate, M Lbs./C.D. | 816 | 866 |
| 3. Charges, Reactor Batches/C.D. | 20.2 | 21.2 |
| 4. Total Charges | 625 | 3200 |
| 5. Reactor Stream Factor, % | 87.1 | 88.3 |
| 6. Dryer Rate, Average Lbs./Hr. (on-stream) | 5772 | 5908 |
| 7. Dryer Stream Factor | 83.9 | 87.1 |
| 8. Accounting Days | 31 | 151 |

Vinyl Department production for May was 98% of budget at 25.3 MM pounds.

Reactor and dryer stream factors 87.1% and 83.9%, respectively.

Reactors

1. Shutdown work for reactor placement and tie-ins resulted in a 2.6% reactor stream factor penalty.

2. The April 30th power failure in which a number of reactors had to be killed in polymerization resulted in a stream factor penalty of 1.0% including the seal change on 741 reactor which failed during the power outage.

3. Maintenance on agitator gearboxes resulted in a 1.8% reactor stream factor penalty.

4. Condenser cleanings resulted in a 1.1% stream factor penalty.

5. Recovery system and dryer imbalances resulted in a 5.4% reactor stream factor penalty.

Dryers

1. Shutdown work for reactor placement and installation of a Sweco sifter on No. 8 dryer resulted in a 2.1% dryer stream factor penalty.

2. Maintenance and pluggage or dryer centrifuges resulted in a 3.3% dryer stream factor penalty.

3. Resin transfer system problems resulted in a 1.8% dryer stream factor penalty.

4. Normal dryer cleaning and line changes resulted in a 1.6% dryer stream factor penalty.

5. Reactor/Dryer area imbalances resulted in a 2.5% dryer stream factor penalty.

VINYL - (continued)

Resin Quality Summary

| Resin Type | Prime Pounds | "BC" Grade | "H" Grade | % of Total Production |
|---|---|---|---|---|
| 5305 | 1,522,976 | 121,650 | 341,750 | 7.9 |
| 5385 | 15,600,997 | 314,100 | 114,600 | 63.8 |
| 5425 | 4,678,956 | 7,500 | 56,900 | 18.9 |
| 5465 | 2,030,650 | - | - | 8.1 |
| Sifter Overflow | - | - | 345,345 | 1.3 |
| Total | 23,833,579 | 443,250 | 858,595 | 100.0 |

Quality performance for May was 94.8% customer grade with 1.8% "BC" grade and 3.4% "H" grade. Due to business conditions and tight railcar availability no debagging or deboxing activities were conducted during the month.

Cost

The variable cost variance for May was favorable $837.2 with $951.4 M due to price and ($114.3) due to efficiency. The major price variance was $933.4 M due to below budget monomer pricing. Monomer pricing was 20.045 ¢/lb. versus the budgeted 23.636 ¢/lb. Unfavorable efficiency variances of ($63.2 M) for VCM, ($73.6) due to off-grade production and ($4 M) due to product mix were partially offset by a favorable variance of $26.4 M in the additives area.

The monomer raw material requirement for May was 1.02992 pounds VCM per pound PVC versus a 1.01936 standard. The largest single item of the shortfall continues to be weight discrepancies on incoming monomer shipments. Check weighing of incoming cars has shown:

| No. of Cars | Scale Used | Average Overage of (shortfall) Lbs./Railcar |
|---|---|---|
| 76 | Aberdeen Plant | 1,801 |
| 20 | Railroad | 1,740 |

A more extensive weighing program is being coordinated with the VCM plant.

May's 97.1% PVC/VCM efficiency would improve to at least 98.1% (budget 98.1%) removing the effect of incoming monomer weight discrepancies.

General

1. Packaging for the month totalled 5.4 MM pounds.

2. The plant expansion reactors were lifted and placed in position in both reactor modules on May 18th and 19th. Safety considerations dictated a one day shutdown in each reactor module for the reactor placements.

VINYL - (continued)

General - (continued)

3. Additional testing of Lucidol's L-46 initiator was conducted in May. Testing indicated potential reduction in polymerization times of five to ten percent.

4. Additional testing of Naugard 492 as an antioxidant replacement for Conoco's PC-555 was conducted in May. Extended testing on 5385 resin indicated heat stabilities and colors to be equivalent to standard.

5. An extensive reactor variability test run was conducted at the Aberdeen Plant from May 26 to June 4, 1981. The goal of the program is to determine the underlying causes of batch to batch particle size variation.

COMPOUND - J. R. McCrimon

| Compound Production | Month | Per Day | Y.T.D. |
|---|---|---|---|
| Line I, M Pounds | 1,362 | 52 | 6,443 |
| Line V, M Pounds | 171 | 34 | 1,221 |
| Line III, M Pounds | 2,787 | 90 | 14,856 |
| Total, M Pounds | 4,320 | 139 | 22,520 |
| Accounting Days | 31 | | 151 |

Line I operated 26 days during May at an average rate of 52 M pounds per day. Major items affecting production efficiency were: product changes (24.3 hours), skip hoist (17.3 hours), dicers (16.3 hours), blender scales (10.1 hours), mill (5.5 hours), Banbury seals (5.4 hours) and blender conveyor (5.0 hours).

Line V operated 5 days during May at an average rate of 34 M pounds per day. Major items affecting production efficiency were: product changes (11.5 hours) and quality control (7.5 hours).

Line III operated 31 days during May at an average rate of 90 M pounds per day. Line III production was affected by: product changes (47.6 hours), quality control (27.5 hours) and mill maintenance (8.0 hours).

Quality performance for flexible compounds was 5.7% off-grade of which 47.7% was due to mill scrap. "BC" production was -6.0%.

The raw material requirement for flexible compounds was 1.03038 pounds of raw material per pound of compound versus a 1.01300 standard. (Y.T.D. is 1.00949.) The unfavorable raw material variance is due to production of two compounds which were not budgeted for 1981.

The variable cost variance for compound was ($49.5 M) with $41.7 M due to price and ($91.2 M) due to efficiency. The variance due to product mix was $0.95 M. Major efficiency variances were: off-grade ($66.7M) and resin ($14.7 M). The only major price variance was $10.7 M for colors.

| Dry Blend | Month | Per Day | Y.T.D. |
|---|---|---|---|
| Production, M Pounds | 4,074 | 157 | 19,682 |
| Accounting Days | 31 | | 151 |

Dry Blend operated 26 days during May at an average rate of 157 M pounds per day. Production included RP-100 BW, 90171, 80174, 80273G and purge compound. Dry Blend production was affected by: quality control (70.6 hours), product changes (13.6 hours), out of resin (9.9 hours), master batch feeder (7.8 hours), and product blower (6.7 hours).

Quality performance for the month was 99.97% customer grade.

The raw material requirement for dry blend was 1.01045 pounds of raw material per pound of dry blend versus a standard of 1.00525. (Y.T.D. is 1.01293).

COMPOUND - (continued)

Dry Blend - (continued)

The variable cost variance for dry blend was $54.7 M with $16.4 M due to price and $38.3 M due to efficiency. The variance due to mix was $39.1 M. There were no major price or efficiency variances for the month.

| Plasticizer | Month | Per Day | Y.T.D. |
|---|---|---|---|
| Production, M Pounds | 1,129 | 61 | 5,280 |
| Accounting Days | 31 | | 151 |

Plasticizer operated 20 days during May at an average rate of 61 M pounds per day. Production included: DOP, 610P, DIDP, and 810P.

VRP production totaled 84 M pounds (7.4%). Production was limited by reactor instrument repairs (12.5 hours), safety disc changes (18.0 hours), and out of P.A. (54.5 hours).

The raw material requirement for plasticizer was 1.15033 pounds of raw materials per pound of plasticizer versus a 1.10529 standard. (Y.T.D. is 1.11754.)

The variable cost for plasticizer was $6.3 M with $13.9 due to price and ($7.6 M) due to efficiency. The only major price variance was $15.6 M for P.A. and the only major efficiency variance was ($17.2 M) for P.A. which was due to unbudgeted production of 810P and to the IPA not accounting for P.A. consumption in RAE (VRP) production.

General

Total customer grade compound inventory increased from 7.2 MM to 8.3 MM pounds during May.

MAINTENANCE - S. J. Vincent

Vinyl

There were two large reactor seal failures, three reactor condensers cleaned, and four reactor gearbox problems in this period. The seal failures were on the D-400 reactor in the old module and on the 741 reactor in the new module. The condensers cleaned were on the 741, 743, and 744 reactors in the new module. Two of the gearbox failures were in the old module on the D-300 and D-400 reactors. Both failures were a result of intermediate gear and bearing failure. In the new module the 741 reactor gearbox was pulled and inspected. No additional problems were found. After the low speed pinion and low speed gears failed, the 742 reactor gearbox required a major overhaul.

The safety discs were changed and all safety valves tested on the D-500 and 741 reactors. There were sixteen safety discs replaced on pumps and drums in the vinyl area in this period.

There were six seal failures and one pump overhauled in the vinyl area. In the new module, pump seals were replaced on the east and west chem wash pump, the condensate return pump, high pressure service water pump, and the west water charge pump. In the old module the seal was replaced on the west VCM charge pump and the north water charge pump was overhauled.

There were three major valves replaced in this period. A new 6" emergency dump valve was installed in the old module dump line, the 6" inlet valve to the old module fresh filter was replaced and in the new module the 742 slurry dump valve was replaced.

There were some projects completed in the vinyl area. The charge water preheater in the new module was acid cleaned and the south RVCM receiver was opened for cleaning in the old module. Three large Corken compressors were overhauled for the VCM tank farm unloading area. Repairs to the vinyl dryers were to change out the Bird centrifuge bowl and gearbox on the #6 dryer twice and once on the #5 dryer. These units were plugged with resin. The Day collector star valve was rebuilt on the #8 dryer. The air lock valve was replaced on the #1 dryer. A major project completed in the dryer area was to install the new Sweco screener on #8 dryer train.

Compound, Dry Blend, Plasticizer and Resin Storage

There were no major repairs to compound Line I. Several steam leaks were repaired and PM inspection of the skip hoist was completed.

Repairs to the Line III equipment were to overhaul the #6 vacuum pump and both chilled water pumps. Acid cleaning of the FCM barrel was successfully completed along with the changeout of the FCM seals. The rebuilt FCM gear drive and barrel was disassembled and returned to Farrel for further evaluation.

MAINTENANCE - (continued)

Compound, Dry Blend, Plasticizer, and Resin Storage - (continued)

In the plasticizer area the Schenk filter was opened and pulled for cleaning.

There were no major repairs to dry blend equipment in this period.

Other projects completed were to install a new steam regulator on the deaerators at the boiler house, replaced the governor on the Colt-on transfer unit, painted three drums for asbestos disposal and to replace the brushes in the plant sweeper.

Utilities and Service

There were five repairs to equipment in the plant air system. Valves were repaired in the #1, #3 and #7 air compressors. The main breaker was replaced on #8 compressor, the heater element was replaced on the west tower of the #2 air dyrer, and the desicant was replaced in both V-10 dryers.

The Plant ran 7.5 hours on propane to allow Mississippi Valley Gas Company to relocate the main gas line.

The tool room mechanics tested 25 safety valves for the new expansion.

Planner

There were 88 work orders estimated and material ordered for 36 projects. There were 28 registers closed and 30 invoice registers issued for contracted repair of equipment. The safety valve, safety disc, and equipment history were updated for the month.

MECHANICAL ENGINEERING - J. A. Dixon

AFE's Submitted, Approved and Closed

The following AFE was approved during May:

| AFE No. | Title | Authorized |
|---|---|---|
| 9641 | Slurry Delumper | $35,000 |

The following AFE was closed to field charges during May:

| AFE No. | Title | Authorized |
|---|---|---|
| 9560 | Safety Equipment | $25,000 |

Completion reports were issued for the following AFE's:

| AFE No. | Title | Authorized |
|---|---|---|
| 9589 | Instrument Air Dryer | $110,000 |
| 9580 | Boiler Economizers | 140,000 |
| 9610 | API Clean Water Bypass | 23,000 |

Design work is in progress on the following projects:

Spare Inert Incinerator
Resin Reclaim System
Reactor Pressure Relief Modifications
Emergency AMS Kill System
Sifter Overflow Reclaim System
Centrate Heat Recovery
Fire Protection Improvements Phase III
VCM Tank Farm Revisions
V-10 Centrate Heat Recovery System
Vinyl Initiator Charge Pots

AFE Activity

1. AFE 9639 - Revisions to Emission Recovery System - J. L. White
   Retubing of the vapor knockout condensers is scheduled to be completed in June.

2. AFE 9729 - Fire Protection Improvements - Phase II - M. Ingle & J. P. McKee
   The backfilling and grounding work is completed for the pump house. The pumps and drivers have been set in place and construction of the pump house walls are in progress.

3. AFE 9689 - Diking of Sphere & Curbing of Drum Storage Areas - J. L. White
   Bids were requested for completion of the curbing of the drum storage areas. Construction is scheduled for June and July.

MECHANICAL ENGINEERING - (continued)

AFE Activity - (continued)

4. AFE 9530 - Spare Incinerator - L. Roussel & J. White
Project design work is complete. Erection of structural steel is in progress.

5. AFE 9560 - Safety Equipment - J. P. McKee
The overhead walkway between the 200 and 600 series silos is installed and operational.

6. AFE 9630 - Water Stripping - M. Ingle & J. White
Construction is in progress. Project is scheduled to be operational in mid June.

7. AFE 9660 - Hot Water Charge Tank Replacement - J. P. McKee
A sparger pipe was designed and installed in the inlet nozzle of the charge tank. This appears to have eliminated the vibration problem.

8. AFE 9680 - Fixed Point Monitor Data Computer & Warning Lights - R. B. Harned
The contracts for assembly of the relay cabinet and the electrical installation have been let.

9. AFE 9690 - Breathing Air Modification - J. L. White
Construction is scheduled for June.

10. AFE 9710 - Fire Protection Improvements - Phase III - T. Blazek
A schedule has been issued and design work is in progress.

11. AFE 9720 - Reactor Agitator Replacement - M. S. Richards
A change order was written to purchase two speed electic motors. A viking pump has been installed in a refurbished duraseal unit for a test run.

12. AFE 9740 - Modifications to Make Profile Dry Blend - J. P. Windham
The new boxing silo and the weigh system were placed on order. Bids were requested for the boxing scale and use bin. Installation of the Acrison feeders is in progress.

13. AFE 9760 - Emergency AMS Kill System - J. L. White
Drawings for the old module are being checked and drafting is in progress for the new module.

14. AFE 9770 - Reactor Pressure Relief Modifications - J. L. White
The studding outlets for the old module are scheduled for installation in mid June.

MECHANICAL ENGINEERING - (continued)

AFE Activity - (continued)

15. AFE 9780 - Centrate Heat Recovery - J. P. McKee
Equipment location drawings are being reviewed for approval. All the major equipment is on order.

16. AFE 9790 - Resin Reclaim System - P. Meiers
Overall project design is 10% complete. Purchasing of major equipment is in progress.

17. AFE 9521 - New VCM Railspur - Herzog Hart Corp.
Construction bids have been requested. Bids are due 6-11-81.

19, AFE 9531 - Vinyl Initiator Charge Pots - S. Jones
Drafting is in progress. Bids have been received for the initiator pots. A studding outlet required for this project on D-300 will be installed during the next shutdown.

19. AFE 9541 - VCM Tank Farm Modificiations - R. B. Harned
The knockout pot has been inspected by MED. Foundation work is complete. Materials have been purchased to pre-fabricate the spool pieces for tie-ins.

20. AFE 9551 - V-10 Centrate Heat Recovery - S. Jones
Bids have been requested for purchase of major equipment. An equipment location drawing is being reviewed for approval.

21. AFE 9581 - Dryer Building Ventilation - J. P. Windham
All major equipment is on order and drafting is in progess.

22. AFE 9611 - Recovery System Revisions - J. P. McKee
The rupture discs and safety heads have been placed on order. The new relief valves have been received. Drafting is in progress.

23. AFE 9631 - Ground Water Monitoring - V. E. Messick
The ground water monitoring study has been received from the contractor and is being reviewed. The closure plan has been reviewed and was sent to the contractor for corrections.

Construction - G. A. Morgan

The following projects were completed during May:

1. Roadway for fork lift access to Corken compressors.
2. Boiler economizer insulation.
3. Chemical cleaning of new module preheater.
4. Chemical cleaning of Line III FCM barrel.
5. Installation of piping for Centrate and Lake Charles water charge tests.

MECHANICAL ENGINEERING - (continued)

Construction - (continued)

6. Installation of overhead walkway from 282 silo to rail silos.

The following contracts were issued during May:

1. Incinerator painting
2. Installation of Chem-wash piping and equipment
3. Painting of piping and equipment - PVC expansion project
4. Installation of electrical facilities - Fixed point monitor data computer and warning lights

Twenty six register tickets were issued during May.

(1) Thru April, 1981 Actual Accounting
(2) Thru May, 1981

## ABERDEEN AUTHORIZATIONS REPORT

| AUTH. NO. | CAPITAL DESCRIPTION | DATE APPROVED | AUTH. AFE AMT. | (1) EXPENDED TO DATE | (2) COMMITTED TO DATE | FINAL. TOTAL EST. COST COMP. | UNDER (OVER) AUTH. AMT. | EST. COMP. DATE | EST. CLOS. DATE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 9559 | Color Weigh Room Modifications | 4/19/79 | 25,000 | 24,045 | 24,045 | 24,045 | 955 | 1/81 | 4/81 | Closed to field charges. |
| 9609 | Reactor Inert Vent System | 6/28/79 | 90,000 | 14,541 | 14,541 | 90,000 | 0 | 12/81 | 3/82 | Project on hold. |
| 9629 | Air Compressor | 7/9/79 | 340,000 | 292,048 | 302,586 | 340,000 | 0 | 8/81 | 11/81 | Revisions in progress. |
| 9639 | Revisions to Emission Recovery Sys. | 7/12/79 | 100,000 | 78,168 | 95,307 | 100,000 | 0 | 8/81 | 11/81 | Revisions in progress. |
| 9689 | Diking of Sphere & Curbing of Drum Storage Areas | 9/15/79 | 170,000 | 134,671 | 135,095 | 170,000 | 0 | 6/81 | 9/81 | Revisions in progress. |
| 9699 | Plant Dryer Debottlenecking | 9/15/79 | 80,000 | 36,445 | 69,340 | 80,000 | 0 | 8/81 | 11/81 | Construction in progress. |
| 9709 | Facilities for Multiple Grade Resin | 9/20/79 | 870,000 | 324,950 | 621,810 | 725,000 | 145,000 | 8/81 | 11/81 | Construction in progress. |
| 9719 | Aberdeen PVC Resin Expansion | 9/10/79 | 850,000 | 873,776 | 887,171 | 887,171 | ( 37,171) | 8/81 | 11/81 | Reactors received 3/14/81. |
| 9729 | Fire Protection Improvements - Phase II | 10/1/79 | 490,000 | 278,796 | 376,494 | 490,000 | 0 | 6/81 | 9/81 | Construction in progress. |
| 9759 | Aberdeen PVC Resin Expansion | 12/10/79 | 11,150,000 | 5,502,000 | 9,468,000 | 10,450,000 | 700,000 | 9/81 | 12/81 | Construction in progress. |
| 9530 | Spare Incinerator | 1/23/80 | 650,000 | 153,238 | 426,882 | 550,000 | 100,000 | 6/81 | 9/81 | Construction in progress. |
| 9550 | P.A. Handling Improvements | 3/3/80 | 63,000 | 32,384 | 32,487 | 63,000 | 0 | 12/81 | 3/82 | Project on hold. |
| 9560 | Safety Equipment | 3/12/80 | 25,000 | 10,939 | 29,299 | 29,299 | ( 4,299) | 5/81 | 8/81 | Closed to field charges. |
| 9570 | Replace T-101 P.A. Tank | 3/27/80 | 119,000 | 62,720 | 62,720 | 119,000 | 0 | 12/81 | 3/82 | Engineering in progress. |
| 9590 | Critical Spare Equipment | 3/26/80 | 59,000 | 11,410 | 60,386 | 60,386 | ( 1,386) | 6/81 | 9/81 | Condenser to ship 6/81. |
| 9600 | Calcium Stearate Addition System | 4/2/80 | 84,000 | 11,330 | 13,368 | 84,000 | 0 | 8/81 | 11/81 | Engineering in progress. |
| 9630 | Water Stripping | 4/30/80 | 810,000 | 332,798 | 369,452 | 510,000 | 300,000 | 6/81 | 9/81 | Construction in progress. |
| 9660 | Hot Water Charge Tank Replacement | 6/4/80 | 160,000 | 140,314 | 141,905 | 160,000 | 0 | 6/81 | 9/81 | Project operational. |
| 9670 | Laboratory Equipment | 7/9/80 | 32,000 | 31,587 | 32,447 | 32,447 | ( 447) | 12/80 | 3/81 | Closed to field charges. |
| 9680 | Fixed Point Monitor Data Computer and Warning Lights | 9/4/80 | 113,000 | 37,739 | 67,703 | 113,000 | 0 | 9/81 | 12/81 | Contract let. |
| 9690 | Breathing Air Modification | 9/9/80 | 21,000 | 2,519 | 9,872 | 21,000 | 0 | 7/81 | 10/81 | Construction scheduled. |
| 9700 | Compound Fines & Streamers Removal | 10/1/80 | 95,000 | 0 | 29,524 | 95,000 | 0 | 10/81 | 1/82 | Engineering scheduled. |
| 9710 | Fire Protection - Phase III | 10/14/80 | 385,000 | 1,707 | 1,707 | 385,000 | 0 | 10/81 | 1/82 | Engineering in progress; CED. |
| 9720 | Reactor Agitator Replacement | 10/14/80 | 420,000 | 95,440 | 131,672 | 420,000 | 0 | 10/81 | 1/82 | Agitators to ship 6/81. |
| 9730 | Compound Line III Debottlenecking | 10/16/80 | 1,350,000 | 23,519 | 69,500 | 1,350,000 | 0 | 6/82 | 9/82 | FCM barrel to ship 10/81. |
| 9740 | Modifications to Make Profile Dry Blend | 10/27/80 | 200,000 | 14,310 | 48,301 | 200,000 | 0 | 10/81 | 1/82 | Engineering in progress. |
| 9750 | Rotary Dryer Insulation (Energy) | 11/10/80 | 22,000 | 0 | 27,391 | 27,391 | ( 5,391) | 7/81 | 10/81 | 80% complete. |
| 9760 | Emergency AMS Kill System | 11/15/80 | 335,000 | 45,097 | 89,716 | 335,000 | 0 | 8/81 | 11/81 | Engineering in progress. |
| 9770 | Reactor Pressure Relief Mod. | 11/25/80 | 560,000 | 4,469 | 302,671 | 460,000 | 100,000 | 12/81 | 3/82 | Engineering in progress, nozzle installation scheduled. |
| 9780 | Centrate Heat Recovery | 12/8/80 | 300,000 | 11,274 | 60,992 | 300,000 | 0 | 3/82 | 6/82 | Engineering in progress. |
| 9790 | Resin Reclaim System | 12/14/80 | 727,000 | 12,050 | 177,050 | 727,000 | 0 | 3/82 | 6/82 | Engineering in progress; CED. |
| 9800 | Plasticizer Irritant Control (Air) | 12/15/80 | 80,000 | 25,319 | 28,305 | 80,000 | 0 | 9/81 | 12/81 | Engineering in progress. |
| 9810 | Replacement Gearbox for Farrel Mixer | 12/18/80 | 73,000 | 0 | 69,400 | 73,000 | 0 | 9/81 | 12/81 | Gearbox to ship 10/81. |
| 9511 | Miscellaneous Projects Under $10,000 | 1/9/81 | 170,000 | 66,258 | 128,227 | 170,000 | 0 | 12/81 | 3/82 | Fifty-three projects approved. |
| 9521 | New VCM Railsnur | 1/30/81 | 11,000 | 9,808 | 15,723 | 20,000 | ( 9,000) | 8/81 | 11/81 | Bids requested. |
| 9531 | Vinyl Initiator Charge Pots | 1/21/81 | 165,000 | 0 | 1,186 | 165,000 | 0 | 11/81 | 2/82 | Engineering in progress; CED. |
| 9541 | VCM Tank Farm Modifications | 1/21/81 | 90,000 | 201 | 23,792 | 90,000 | 0 | 1/82 | 4/82 | Foundation installed. |
| 80-395 | Interplant Communication-Phase II | 1/22/80 | 55,000 | 0 | 21,755 | 55,000 | 0 | 7/81 | 10/81 | Revisions in progress. |
| 9551 | V-10 Centrate Heat Recovery (Energy) | 2/17/81 | 125,000 | 0 | 480 | 125,000 | 0 | 5/82 | 8/82 | Engineering in progress; CED. |
| 9561 | Cooling Tower Fan Controls (Energy) | 2/17/81 | 40,000 | 0 | 19,840 | 40,000 | 0 | 11/81 | 2/82 | Equipment on order. |
| 5571 | Centrifugal Air Compressor Repair | 3/11/81 | 45,000 | 42,972 | 42,972 | 45,000 | 0 | 4/81 | 7/81 | Closed to field charges. |
| 9581 | Dryer Building Ventilation | 3/20/81 | 23,000 | 0 | 7,514 | 23,000 | 0 | 9/81 | 12/81 | Engineering in progress. |
| 9591 | Sifter Overflow Reclaim System | 3/20/81 | 200,000 | 0 | 14,511 | 200,000 | 0 | 3/82 | 6/82 | Engineering in progress. |
| 9601 | Compliance With EPA VCM Standard (Air) | 3/25/81 | 72,000 | 0 | 12,434 | 72,000 | 0 | 12/81 | 3/82 | Engineering in progress. |
| 9611 | Recovery System Revisions | 3/25/81 | 30,000 | 0 | 9,914 | 30,000 | 0 | 12/81 | 3/82 | Equipment on order. |
| 9621 | Laboratory Equipment | 3/25/81 | 42,000 | 0 | 37,236 | 42,000 | 0 | 8/81 | 11/81 | Equipment on order. |
| 9631 | Ground Water Monitoring (Solid) | 3/24/81 | 30,000 | 0 | 16,872 | 30,000 | 0 | 10/81 | 1/82 | Contract let. |
| 9641 | Slurry Delumper | 5/14/81 | 35,000 | 0 | 0 | 35,000 | 0 | 2/82 | 5/82 | Quotes being obtained. |
| | EXPENSE | | | | | | | | | |
| 9020 | Repairs to Line I Compounder | 11/24/80 | 38,000 | 0 | 0 | 38,000 | 0 | 11/81 | 2/82 | Parts ordered in January. |

PERSONNEL - R. A. Miller

## EMPLOYMENT

Mary Conn - Drafter
Donna Cambre - Process Engineer (Summer)
Alice James - Process Engineer (Co-Op)
Weldon Higganbotham - Plant Accountant
Albert Gunn - Casual Labor
Paul Cogsdell - Casual Labor
Richard Metcalf - Casual Labor
Will Malone - Casual Labor
David Volz - Casual Labor
Frank Brewer - Casual Labor
Annie Everett - Casual Labor
Richard Garner - Casual Labor
Mildred Thompson - Casual Labor

## TO/FROM LEAVE OF ABSENCE

None.

## TRANSFER/PROMOTION

Larry Frye, Chief Operator, transferred to Maintenance Helper.
Thomas Staten, Lab Technician "A", transferred to Maintenance Helper.

## RETIREMENT

None.

## TERMINATION

Annie Everett, Casual Labor
Chris Wing, Process Engineer

## OTHER

During May there were 12 casual labor employees on payroll. Total hours worked were 1611.

CONOCO CHEMICALS
Aberdeen, Mississippi

May 1981
MONTHLY PERSONNEL REPORT

| | | | Minority Employees | # | % |
|---|---|---|---|---|---|
| Salaried Employees | 83* | | Salaried | 7 | 8% |
| Hourly Employees | 159 | | Hourly | 58 | 36% |
| Total Employees | 242* | | Total | 65 | 27% |
| Employees (Hourly) | | | | | |
| New Employees | 0 | Hourly Min. Hired | 0 | | |
| | | % Min. Hired | 0 | | |
| Terminations | 0 | Hourly Min. Term. | 0 | | |
| | | % Min. Term. | 0 | | |

| DEPARTMENTS | PAR | # EMPLOYEES | MIN. EMP. | % MIN. | NEW HIRES | YTD | TERM. | YTD | TURNOVER | YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| Warehouse | 9 | 8 | 1 | 12% | 0 | 0 | 0 | 0 | 0 | 0 |
| Gen. Plant | 11 | 10 | 3 | 30% | 0 | 7 | 0 | 0 | 0 | 0 |
| Maintenance | 52 | 48 | 8 | 17% | 0 | 0 | 0 | 1** | 0 | 0 |
| Laboratory | 22 | 20 | 4 | 20% | 0 | 0 | 0 | 0 | 0 | 0 |
| Compound | 37 | 36 | 26 | 72% | 0 | 0 | 0 | 0 | 0 | 0 |
| Vinyl | 32 | 32 | 13 | 40% | 0 | 0 | 0 | 0 | 0 | 0 |
| Plasticizer | 4 | 5 | 3 | 60% | 0 | 0 | 0 | 0 | 0 | 0 |

Number of Applicants:

Month 16 Year to Date 99

APPLICANT BREAKDOWN:

# Minority 3 % Minority 19%

# Female 4 % Female 25%

Hires (Hourly) :

Month 0 Year to Date 7

Terminations (Hourly) :

Month 0 Year to Date 1**

Overall Turnover 0

Projected Annual Turnover 0

*Includes five (5) temporary employees.
**Includes one (1) retirement. Retirements are not included in turnover rates.

OVERTIME AND ABSENTEEISM

May 1981

| Department | Straight Time Hours Worked | Overtime Hours Worked | | Overtime as of Straight Time | Absence Hours Lost | Absence as a % of Straight Time | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Controllable(1) | Non-Controllable(2) | | | Sickness | Other | Total | Year to Date |
| Warehouse | 1232.50 | 110.50 | 32.00 | 11.5% | 136 | 100% | 0 | 11% | 3.9% |
| Maintenance | 5572.25 | 570.25 | 8.00 | 10% | 336 | 95% | 5% | 6% | 3% |
| Laboratory | 2982.00 | 511.50 | 116.00 | 21% | 0 | 0 | 0 | 0 | 1.9% |
| Compound | 5165.25 | 592.50 | 228.00 | 16% | 192 | 88% | 12% | 4% | 2% |
| Vinyl | 5027.25 | 843.25 | 216.00 | 21% | 152 | 95% | 5% | 3% | 2% |
| Plasticizer | 488.50 | 67.50 | 0 | 14% | 0 | 0 | 0 | 0 | 11% |
| Utility Boiler House | 600.00 | 51.00 | 24.00 | 12.5% | 0 | 0 | 0 | 0 | 0 |
| General Plant | 800.00 | 3.50 | 0 | .4% | 0 | 0 | 0 | 0 | 3.6% |
| Total | 21867.75 | 2750.00 | 627.00 | 15% | 816 | 94% | 6% | 4% | 3.7% |

Note:

(1) Controllable Overtime - all overtime excluding overtime due to working regular hours on a holiday and working the sixth day in operations.

(2) Non-Controllable Overtime - that overtime due to working regular hours on a holiday and working regular hours on the sixth day in operations.

PROCESS ENGINEERING - R. A. Frohreich

A. Expansion Project

Installation of the product rail silos is continuing. Both reactors have been set in place. The instrumentation contractor has moved into the plant and has begun work. Plans are to set the reactor condensors in June. Deluge system drawings are being reviewed.

B. Plasticizer Catalyst Handling

The class "A" design for this project is being prepared.

C. Spare Cooling Tower Pumps

A process design to provide spare cooling tower pumps on two of the vinyl reactor cooling towers was issued.

D. New Boiler Deaerator

A process design to provide a new boiler feed water deaerator was issued.

E. Line III Mill Heating System

The class "A" design to provide a new heating system for the Compound Line III roll mill was issued.

F. Variability Study

Process Engineering provided assistance to Ponca City R&D in setting up the reactor area variability test run.

G. Automatic Resin Bagging

The class "A" design to convert the automatic bagging system from compound to resin service was issued.

H. Recovery System Revisions

The class "A" process design for this project was issued.

I. Batch Water Stripping Project

The Batch Water Stripping Operating Manual was issued and operator training is in progress. Process Engineering will provide startup assistance.

J. Waste Water Treatment Revisions

The AFE request for this project was submitted.

PROCESS ENGINEERING - (continued)

K. Plasticizer Waste Water Stripping Revisions

The design review meeting for this project was held and the class "A" design incorporating comments from the review meeting was issued.

L. Caustic Addition to Recovery Systems

The class "A" design for this project was issued.

M. Safety Projects and Equipment

The AFE request for this project was submitted. This project includes the combustible monitor for the dryer burner area and the diverter valves on the 470 and 490 series silos.

N. Lake Charles Water and Centrate Rinse Test Runs

Process Engineering worked with a PED representative and operations to perform test runs on Lake Charles Water and Centrate Rinse.

O. Additional Expansion Silo

The class "A" design for an additional expansion silo is being prepared.

P. 1981 Capital Budget

Much of the engineering effort during the month was directed toward designs for projects to be included in the 1982 Capital Budget.

ENVIRONMENTAL - V. E. Messick

Particulates

One dryer exhaust was sampled in May for particulates and was within allowable limits.

Water

The total suspended solids from outfall 002 exceeded allowable permit limits on the sample taken on May 20. All other parameters were within permit limitations.

A draft NPDES permit incorporating plant comments was received in early June.

Hazardous Waste Management

The closure plan was received from the contractor and was reviewed. The closure cost estimate was sent to the insurance division who is assisting in obtaining insurance as required by RCRA.

The Groundwater Monitoring Study was received from the contractor and is being reviewed.

Hazardous waste management training as required by RCRA was completed.

A letter ammending the plant's hazardous waste permit application to delete "Rag Layer" treatment and storage facilities was sent to the Mississippi State Board of Health. The "Rag Layer" is now processed to VRP with the aid of a filtration step.

Other

The "Notification of Hazardous Waste Site" as required by the Superfund Regulation was transmitted to the EPA.

TABLE I

WATER COMPLIANCE WITH

NPDES PERMIT PARAMETERS

| | Flow | BOD | | COD | | Sus. Solids | | Diss. | |
|---|---|---|---|---|---|---|---|---|---|
| | GPM | PPM | LB./DY. | PPM | LB./DY. | PPM | LB./DY. | $O^2$ | ph |
| Jan. - Ave. | 1069 | 39 | 504 | 69 | 888 | 7 | 93 | 8.5-10.4 | 7.4-7.8 |
| Max. | 1297 | 57 | 887 | 106 | 1650 | 9 | 114 | | |
| Feb. - Ave. | 757 | 11 | 95 | 43 | 382 | 7 | 65 | 8.9-9.8 | 7.5-7.9 |
| Max. | 819 | 18 | 154 | 56 | 479 | 10 | 86 | | |
| Mar. - Ave. | 753 | 10 | 90 | 36 | 330 | 11 | 93 | 8.3-8.9 | 7.6-7.7 |
| Max. | 790 | 11 | 103 | 51 | 466 | 17 | 139 | | |
| Apr. - Ave. | 946 | 10 | 118 | 31 | 360 | 13 | 151 | 8.2-8.9 | 6.9-8.1 |
| Max. | 1200 | 20 | 253 | 41 | 519 | 19 | 240 | | |
| May - Ave. | 846 | 12 | 125 | 43 | 470 | 13 | 138 | 7.4-8.4 | 7.3-8.0 |
| Max. | 1200 | 14 | 163 | 54 | 629 | 17 | 198 | | |
| June - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| July - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| Aug. - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| Sept. - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| Oct. - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| Nov. - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| Dec. - Ave. | | | | | | | | | |
| Max. | | | | | | | | | |
| NPDES - Ave. | - | 32 | 387 | - | 1390 | - | 605 | >6.0 | 6.0-8.5 |
| Max. | - | 43 | 520 | - | 1940 | - | 909 | | |

ENERGY CONSERVATION - J. F. Perez-Velasco

I. Plant Operations

Total energy consumption for May was 108.860 MMM BTU's. The energy consumption per pound of product increased to 3130 3TU/lb. as compared with 2940 BTU/lb. for April.

II. Plant Energy Conservation Program

Steam Leaks

Fourteen (14) steam leaks were repaired in May.

Boiler Adjustment

Al Thomas and Johnny Click of MED made a survey of the boiler controls during a two day period. Suggestions were given to plant.

## ENERGY CONSERVATION DATA

| ITEM | 1981 | 1980 |
|---|---|---|
| Control Period | May | May |
| **Production, MM Lbs.** | | |
| Resin | 25.2 | 13.7 |
| Dry Blend | 4.1 | 0.9 |
| Compound | 4.3 | 4.5 |
| Plasticizer | 1.2 | 0.9 |
| TOTAL | 34.8 | 20.0 |
| **Natural Gas** | | |
| Consumption, MSCF | 52111 | 35887 |
| Conversion, BTU/SCF | 1020 | 1020 |
| Energy Consumption, MMM BTU | 53.154 | 36.605 |
| **Electricity** | | |
| Consumption, MM KWH | 5.4312 | 4.1446 |
| Conversion, BTU/KWH | 10000 | 10000 |
| Energy Consumption, MMM BTU | 54.312 | 41.446 |
| **Propane** | | |
| Consumption, M Gal. | 15.164 | 3.42 |
| Conversion, BTU/Gal. | 92000 | 92000 |
| Energy Consumption, MMM BTU | 1.395 | 0.315 |
| **Total** | | |
| Energy Consumption, MMM BTU | 108.860 | 78.366 |
| Energy Consumption , BTU/Lb. | 3130 | 3918 |

**Boiler Operating Data**

| | Avg. Stack Temp. | | Avg. % Excess Air | |
|---|---|---|---|---|
| | 1981 | 1980 | 1981 | 1980 |
| No. 1 | N/A | 370 | 27 | 22 |
| No. 2 | N/A | 424 | 27 | 21 |
| No. 3 | N/A | 414 | 24 | 26 |

LABORATORY - R. D. Jackson

CUSTOMER COMPLAINTS

| Customer | Product | Complaint | Report By |
|---|---|---|---|
| Lawrenceville Ind. | 34431 Natural | Product not ready. | JRM |
| Master Fence Fittings | 45541 Natural | Received unapproved Line V material. | JRM |
| Permafit Corp. | 90171 | Material burned. | RDJ |
| Southwire Co. | 5425 | Contamination. | RDJ |
| World Of Plastics | 5385 | Moisture. | PEM |

WAIVERS RECEIVED

| Date | Identification | Product | Customer | Reason | Waived By |
|---|---|---|---|---|---|
| 5/1 | 02891 Bags | 5425 | Nylex | Dry Time | ELK |
| 5/1 | CONX 45726 | 5835-3 | World or Plastics | Bulk Density | ELK |
| 5/1 | PLCX 43857 | 5385-3 | World of Plastics | Particle Size | ELK |
| 5/1 | CONX 45749 | 5425 | Southwire | Viscosity | ELK |
| 5/5 | 03126 Bags | 5305 | Uniroyal | Particle Size | ELK |
| 5/12 | PLCX 43863 | 5385-3 | World of Plastics | Particle Size | ELK |
| 5/13 | PTLX 41361 | 80174 | Mid American | Eq. Torque | CJM |
| 5/18 | PLCX 43728 | 5385-3 | LCP | Particle Size | ELK |
| 5/28 | 03222 Bags | 5305 | Inmont | Bulk Density & Viscosity | CRM |
| 5/28 | CONX 45729 | 5425 | Intex | Viscosity | ELK |
| 5/28 | PLCX 43737 | 5425 | Intex | Viscosity | ELK |
| 5/28 | PLCX 43859 | 5425 | Intex | Bulk Density | ELK |

PRODUCT SERVICE & DEVELOPMENT

Sample Shipments

| Ship Date | Product | Amount (Lbs.) | Customer | Requested By |
|---|---|---|---|---|
| 5/1 | 5385-3 | 5 | COCHEM | AHH |
| 5/7 | 5385-1 | 1,000 | Elson Thermoplastics | COEDS |
| 5/8 | 610P | 5 gal. | Belden Corp. | MED |
| 5/8 | 14741 Natural | 100 | Industrial Plastics | JFN |
| 5/8 | 5385-1<br>5425 | 50<br>50 | Flexible Tubing | PCM |
| 5/8 | 5385-1<br>610P | 5<br>1 gal. | M & T Chemicals | JLI |
| 5/13 | 15041 CLBL | 50 | Robinson Electronics | RTM |

LABORATORY - (continued)

PRODUCT SERVICE & DEVELOPMENT - (continued)

Sample Shipments - (continued)

| Ship Date | Product | Amount (Lbs.) | Customer | Requested By |
|---|---|---|---|---|
| 5/14 | 5385 | 100 | Sherwin Williams | COEDS |
| 5/15 | 5305 | 150 | Conoco - Ponca City | PEM |
| 5/18 | 5385-1<br>5425 | 2,250<br>2,250 | Gary Chemical | COEDS |
| 5/19 | VRP | 1 gal. | Heritage International | WR |
| 5/19 | VRP | 1 gal. | Marketing Tech. Services | WR |
| 5/22 | 15071 Natural<br>28831 Natural<br>44171 Black | 10<br>10<br>10 | Conoco - Ponca City | SKS |
| 5/22 | 5385-3 | 50 | Petrolite Corp. | CSS |
| 5/22 | 15041 CLBL | 100 | Advanced Plastics Corp. | MFM |
| 5/22 | 15071 Natural | 50 | Lavanture | JFN |
| 5/27 | VRP | 1 gal. | Heritage International | WR |
| 5/27 | 610P | 5 gal. | Belden Corp. | MED |
| 5/27 | RP-100 | 20 | Crane Plastics | CJM |

Special Compound Testing

Complete Western Electric specification tests were completed on seven (7) lots of their compounds, as follows:

| | |
|---|---|
| 34861 Gray 546 | 2 lots |
| 34862 Gray 546 | 1 lot |
| 36861 Natural | 1 lot |
| 36862 Natural | 2 lots |
| 38761 Black | 1 lot |

Plasticizer content and flammability tests were run on nine (9) railcar or trailer samples from these lots.

New Compounds

Quality control standards and specifications were prepared for 27651 Black - a new injection molding compound for automotive applications.

LABORATORY - (continued)

PRODUCT SERVICE & DEVELOPMENT - (continued)

Customer Complaints

Precision Molding has complained that their profile, extruded from 18961 Black, is not as black as molding extruded by Custom Molding from a competitor's compound. Tests have indicated that the problem is not concentration or type of carbon black, but is caused by differences in filler content. 18961 contains considerable calcium carbonate filler while the Custom Molding compound is unfilled.

Dry Blend Development

Approximately ten laboratory Welex batches of dry blend compound were prepared for use and quality control standards.

QUALITY CONTROL TESTING

Resin

Regular Samples = 388
Bag Samples = 137
Other In-Process Samples = 3,275
Bulk Shipments = 164 (Railcars = 106, Trucks = 58)

Dry Blend

Blenders Produced = 479
Blenders Tested = 478
Blenders Adjusted = 23.6%
Other In-Process Samples = 612
Bulk Shipments = 66 (Railcars = 11, Trucks = 55)

Compound

Blenders Produced = 690
Blenders Adjusted = 1.7%
Line V Production = 93 skids, 14 boxes
Other In-Process Samples = 461
Bulk Shipments = 15 (Railcars = 14, Trucks = 1)

Resin Heat Stability

Forth nine (49) lots of resin were tested for oven heat stability. All the lots were within the specification limits for this property and all types of resin averaged equal to or better than the controls.

LABORATORY - (continued)

QUALITY CONTROL TESTING - (continued)

Raw Material Testing

Sixty three (63) lots of plant raw materials were tested and released. Two lots of Halbase 100 EP lead stabilizer were held up due to marginal dispersion but were subsequently accepted because it is not used in compounds where dispersion is very critical. One lot of Ongard 2 was rejected for poor dispersion. Another lot of Ongard 2 sent as a replacement was also questionable but was accepted because better material was not available. It is a relatively new raw material specified by Western Electric. We had previously notified Western of potential dispersion problems when Ongard 2 was specified.

Five samples of various color concentrates from three suppliers were evaluated as replacements for Wilson color concentrates. The Wilson concentrates we are now using have been showing poor pigment dispersion and color variations. Replacements are now approved for all but one of the Wilson color concentrates.

RVCM of Shipments

A total of 168 shipment samples were tested for RVCM in May. A summary of this data is below.

| Product | 5305 | 5385 | 5425 | 5465 | Dry Blend |
|---|---|---|---|---|---|
| PPM RVCM | 4.7 | 1.1 | 1.8 | 0.1 | 0.2 |
| No Samples | 86 | 44 | 17 | 12 | 9 |

Analytical Work

The following samples were tested in the analytical lab in May.

| Sample Type | Analysis | No. of Samples |
|---|---|---|
| Resin | Viscosity | 670 |
| Plasticizer | Purity | 13 |
| Waste Water | % Solids | 45 |
| Air Bags | PPM VCM | 4 |
| Western Electric Compound | Plasticizer Purity | 4 |
| Carbon Dosimetry | Mg. VCM | 92 |
| Compound | Resin Viscosity | 2 |

LABORATORY - (continued)

QUALITY CONTROL TESTING - (continued)

RVCM of In Process Samples

A total of 829 process samples were tested for RVCM. A summary of in process sample analysis is below.

| Sample | Average RVCM, PPM | Number of Samples |
|---|---|---|
| Reactor Slurries | 193 | 619 |
| Blowdown Tank Water | 4.7 | 162 |
| 5305 Drier Samples | 9.4 | 48 |

One slurry daily average exceeded 400 ppm.

MISCELLANEOUS

The Chief Chemist attended the Marketing/Business Area/Research Meeting in Houston June 18 and 19, 1981.

TRANSPORTATION - J. E. Stark

| Shipment by Product - M Lbs. | May | Year to Date |
|---|---|---|
| Resin | 17,637 | 105,029 |
| Plasticizer | 37 | 520 |
| Dry Blend | 4,043 | 20,165 |
| Compound | 3,241 | 20,066 |
| TOTAL | 29,958 | 145,780 |

Number of Shipments by Mode

| | | R/C | O.T. Bulk | O.T. Van | C.O.T. | C.C. | TOFC | CPU | Total |
|---|---|---|---|---|---|---|---|---|---|
| Resin | - Bulk | 92 | 40 | | | 1 | | | 133 |
| | - Package | | | 5 | | | | 6 | 11 |
| | - Export | | 3 | 77 | | | | | 80 |
| Plasticizer | | | | | | | | 1 | 1 |
| Dry Blend | - Bulk | 8 | 5 | | | | | 51 | 64 |
| | - Package | | | 11 | | | | | 11 |
| Compound | - Bulk | 11 | 1 | | | | | | 12 |
| | - Package | | | 26 | | 2 | | 10 | 38 |
| | - Export | | | 1 | | | | | 1 |
| | | 111 | 49 | 120 | 0 | 3 | 0 | 68 | 351 |
| Back Hauls for May | | | | 22 | | 1 | | | 23 |

Number of Shipments by Month - Y.T.D.

| | R/C | Bulk | Van | C.O.T. | C.C. | TOFC | CPU | Total |
|---|---|---|---|---|---|---|---|---|
| January | 91 | 48 | 200 | 2 | 91 | 0 | 55 | 487 |
| February | 91 | 55 | 172 | 0 | 40 | 0 | 58 | 416 |
| March | 132 | 65 | 208 | 6 | 54 | 0 | 74 | 539 |
| April | 96 | 38 | 181 | 0 | 11 | 0 | 69 | 395 |
| May | 111 | 49 | 120 | 0 | 3 | 0 | 68 | 351 |

| Material Handling Report | M/Lbs. | T/L |
|---|---|---|
| Packaged Resin from Production | 5,387 | 133 |
| Packaged Compound, Dry Blend from Production | 2,876 | 71 |
| Transferred from Main to Prairie | 4,293 | 106 |
| Transferred from Prairie to Prairie | 40 | 1 |
| Reverse Transfer Resin to Plant | 121 | 3 |
| Reverse Transfer Compound to Plant | 284 | 7 |
| Shipment from Warehouses | 2,309 | 57 |
| Special Packaging | 3,159 | 78 |
| Transferred from Prairie to Main | 2,389 | 59 |
| | 20,858 | 515 |

TRANSPORTATION - (continued)

Off-Grade In Storage

| Material | M/Lbs. | T/L |
|---|---|---|
| Sifter Overflow | 881 | 22 |
| Resin "BC" | 2,405 | 59 |
| Resin "H" | 1,113 | 28 |
| Mill Scraps | 83 | 2 |
| Compound "B" | 1,288 | 32 |
| Compound "H" | 93 | 2 |
| Dry Blend "OG" | 522 | 13 |
| | 6,385 | 158 |

CONOCO TRANSPORTATION

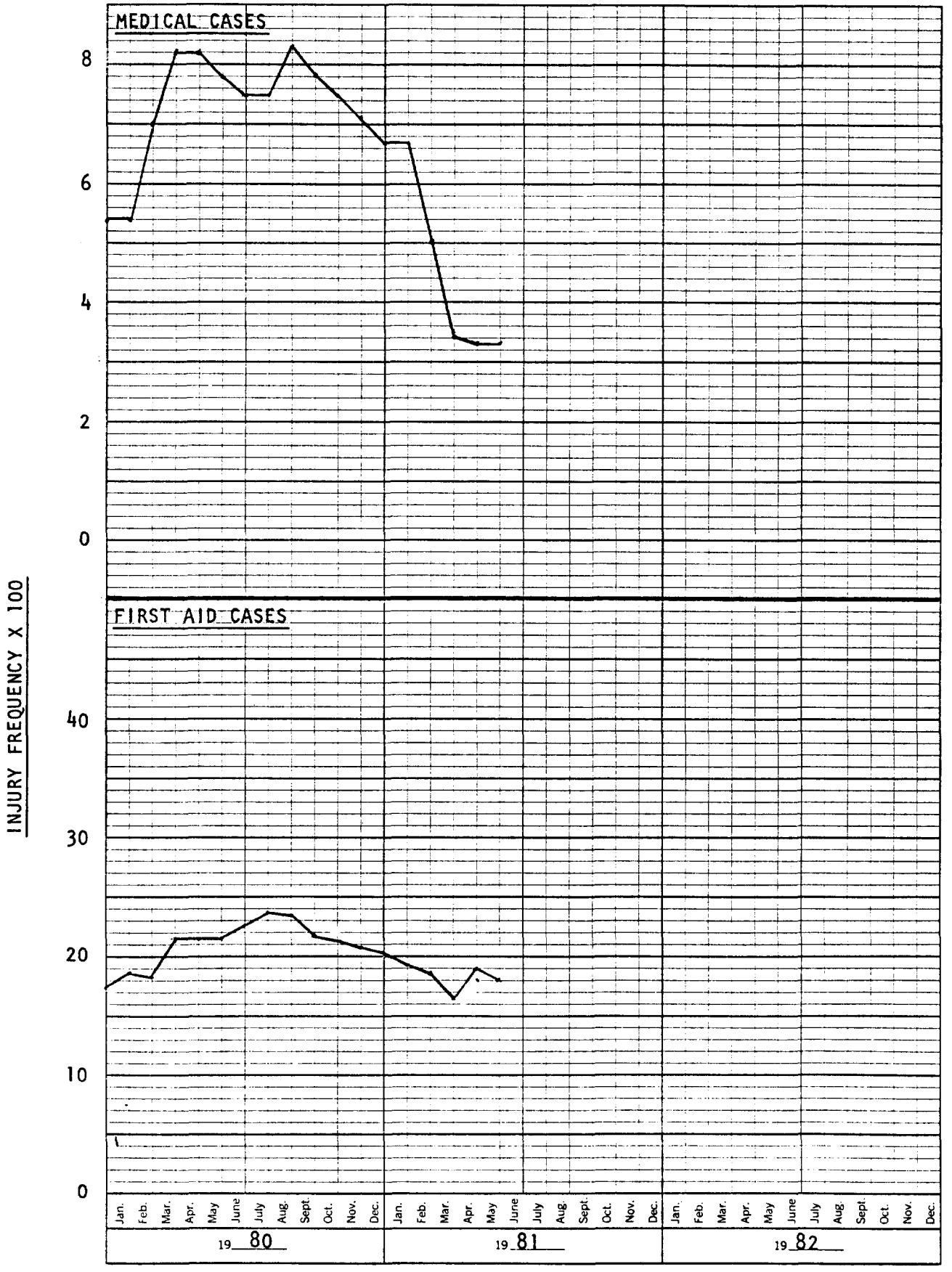
ABERDEEN WAREHOUSE

May 31, 1981

| LOCATION | TOTAL M SQ. FT. | CONTENTS | | ESTIMATED MM POUNDS ON FLOOR | OPEN | TOT |
|---|---|---|---|---|---|---|
| MAIN-East | 48 | Compounds | 5.3 | | | |
| | | Dry Blend | .1 | | | |
| | | Export Resin | .4 | | | |
| | | Conoco Resin | .2 | 6.0 | 4.0 | 10.0 |
| Prairie 12-1 | 12 | HDPE | .3 | | | |
| | | Dry Blend | .1 | .4 | 1.1 | 1.5 |
| 12-2 | 22 | Conoco Resin | 2.3 | 2.3 | 1.2 | 3.5 |
| 12-3 | 21 | Conoco | .3 | | | |
| | | Export Resin | .6 | .9 | 2.6 | 3.5 |
| 12-4 | 22 | Conoco Resin | 4.4 | | | |
| | | Resin O.G. | . | * 4.4 | . | 3.5 |
| 12-5 | 21 | Mill Scraps | .1 | | | |
| | | Cmpd O.G. | 1.0 | | | |
| | | Dry Blend O.G. | .3 | | | |
| | | Sifter Overflow | .2 | | | |
| | | Resin O.G. | .2 | 1.8 | .7 | 2.5 |
| 12-6 | 21 | Compound | .1 | | | |
| | | Resin | 2.5 | | | |
| | | Raw Material | .2 | 2.8 | .7 | 3.5 |
| 12-7 | 21 | Resin O.G. | 3.3 | 3.3 | .2 | 3.5 |
| 12-8 | 21 | Conoco Resin | 4.0 | * 4.0 | . | 3.5 |
| 12-9 | 21 | Conoco Resin | .2 | .2 | 3.2 | 3.5 |
| 12-12 | 21 | Dry Blend O.G. | .1 | | | |
| | | S.O. | .8 | | | |
| | | Comp. O.G. | .5 | | | |
| | | Mill Scarp | . | 1.4 | 2.1 | 3.5 |
| | | Sub-Total | | | | 42.0 |
| | | (Plug-Aisles) | | | | 1.4 |
| Total | 251 | Total Conoco | | 27.5 | 15.9 | 43.4 |

# ABERDEEN CHEMICAL PLANT

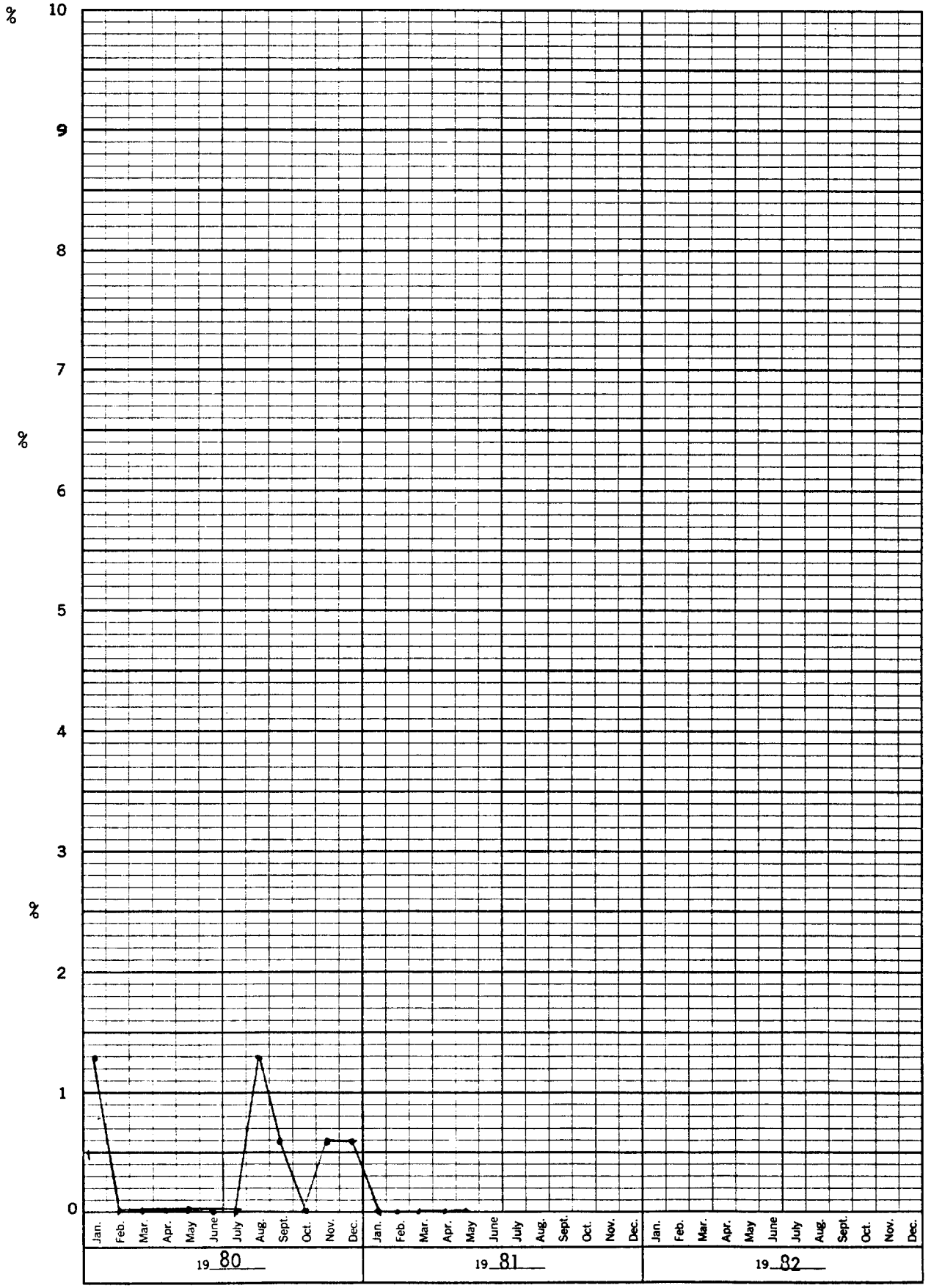
## INJURY PERFORMANCE




FREQUENCY = $\frac{\text{TOTAL INJURIES (FA OR MC) X 12}}{\text{TOTAL EMPLOYEES}}$

DTH 000019248

# MONTHLY HOURLY TURNOVER

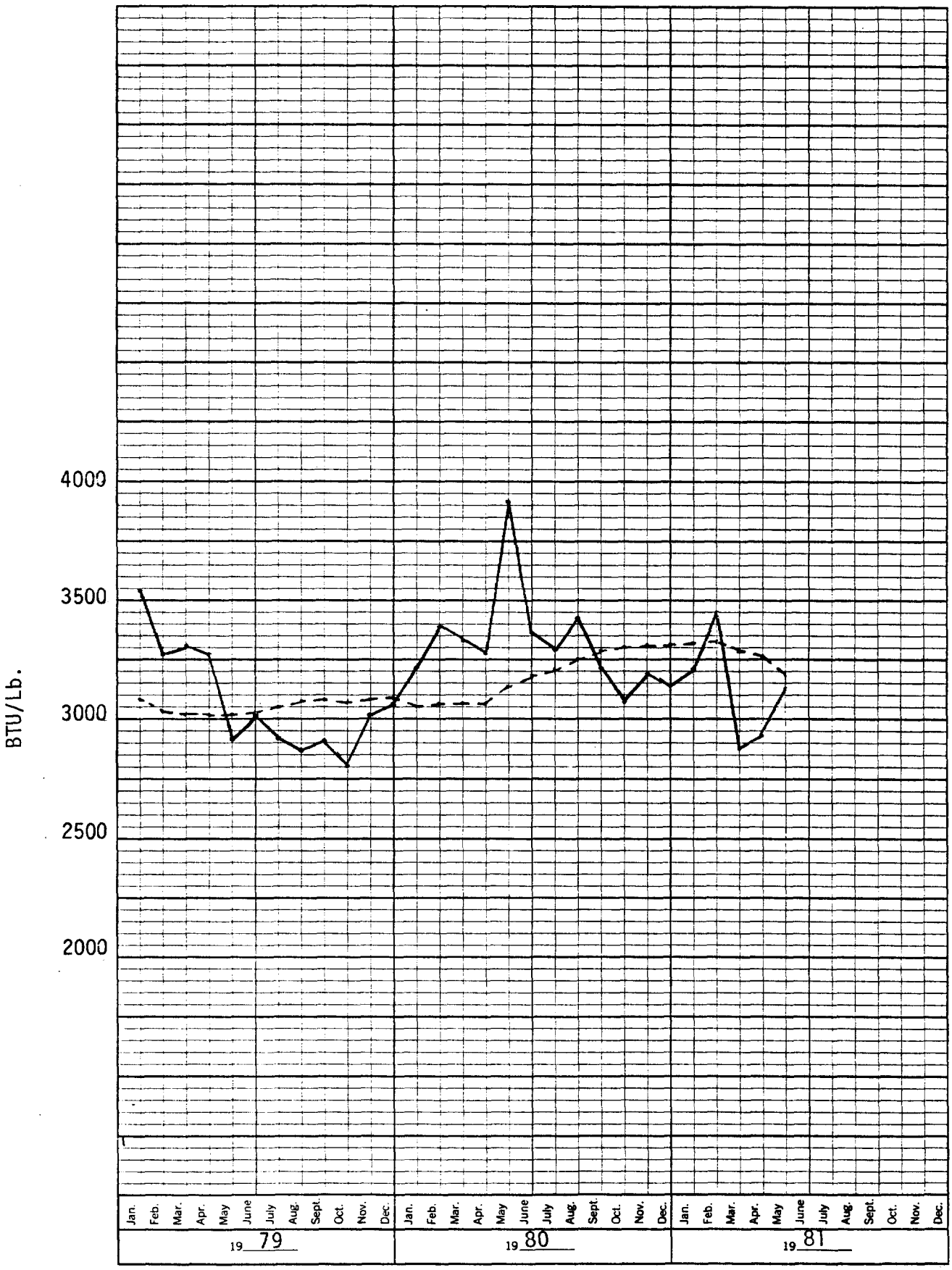



46 3290

K+E 3 YEARS BY MONTHS X 100 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

DTH 000019249

# ENERGY USAGE



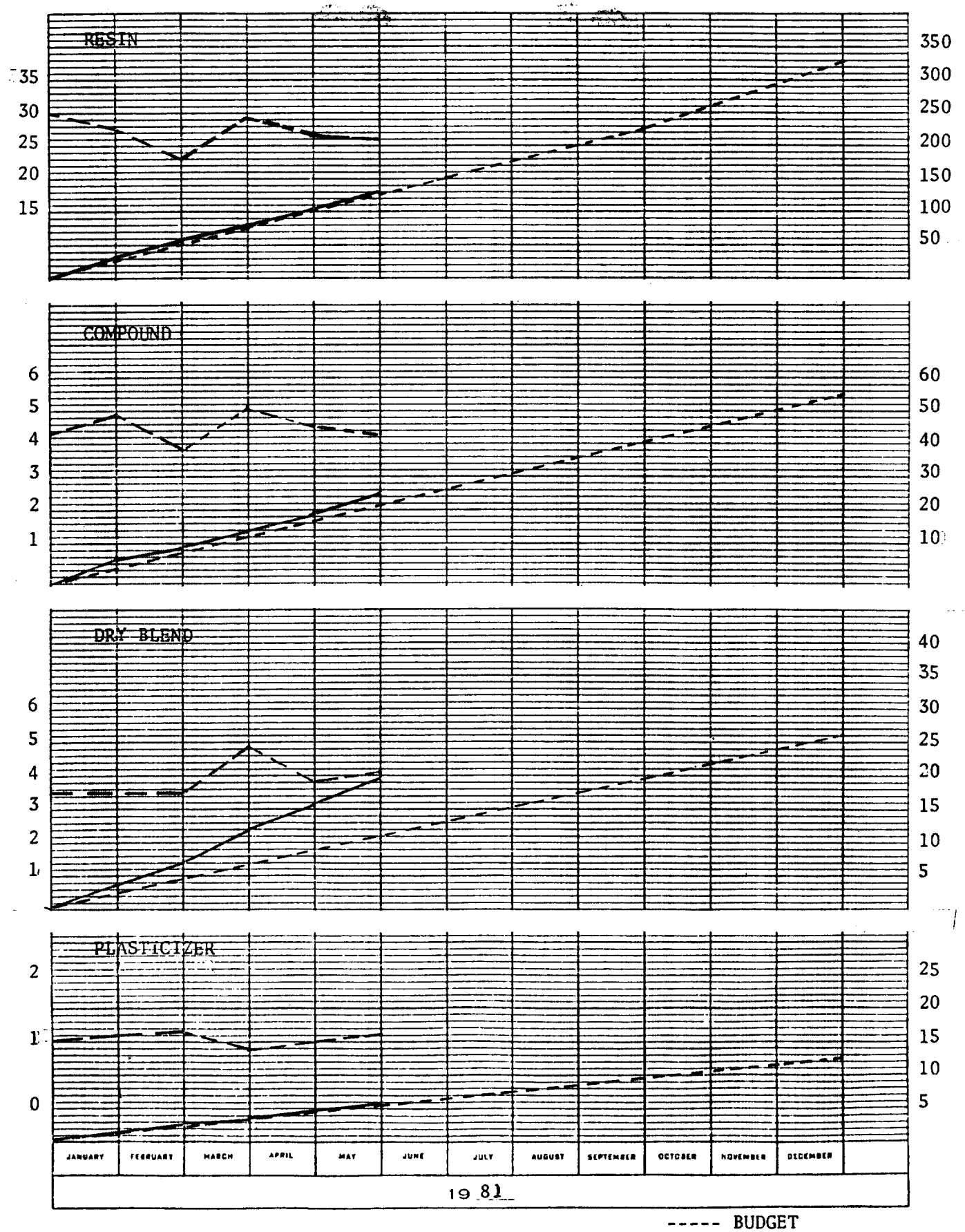

Monthly

12 Month Moving Average

DTH 000019250

# ABERDEEN PLANT PRODUCTION

1981

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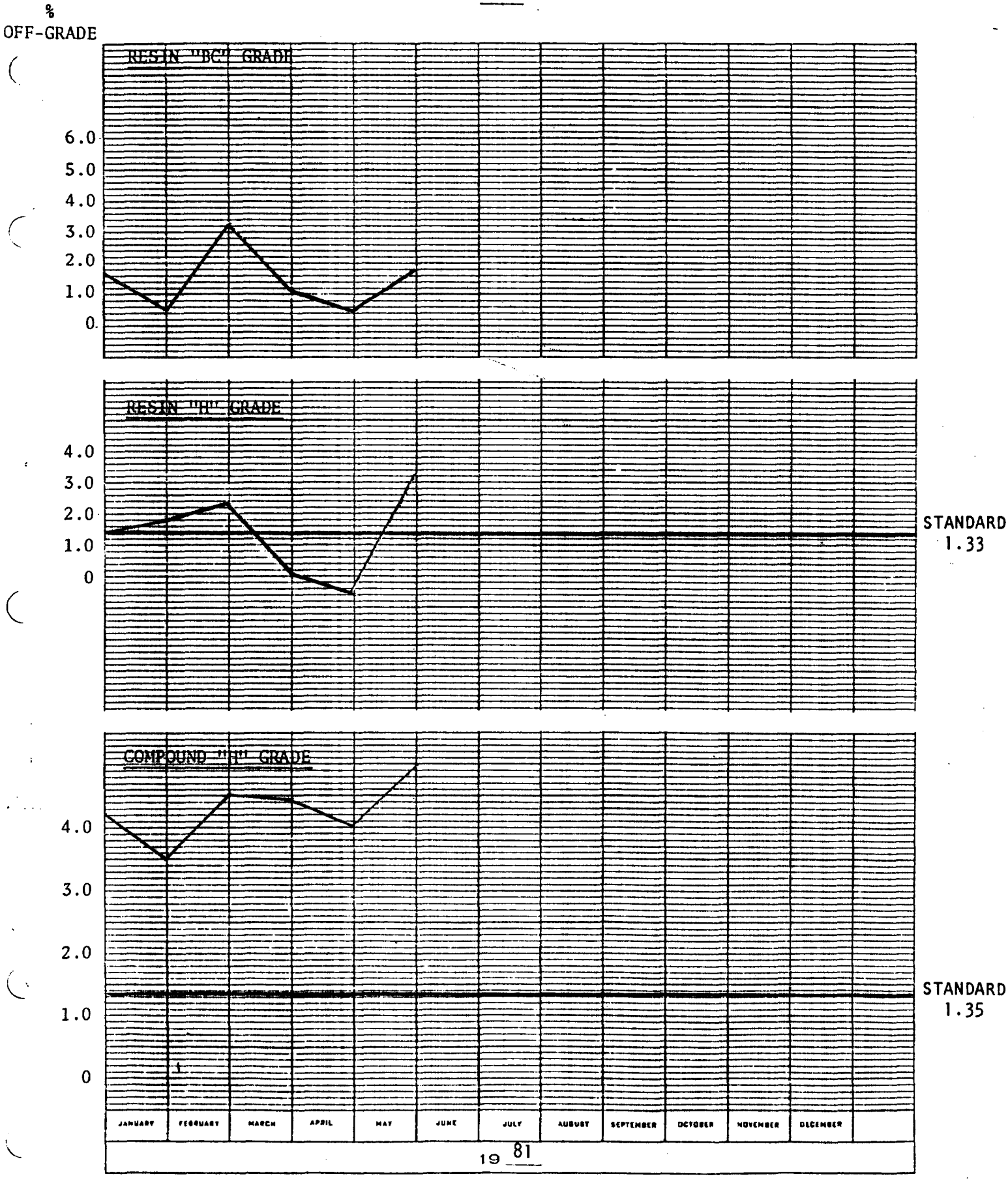
# ABERDEEN PLANT QUALITY PERFORMANCE

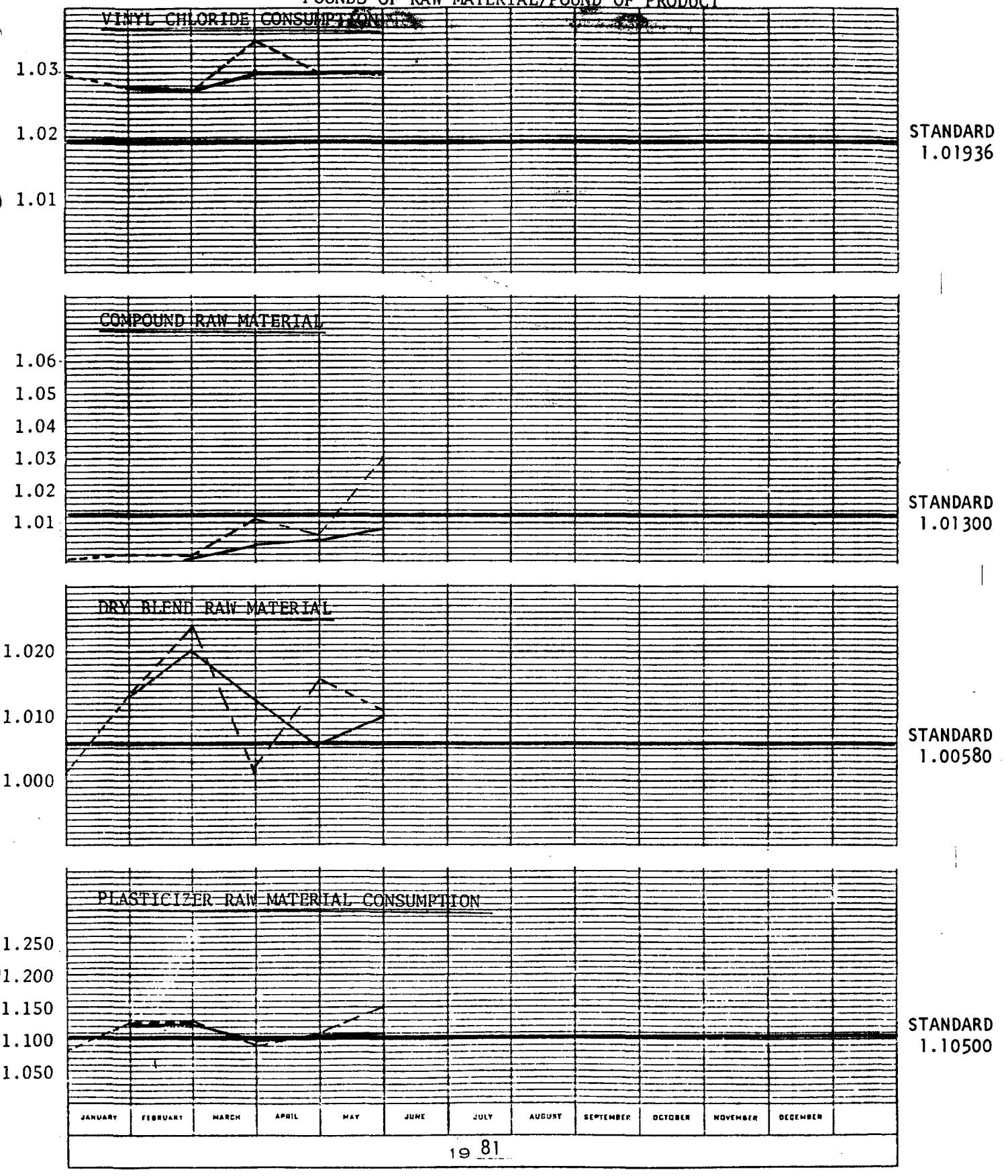
## 1981



# ABERDEEN PLANT EFFICIENCY

## 1981

POUNDS OF RAW MATERIAL/POUND OF PRODUCT




-------- MONTHLY
_____ CUMULATIVE

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# ABERDEEN PLANT INVENTORIES

1981