

**PLAINTIFF'S
EXHIBIT**

CEL-260

CELANESE CHEMICAL COMPANY
Chemcel Plant
Bishop, Texas

To: R. R. Graham

From: G. D. Boyd - *BI*

GDB-77-80

October 2, 1980

Laboratory Department Summary

September, 1980

Distribution

Chemical

J. J. Fritsch, Jr.
W. H. Brough
J. B. Brown
R. R. Carpenter
J. Chervenka
K. G. Gallimore
B. P. Hanson
J. M. Hodges
R. W. James
B. C. Kerr
C. W. Lee
D. E. Lockwood
R. P. Lowry
A. G. McGehee
D. G. Pausky
G. R. Scholz
D. D. Siemonsma
W. L. Sharp
H. H. Thigpen
W. H. Meyer
Bishop Files

Plastics

A. C. Abshier
R. G. Brandt
R. L. Bunkley
H. L. Davis
H. W. Hill
E. Munoz
E. J. Heinz

CCCTC

G. J. Fisher
W. E. Heinz
W. T. McNair
Central Files (2)

J. N. Gann, Bay City
J. E. Sanborn, Bayport Terminal
J. L. Paul, Clear Lake
T. H. Golson, Dallas
A. J. Branecky, Edmonton
W. H. Tuke, Pampa
F. B. McAndres, Summit
J. Zitomer, Summit

003397

CELANESE CHEMICAL COMPANY
Chemcel Plant
Bishop, Texas

To: R. R. Graham

From: G. D. Boyd

GDB-77-80

October 2, 1980

Laboratory Department Summary
September, 1980

A summary of each Groups' Monthly Report is attached. Section I contains a summary of the Quality Assurance and Analytical Group activities with tables of analytical statistics, shipments, quality waivers, quality complaints and sample shipping statistics. Section II describes the status of Special Problems Groups and Staff Chemist projects by Chemist assignment. A table listing the priorities, justifications, estimated completion dates of current Special Problems projects and a graph of the Laboratory Effort Analysis is also included in Section II.


G. D. Boyd

GDB:jr

003398

I. ANALYTICAL GROUP

Competitive Evaluations

The following competitive products were received during September: Texas Eastman - Iso Butyl Acetate, Normal Propyl Acetate, and Normal Butyl Acetate, Mobil - Tech Grade Pentaerythritol, Ethyl Corp. - Normal Butyl Alcohol, and Hatco - Tech Grade Pentaerythritol. Competitive product reports will be issued as analyses are completed.

Methanol Oxidation (MO)

Analyses continue to be provided to determine the stability of "quick frozen" Formaldehyde samples. A report will be issued by the Special Problems group.

Polyol

Trimethylolpropane (TMP) - Extensive analyses continue to be provided due to the TMP acid problems. The acid ranged from 0.002 to 0.005 Wt.% during the month (spec. 0.002 Wt.% Max.). Several shipments at the 0.003 Wt.% acid level have been made on waiver.

Pentaerythritol (PE) - Hot and cold Sulfuric color determinations continue on the PE cake in support of the project to develop a system to monitor PE reaction conversions.

Paraform

Para-Powder (dust) - Analyses of the recycle dust from the Paraform unit is being evaluated as coarse Parapowder product. The material appears to be comparable to 92% coarse powder with the exception of particles size and appearance. A report will be issued.

Production of paraflake this month has resulted in numerous lumps of 3/8 to 5/8 inch in diameter. The problem is erratic with some good production days and some very bad. Several customer complaints have been received. Selected lots are presently being shipped to critical customers.

A sample of Derivados Forestales Prilled Formaldehyde was analyzed by the Analytical Group to gain data for the development of new Paraformaldehyde technology. A report will be issued.

BOD - UTILITIES

Pollution Control - Performance samples, provided by EPA, are being analyzed by the analytical group. The results of these analyses will be

003399

BOD- UTILITIES (cont'd)

Pollution Control (cont'd)

evaluated by EPA to determine our ability to measure the pollutants covered in our outfall permit.

Front Ditch Outfall - Total Suspended Solids (TSS) of the Plant outfall have exceeded the permit limit of 65 ppm on three consecutive samples twice this month. The causes have been attributed to rainfall eroding the sides of the drainage ditch which recently had the vegetation removed, residue from the cooling tower sand filters, cooling tower cleaning during the Methanol Unit shut-down, and reduced ditch flow due to MS turnaround.

Analytical Group General

Purchased Chemical Solutions - The first shipment of purchased chemical solutions were received from La-Mar-Ka Chemical Company September 25, 1980. These are to replace our present system of in-house preparations. Distribution and use will start immediately.

Special Analytical Service

PE-Monitor - (F. R. Dow, B. W. Wise) - Trapped Di-PE and Pure PE blends continue to confirm the 8.7 wt.% Di-PE content of the PE Monitor. Problems have been encountered in an attempt to trap (L.C.) Tri-PE because it is rather insensitive to the L.C. refractive index detector.

PE-Competitive (F. R. Dow, B. W. Wise) - Samples of competitive PE have been received from Hatco and Hercules. These samples will be compared to normal Bishop production and the results reported in October, 1980. Some other samples received were from Celanese (Edmonton), Mobil and Emery. The Mobil and Emery samples were from previous shipments of Celanese product.

Quality of Plant Air (F. R. Dow, B. W. Wise) - Impurities in instrument air have been monitored in both Boiler Houses. The results showed that the air quality at Boiler House #2 is approximately eight times better than air quality at Boiler House #1.

Characterization of Solar Ponds (Russell) - The first Solar Pond composite sample was analyzed and found to contain approximately 91.6% water, 5.7% organic salts, .71% carbonates, and 1.3% polyols. The analysis also found many metals at ppm levels, plus some suspended silt. Further analysis is required to confirm these rough first approximations. This characterization will continue as part of TDWR requirements.

Ground Water Analysis (Russell) - The TDWR is requiring qualitative analysis of selected ground water samples for investigative purposes. The Laboratory is compiling a manual describing proper sample collection, handling and treatment. Analytical methods will be included as they become refined.

003400

Projects Pending

1. Secure parts for and construct samplers that are required but are not available commercially.
2. Amine level in competitive and captive MeOH.

Customer Complaints

September 8, 1980 - Nevarmar Corp., Odenton, Md. - Para Flake - 3 orders of 40M lbs. each. Fist sized lumps - Customer used major portion of order. Remaining portion (Lot 175), approximately 12M lbs. to be returned.

September 9, 1980 - Nalco Chemical Co., Sugarland, Texas - Para Flake-40M lbs. - Customer reports portions of order (Lot 217) too lumpy to use. Approximately 22 M lbs. to be returned. Valid complaint.

Para Flake: In addition to the above registered complaints and returned material, the following customers queried Celanese about unually lumpy product:

Tennessee Eastman
3 M Co.
Ashland Checmical Co.

Waivers and Delays

Delays - None this month.

Waivers - PE-Tech, Lot 233 - 3T-produced at 0.37 wt.% H₂O vs. maximum specification of 0.30 wt.% - Waived in listed quantities to the following customers:

9-2-80	Reichhold Chemical Co., Greens Bayou, Texas - 40M lbs.
9-3-80	Reichhold Chemical Co., Tuscaloosa, Alabama - 40M lbs.
9-3-80	Reichhold Chemical Co., Oakdale, Louisiana - 30M lbs.
9-3-80	Reichhold de Mexico, Brownsville, Texas - 45M lbs.
9-9-80	Reichhold Chemical Co., Oakdale, Louisiana - 5M lbs.
9-3-80	Glidden Coatings Co., Columbus, Georgia - 40M lbs.
9-4-80	Pinturas Pittsburg de Mexico, Brownsville, Texas - 20M lbs.
9-9-80	PPG Industries, Houston, Texas - 30M lbs.

Waivers - TMP - Both Molten and Flaked product - produced at 0.003 wt.% acid vs. maximum specification of 0.002 wt.%. Waived in listed quantites to the following customers:

9-16-80	C. Itoh, India - 22M lbs.
9-19-80	BASF Wyandotte, Wyandotte, Michigan (Molten) - 10M gal.
9-19-80	Mobay Chemical Co., Natrium, West Virginia (Molten) - 3M gal.

003401

Waivers (cont'd)

9-22-80 Celanese Chemical Co., Pampa, Texas (Molten) - 5M gal.
9-22-80 BASF Wyandotte, Washington, New Jersey (Molten) - 5M gal.
9-23-80 Mobay Chemical Co., Natrium, West Virginia (Flake) - 40M lbs.
9-24-80 Hatco Chemical Co., Hayden, New Jersey (Molten) - 20M gal.

ANALYTICAL STATISTICS

Sample Count

	<u>September</u>	<u>September Y-T-D</u>	<u>Previous Y-T-D</u>
Chemical Section	4967	41838	45089
Instrument Section	<u>2353</u>	<u>21042</u>	<u>24084</u>
TOTAL	7320	62880	69173

Technician Overtime

Chemical Section	51	597	706
Instrument Section	<u>49</u>	<u>296</u>	<u>392</u>
TOTAL	100	893	1098

003402

Sample Shipping and Quality Assurance Statistics

Statistics For September 1980

<u>Sample Shipping</u>	<u>Month</u>	<u>YTD</u>	<u>Previous</u> <u>YTD</u>
Domestic	60	592	608
Export	5	25	25
Plastics	13	73	13
Other	11	66	66
Total	89	756	712

Quality Assurance Statistics

	<u>Month</u>	<u>YTD</u>	<u>Previous</u> <u>YTD</u>
Shipments (NO.of Orders)	699	6690	8133
Delayed	0	3	31
Waviers <u>Internal</u>	1	7	7
<u>External</u>	14	21	34
Complaints (Total)	2	28	42
Complaints (Legitimate)	2	13	16
Complaints (Non-Legitimate)	0	15	26
Complaints - Outstanding (Unresolved)	0	0	0

003403

II. SPECIAL PROBLEMS GROUP

Process Technology B. C. Kerr

Disposal of Solar Evaporation Ponds Waste - The Chemcel facility currently has an inventory of approximately 200 MM gallons of liquid waste material stored in solar evaporation ponds covering approximately 374 acres. It has been Plant policy for some years to reduce or eliminate the solar ponds as a waste disposal method.

I have begun laboratory work to study methods, both physical and chemical, for permanent disposal of solar pond wastes. The beginning approach is to develop a pre-treatment to remove refractory and/or poisonous materials so that some combination of biological oxidation systems can be used for clean-up. Since there is evidence of bacterial activity in the ponds, currently, it is hoped that a majority of the organics in the ponds may be successfully treated in BOD systems. However, any method showing technical promise and economic potential will be considered.

Methanol Oxidation, Formaldehyde Blending T. A. Jasek

G.C./M.O. Reactor - A preliminary study to determine the optimum operating temperature for the G.C./M.O. Reactor was initiated. This study was interrupted by the steam outage in the Laboratory. Based on the results observed, 625°C appears to be the optimum temperature for the proper distribution of the reaction gases, i.e., carbon dioxide, carbon monoxide, and hydrogen.

MO Silver Catalyst Screening - No new samples were received for evaluation.

MO Unit Support - A black, sticky material from MO-III was received by the Laboratory for analysis. The material was seeping from a valve in the false bottom of the MO-III distillation column. The slightly acidic, water soluble material appears to be a mixture of organic material as well as inorganic material as well as inorganic salts (characterized by I.R.). Work on determining the components continues.

Utilities, BOD S. G. Smith, P. G. Welling, G. R. Stasney

Anaerobic-Aerobic Pilot Studies

Operations Manual (Smith) - Assistance has been provided to Process Engineering by reviewing rough drafts of the BOD II Operations Manual and providing information when necessary.

003404

Utilities, BOD (cont'd)

Effluent Component Analysis (Smith) - Development of a G.C. method to analyze for light ends in Plant effluent streams was begun. Little progress was made due to priorities.

Start Up Study/Upflow Velocity Study - (Smith, Welling, Stasney)

Two anaerobic-aerobic units are being run to further study the switch from the present aerobic waste treatment system to the future anaerobic-aerobic treatment system. Also being investigated are the effects of upflow velocity on filter startup and solids accumulation in the filter bed. Filter #2 is being operated at an upflow velocity of 1-2 ft/hr (to maintain the 10:1 recycle to feed ratio), while filter #3 is being operated at an upflow velocity of 10 ft/hr (to simulate the upflow expected in the commercial unit). The organic loading (OL) of both filters was increased to 0.18 lbs COD/ft³/day, when problems were encountered due to drastic changes in COD and formaldehyde levels in the equalization basin feed. The OL was reduced to both filters when the filters registered high COD and formaldehyde levels in the recycle. The anaerobic outfall CODs are now down to 400-600 ppm, with the filters showing kinetic efficiencies of 55-70% and removal efficiencies of 85-92%. After aerobic polishing at a detention time of 3.5 days, the units have registered outfall CODs of 80-120 ppm.

A report concerning startup of the anaerobic filters is being written. Completion is expected in October.

Solar Pond Treatability - (Welling, Stasney)

The extent to which Solar Pond "organics" can be reduced by aerobic biological oxidation is under investigation. Three, eight-liter aeration tanks were set up. Tank #4 is a control tank being fed strictly equalization basin. Tank #5 is being fed a mixture of solar pond and equalization basin, while tank #6 is being fed a mixture of solar pond and river water. A sample composed of equal parts of ten solar ponds was collected. The composite sample contained 78,700 ppm COD, 0.03% formaldehyde, 0.11% methanol, 4140 ppm Na, 7.3 ppm total Ni + Cu + Cr, and had a pH of 9.52. The solar pond feed was started into the units at a dilution of 175:1 (COD=4800) and a detention time of 5 days. The minimum dilution possible is 15:1 due to a COD limit in the range of 8000 ppm for our present aerobic system. After 4 days of operation, the COD of #6 rose above 300 ppm, while the COD of #5 rose above 200 ppm. The maximum allowed outfall COD is 230 ppm. The detention time was raised to 6.25 days. At this higher detention time, #4 has a COD of 110 to 140, while #5 is running 190 to 210 ppm COD and #6 is down to 270 to 290 ppm COD.

Elimination/Reduction of Solar Pond Odor - (Smith)

Preliminary odor evaluation of solar pond samples by Laboratory personnel indicated the most offensive odors to come from Pond 7B. Plant effluent streams including BOD Unit sludge blowdown enter the other solar ponds via this pond.

003405

Utilities, BOD (cont'd)

There are apparently at least two sources of odor from this pond: (1) a strong chemical odor from an oil layer on portions of the pond, and (2) a septic odor from the remaining liquid in the pond. The oil layer has been identified by infrared analysis to originate from the Oxo Sump (ProH, "AL" sump). A report on this work is to be written. The septic smell originates from confirmed anaerobic conditions in the pond. Methods to eliminate the septic odor are being investigated. Preliminary experiments indicate pH adjustment to pH 10-12 and aeration to be promising.

Methanol Synthesis
J. C. Bustabad

M.S.-II Unit Support - Amine contamination of MeOH in the unit prompted an effort to separate the amine (<.04%) from the MeOH in the finishing column. G.C. analysis was used for this study; the separation proved to be unsuccessful.

Analytical support was provided for the M.S. turnaround.

Sodium was identified as the major component of the contaminant found on spent Lurgi catalyst.

Iron was identified as the major component of black solids found in the bottom of T-288 during the turnaround. The feed line is suspected to be the source of the iron.

Composition of a Big 3 gas standard for a Girdler process analyzer was verified.

Oxo, Butanol
J. D. Presley

Reactor Stability/Accountability - The Oxo reactor has been down since September 12 because of maintenance in the 2MM and 5MM girdlers and turnaround of MS. through the 12th, the reactor composition was fairly stable. TPPO level remained low (<1%) and normal heavy ends began building. It is believed that most of the Dowtherm has been stripped from the reactor and that Tishchenko ester levels are stabilizing (at about 6.5%).

Rhodium Accountability- Run VII rhodium accountability is exceptionally high, about 118%. This is believed due to problems with reading the reactor level during operation at low rates. During down time samples will be secured and a new accountability determined.

Oxo, Butanol (cont'd)

Rhodium lost through T-210 Residue for Run VII totals 0.48 pounds (to September 30).

The final accountability summary for Run V has been issued JDP-68-80.

Improved Rhodium Recovery - The third phase of the hydrocarbon extraction study continues. To date three extractions at normal BuH levels of 20-30% have been performed and activity tests run on both phases. Extractions and activity tests on catalyst with higher BuH levels (30-50%) are in progress. This phase of the study should be completed in October. Tentative plans are to add a fourth phase to the study to briefly investigate O₂ reactivation of heavy ends removed by the extraction. If this proves viable it would allow BuH-Oxo catalyst reactivation without the excessive conversion of TPP to TPPO.

Oxo Unit Support - A mixture of Tischenko esters has been synthesized in the laboratory at a conversion of about 37%. Vacuum distillation is being used to purify the ester mixture. The ester will be used for analytical standards. Work continues.

Environmental Health
C. E. Gary, K. V. Parker

The final report on the Chemical Plant formaldehyde exposure survey was issued. (CEG-30-80, KVP-04-80) (CEG,KVP)

No formaldehyde contamination was present in the blueprint machine work area in Plant Engineering or in the fume vent on the roof of the Main Office Building. (CEG-29-80) (CEG)

The Chemical Plant noise exposure survey has been started using the Motrasonics system. (KVP)

Respirable dusts samples have been taken in the ABI blasting yard area. All samples have been below the ACGIH total respirable dust TLV of 5 mg/M³ 8 hr TWA. (CEG)

The evaluation of the Drager CO 50/a-1 long term tube to determine the 8 hr TWA of carbon monoxide is continuing. (CEG)

1,3-Butylene Glycol
B. K. Huelle, P. J. Buras

Unit Support (Huelle) - None provided.

Improved Aldol Condensation and AcH Recovery (Buras) - No progress due to priorities.

003407

Acetates, Paraform, Formcel[®] Products
R. L. Day

Paraform Unit Support - Complaints from customers about non-characteristic "lumpy" paraform initiated an investigation of the causes. Examination of retains from January through July, 1980, showed that the lump problem started about the last week in April.

A one week study in which the formaldehyde feed, the citric acid, the citric acid addition and the East and West train were analyzed and/or monitored every day revealed no conclusive evidence as to the cause of the lump problem. Work continues.

Paraform Dust - Samples of paraform dust were analyzed by the Laboratory to determine the possibility of recovering the dust from the baghouse and the inclined belt housing. This dust would be used to extend powder sales. A letter with recommendations is in progress.

Diacetone Alcohol
B. K. Huelle

Unit Support (Huelle) - None provided.

Pentaerythritol
L. M. Harvey, D. R. Akin, B. K. Huelle, P. J. Buras

Recovery of PE from VCI Centrate (Harvey) - Two continuous extractor runs were made to evaluate the sensitivity of extraction efficiencies to Sodium Formate (NaFo) concentration in the extraction of a mixture of Virginia Chemicals, Inc. (VCI) centrate and PE unit WIP recycle with n-Hexanol. The runs were made at NaFo concentrations of 17.5 and 21.2 wt.%. A report will be issued in October detailing the results of this study.

The color of a VCI centrate sample, taken during normal unit operations, was determined to be approximately 3750 Pt-Co units. If this is representative it may greatly increase the estimated carbon usage of the preliminary process design if complete color removal is desirable. A report has been issued. (LHM-83-80)

The above spot sample, which indicated a high carbon usage, prompted additional studies to get a better estimate of carbon usage. Tests including continuous treatment of AML and the effect of the proposed hexanol extraction on color removal and color development at simulated VCI process conditions are underway. Preliminary data indicate that the carbon usage will not be as high

003408

Pentaerythritol (cont'd)

as was indicated by the initial VCI centrate sample. The best estimate of carbon usage based on data to date is 4-5 times our current usage. The latest economic analysis assumed 6 times our current usage. Studies will continue. (Akin)

A program was initiated to evaluate alternatives to the proposed extraction process. The initial objective is to nonselectively extract all organics from AML. This would improve recovery of sodium formate by VCI and hopefully eliminate the centrate waste stream. The organics removed from AML could be burned or PE could be selectively recovered for recycle to the PE unit.

Previous work including CCCTC and Celanese Canada processes were reviewed. A sample of AML was concentrated for extraction shake out studies. A series of solvents will be evaluated for removal of organics from AML. (Buras)

PE Formal Hydrolysis (Akin) - Hydrolysis was carried out only 10 days during September due to the lack of steam in the laboratory. Amberlyst 15 now has been exposed to process conditions for 93 days. The activity of this resin still appears to be high. Another Rohm and Haas resin, Amberlyst XN-1010, has been exposed to process conditions for 7 days. Its conversion of linear formals appears to be good also. The effects of varying sodium concentration, acid concentration, and residence time are being studied for both resins. These resins act as co-catalysts with a continuously fed acids (formic or sulfuric) to convert bis-PE linear formals to cyclic formals and PE molecules. Studies will continue on both resins in October.

Entrainment in HCHO Stripping Column (Buras) - The Laboratory supported efforts by Operations and Process Engineering to optimize steam usage in T-286 and reduce formaldehyde losses in T-206 residue. The feed nozzle was switched from tray 23 to tray 26 on September 8, 1980 during Pure PE production. Formaldehyde in T-286 residue decreased from 0.21 to 0.06 wt.%. The feed nozzle was again switched on September 23, 1980 during Tech production and HCHO in the residue decreased from 0.8 to 0.5 wt.%. No significant entrainment was observed in either case. Since no other problems were experienced, Operations plans to continue feeding to the top tray indefinitely. Additional work on optimizing steam usage has been deferred until a new feed preheater is installed in 1981.

Tri-PE Purification (Akin) - A sample of Trojan Tri-PE (approximately 80% Tri-PE) was purified. The Tri-PE sample was esterified and then the ester was crystallized. After recrystallization the Tri-PE ester was saponified to Tri-PE crystals. The purity of these crystals was determined to be 97.5% Tri-PE. About 0.1 gram of the purified Tri-PE was made available to make analytical standards. A large sample of the Tri-PE acetate will be worked through the procedure to provide larger quantities of the purified Tri-PE.

003409

Development of a System to Monitor PE Reaction Conversion - Liquid chromatographic analyses of AML, "A" cake, and finished product were completed. At 220 nm, five peaks occur in all AML scans. No correlation between the area of these peaks and mole ratio of caustic to acetaldehyde has yet been found. L.C. analysis of reaction mixtures is in progress. Redox potential monitoring of batch reactions has been postponed until L.C. work is complete.

Trimethylolpropane
R. L. Day, P. J. Buras, B. K. Huelle

Unit Support (Day) - Work continued on the TMP acid problem. Samples from the extractor, both 312 OH and 312 res., were studied for acid trends.

A weak base anion exchange resin bed was used in an effort to isolate and identify the acid(s). Seven gallons of TMP were passed through the bed, to accumulate approximately 0.5 g of total acid. The acid was eluted from the column with a 4% sodium hydroxide solution. After the sample has been concentrated, G.C. analysis will be performed. Samples will also be sent to the Tech Center for G.C./Mass Spec. identification.

Acid in TMP unit process streams was monitored to document typical levels and aid in identifying the source of acid problems. High acid excursions in the finishing column (T-205) sidestream product have been accompanied by increased acid in T-205 feed. This would indicate that problems in operating T-205 are not the sole source of high acid TMP. No correlations were found with acid levels in other process streams. These findings will be documented in a report being prepared in conjunction with Operations. (Buras)

A Plant trial was conducted to test the hypothesis that air leaks cause increased acidity in the TMP purification system. Air was introduced into the system by opening a valve on the V-747 circulation line. Acid in V-747 distillate increased from 0.006 to 0.007 wt.%, then decreased back to 0.006 wt.% when the air leak was shut off. While this change in acidity is felt to be real, it may have been due to secondary effects (e.g. increased temperature and pressure in V-747 as a result of the air leak). A much larger increase in acid was expected. Acid in the finishing column (T-205) sidestream product remained virtually constant during the test. It was concluded that air leaks are not the cause of increased acidity in TMP. (Buras)

A preliminary study on September 16-19 and 23-26 was conducted to locate the source of the efficiency losses in the TMP unit. The 202 OH was analyzed by G.C. According to past data the lowest losses occur when total by-products in 202 OH is between .07 and .16 wt.%. The first week results averaged .06 wt.% and the second week .13 wt.%. A usually insignificant peak in the 202 OH was .02 wt.% of the sample at the beginning of the second week. As the week progressed this by-product slowly disappeared.

312 residue was analyzed for NaFo and wt.% TMP. Perchloric acid titrations indicate a 38-40 wt.% NaFo level. This level usually runs between 35-40

003410

Trimethylolpropane (cont'd)

wt.%. The wt.% TMP (found by G.C. analysis was between .07 and .1 during the two week study, an efficiency loss of .1 to .15 % assuming a feed caustic to butyraldehyde mole ratio of 1.1. This loss is normal for the extractor.

747 Residue was analyzed for NaFo using ash content analysis. Levels usually ran between 40 and 90 ppm; this level is low in comparison to past data of 300-400 ppm. The hotwells were analyzed for total carbon. Results were between 7000 to 10000 ppm.

During the first week of study the butyraldehyde efficiency was 83.52%. The second week's average efficiency was 83.9%. (Huelle)

Special Problems Group - General

1. Leanne Harvey began maternity leave on September 29.

003411

Current Special Problems Projects

Project	Chemist	Priority	Justification	Estimated Completion Date
MO Catalyst Screening	Jasek ↓	1	To Establish Alternate Catalyst Suppliers	Continuing
G. C. Methanol Oxidation Reactor Studies	↓	2	Catalyst Evaluation for Possible Efficiency Improvements	Continuing
Anaerobic Testing of Chemical Wastes	Smith Welling	1	Support Unit Expansion	Continuing
Solar Pond BOD Treatability Study	Welling	1	Environmental Mandatory	Continuing
Elimination/Reduction of Solar Pond Odor	Smith	1	Environmental Mandatory	December 1, 1980
Oxo Reactor Accountability/Stability	Presley ↓	1	Improve Reactor Control	Continuing
Rhodium Accounting	↓	1	MOB, Catalyst Savings	Continuing
Improved Rhodium Recovery	↓	1	Raw Materials Saving	December, 1980
Develop a Low Energy-High Efficiency Ach-Aldol Separation Process for the BG Unit	Buras	2	Raw Materials and Steam Savings	March, 1981
OSHA Monitoring	Gary	1	Insure Employee Health and Safety - OSHA Compliance	Continuing
Develop an Improved Hydrolysis System for PE Linear Formal	Akin	1	Steam, Acid and Capital Savings	February, 1981

003412

Effort Analysis - Laboratory 1980

Special Problems Groups

