

CELANESE ENGINEERING RESINS
Bishop, Texas

TO: Mr. D. W. Steele

August 11, 1986

FROM: G. D. Boyd

GDB-382-86

LABORATORY MONTHLY HIGHLIGHTS

JULY, 1986

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Celanese Ltd.
J. Smillie
78/80 St. Albans Road
Watford, Hertfordshire
WD2 4AP
ENGLAND

009972

HIGHLIGHTS

EAST LABORATORY

- Martha A. Martinez returned from maternity leave on July 23, 1986.
- Fifty-eight personnel-exposure samples were collected in July. Below is a list of sampling by contaminant:

	TWA	STEL
Formaldehyde	9	-
Methanol	8	-
Noise	8	-
Total Dust	5	-
Benzene	12	-
Mica	2	2
Asbestos	2	1
Antimony	-	1
Cadmium	4	-
Ethylene Oxide	4	-

In addition to the samples listed above, twenty-eight TWA noise samples were collected for L. Trejo in conjunction with noise reduction projects.

Validation of alternative HCHO-exposure monitoring techniques will soon begin. The dynacalibrator (for preparing dynamic HCHO blends in air) is now fully operational. The CEA-555 formaldehyde analyzer (for verifying the output of the dynacalibrator) was also made operational, but this instrument was found to have problems with baseline stability and linearity. The output of the dynacalibrator will be verified using manual wet-chemical methods, such as the pararosaniline procedure (upon which the CEA-555 is based) and the chromotropic acid procedure. One formaldehyde permeation tube was received this month, and initial work has begun on dynacalibrator output verification.

In support of the Formaldehyde Reduction Task Force, area samples for HCHO were taken in the Celcon® Units using the Miran and Lion Formaldemeters as well as an acetyl-acetone procedure. Results indicate a significant trioxane interference in samples collected in TO-2. Sampling support will continue as needed.

- Two proposals for enhancing the BLISS system have been ordered from Baytek Engineering. These software enhancements should be complete near the end of August. A control chart package for the same software should be complete sometime in September, 1986. Some of the new features of BLISS will automate some Quality Assurance functions and others will be used to aid the Laboratory SPC process.

009973

August 11, 1986

- A series of core tests on the 4-HAP oxime mother liquor were run at CORE Laboratories in Dallas in early July. The tests were designed to simulate injection of fluids containing 4-HAP oxime mother liquor at down-hole conditions. Preliminary results show that oxime mother liquor with normal levels of reactive materials (primarily hydroxylamine) are injectable. One test on undiluted oxime mother liquor with about five times the normal level of hydroxylamine showed that there may be the possibility of two-phase flow down-hole at very high levels of hydroxylamine. Normally, the oxime mother liquor will be diluted by the polyol waste stream at an 8:3 polyol to oxime mother liquor ratio.
- J. E. Russell attended a seminar on the Validation of Computer Systems for Pharmaceutical Research and Development held in New Jersey. This was a good first view of the FDA's involvement and thoughts about computers and their association with data recording. It appears that the FDA is significantly lacking in modern equipment and is in the very early stages of learning to deal with computer-based data management systems.
- Hubert H. "Hub" Thigpen was promoted to Associate Chemist effective August 1, 1986.

WEST LABORATORY

- Representatives from the Laboratory and Quality Assurance visited the GAF facility in Wayne, NJ to review the testing and release procedures used for the GAF products. The GAF Wayne Lab will not be able to test products after September 30. Bishop is to assume responsibility for the quality control and release of the products. A round-robin between the Bishop Lab and GAF is currently underway to resolve any testing discrepancies.
- Methods for black speck determination by the Image Analyzer have been developed and parameters defined (black speck sizes) for two Celanex keycap products, Apple brown and an H-P grey. Several extended analytical runs using eight disks for evaluations have been conducted, but stage problems have hampered complete evaluation of the methods. Based on the preliminary runs, it appears that the number of black specks detected by the Image Analyzer will be two to three times greater than detected by visual count. The increase is because the Image Analyzer consistently "sees" a speck, whereas specks are not always seen by the human eye during a visual inspection. Final comparisons of the visual method and the image analyzer method will be completed once the stage problems are resolved.
- The West Laboratory Quality Manual has been revised to reflect changes highlighted by the recent BSI audit. Necessary equipment for the proper tool and gauge calibrations have been ordered and are expected to be in place by the follow-up BSI audit in September.

009974

- The initial testing of the physical testing round robin samples have been completed. Samples molded at Summit, SPF and Bishop were tested to determine any discrepancies in molding and physical testing procedures. Samples are also being tested at the other locations. A report will be issued with Bishop results. A meeting is scheduled for late August to review all the data and determine if additional testing is necessary.
- Evaluation of the "anti-static decay" test method at Bishop has been delayed. It appears the test method is extremely sensitive to variations in molding conditions and sample handling, resulting in poor reproducibility. Both Summit and Bishop are working to resolve this problem.
- The flowcharting and the "Cause and Effect" diagram for the Melt Index process have been completed. The use of these tools for improving the actual analytical method has been implemented in the Laboratory. Data collection and control charting under the new guidelines has begun. Review of the effectiveness of the guidelines will be conducted in the future as an on-going part of the SPC program. The Izod method has been selected as the next analytical procedure to undergo the SPC evaluation process.

PROCESS ANALYZER GROUP

- The installation of analyzers on the Spill Containment Project is proceeding smoothly and on schedule. Seven out of eight of the TOD and pH analyzer systems have been installed. All but one of the TOD analyzers are operating well. Work is underway to resolve reproducibility problems on one of the TOD analyzers. Training on the new Ionics M-85 TOD analyzers is complete. Analyzer mechanics and engineers received two days of hands on training conducted by Ionics.
- An Ionics M-85 TOD analyzer is being evaluated as a possible replacement for COD analyzers on the front ditch. Thus far, reproducibility has been unacceptable and several attempts to improve it have been unsuccessful. Help from the vendor is being sought to resolve these problems.
- The SH-2 Konline-Sanderson and the Quench tank vent oxygen analyzers continue to run well. The occasional signal spiking experienced with the Quench tank analyzer has been resolved by installing the aspirator inside the oven. A recorder has been installed to observe the reliability of the analysis. Barring any problems these analyzers should be ready for automatic safety control by 9/1/86.

009975

- The MH-2 flake conveying system will utilize an oxygen analyzer recovered from the old paraform unit. This will reduce both installation time and costs without sacrificing analysis quality. Installation is 50% complete. Use of other idle O₂ analyzers for the Celcon Process Safety Improvement Project is being considered as a cost saving measure.
- The MH-2 Reactor Feed GC was down all month. We are still trying to resolve pump problems. We are also awaiting the completion of modifications to the Titrator sample system cyclone. Construction should be complete by August 15, 1986.
- Work is progressing on the SH-1 analyzer house. A delivery of September 15, 1986 is anticipated.
- The installation of a conductivity analyzer on the MS cooling tower blowdown is complete. Analyzer startup has been delayed due to a bad measurement cell. This will be replaced under warranty.
- Celcon #2 cooling tower pH meter and cell are installed -- waiting on electrical.
- T-243 OH Nuclear density meter has been operating satisfactorily. A new calibration procedure has been established for the transmitter and seems to have solved some of the problems.
- In response to a deficiency noted by BSI, a calibration and maintenance log has been established for the analyzers in the Celcon area. The log will be kept in the unit and should be in "full use" by August 4.
- The Analyzer Group's SPC Team is now concentrating primarily on analyzers in the Celcon/Trioxane area of the Plant. Several charts are currently being maintained in this area and the group has identified several other charts that are needed. These charts are beginning to pay benefits by improving accuracy, reducing the number of calibrations, and identifying inferior and superior components.
- The work on the use of Megabore capillary columns in Process GCs and unit lab GCs is continuing. The first capillary column installed in a Process analyzer (V1505- MH-2 TO Feed GC) continues to pay dividends with improved precision, reduced analysis time, excellent column stability and low maintenance costs. Results also look promising for use in unit lab GCs for the analyses of methanol in formaldehyde and ethanol in methanol.

009976

CELANESE ENGINEERING RESINS
Bishop, Texas

TO: Mr. D. W. Steele

September 8, 1986

FROM: G. D. Boyd

GDB-386-86

LABORATORY MONTHLY HIGHLIGHTS

AUGUST, 1986

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Celanese Ltd.
C. A. Amond
78/80 St. Albans Road
Watford, Hertfordshire
WD2 4AP
ENGLAND

009978

HIGHLIGHTS

EAST LABORATORY

All necessary permeation tubes for the dynacalibrator were received at the first of the month. The output of the dynacalibrator was verified by collecting 6-8 samples at four different formaldehyde levels and analyzing the samples using the chromotropic acid procedure. One level was also cross-checked using the pararosaniline procedure. All analyses were within 10% of the calculated output. Therefore, the calculated output was used as the true output for all subsequent work. Work on determining the accuracy and recovery efficiency of the method is nearly complete. Scrubbing solutions of 20 mL water, 25 mL water, and 20 mL of 5% ammonium acetate were examined. All had approximately the same scrubbing efficiency, so 20 mL of water will be used as the collection media. The average recovery efficiency is approximately 85%, and the accuracy is well within Celanese guidelines.

Area H₂S monitoring was conducted at the BOD reactor to determine approximate concentrations in the vent line.

Technical support (area and personnel monitoring) was provided for the recent asbestos spill in Filled Resins.

Seventy-seven personnel-exposure samples were collected in August. Below is a list of sampling by contaminant:

	<u>TWA</u>	<u>STEL</u>
Asbestos	28	6
Benzene	2	-
Ethylene oxide	6	-
Formaldehyde	4	-
Methanol	6	-
Noise	18	-
OSHA	4	-
Total dust	3	-

The two proposals for enhancing the BLISS system ordered in May and July are 90% complete at Baytek Engineering. One feature (running a data search from a command file) has already been received. The other enhancements can not be installed until we receive the software update from Hewlett-Packard for the operating system and the LAS (Laboratory Automation System). Hewlett-Packard should provide those updates once we have a purchase order issued and can schedule an installation.

A control chart package to interface the BLISS system will be available with the next upgrade, which Celanese will receive along with our customized modifications. The custom modifications plus the other improvements will continue to make the data in the data base more accessible and provide the capability to generate control charts quickly.

009979

The Traffic Shipping List was modified to include the BLISS unit, code, and quality notice format file name with each shipment entry. This is a tremendous help to the Laboratory technicians and the Quality Assurance clerk in keeping the data going in the right places. Business Systems personnel accomplished the changes to the Traffic Shipping list and created a new program to allow QA to enter the data required for the new fields.

A series of pressure-volume-temperature tests on the 4-HAP oxime mother liquor mixed with polyol effluent and ferric ammonium sulfate were run at CORE Laboratories in Dallas in August. The tests were designed to simulate the gas evolution that would be experienced downhole if the oxime mother liquor were diluted with polyol and injected. Past tests had shown the possibility of two phases existing at downhole conditions. Preliminary results indicate that the hydroxylammonium sulfate content of the oxime mother liquor will have to be monitored to insure that excessive gas generation will not take place after deep well injection. An approximate one-to-one gas-to-liquid volume ratio is the limit of gas solubility at about 1800 psi. The results of the core testing and pressure testing will be documented after this last report is received from CORE Labs.

J. E. Russell visited the Clear Lake plant to learn about their Laboratory SPC program and to learn about their approach on plant-wide data base systems. Their Laboratory SPC program has been in existence much longer than the East Lab program. All of their gas chromatograph methods are now monitored by SPC and some improvement in variability has been achieved on many of them. Almost all other instrument analytical methods are also monitored by SPC. None of the wet chemical methods except for color determination have been included in the SPC effort so far.

Soil samples from all of the Solar Ponds (including the active ponds) were sent to CORE Laboratories for specific organic and inorganic component analysis. Samples were also sent to CCTC for formaldehyde analysis by Polarograph. These analyses were a part of the data required for the TWC capping application.

The benzene and MEK concentrations ranged from >1 - 12 ppm. No carbon disulfide was detected and all extracts except 1 contained >15 ppm formaldehyde. 15 ppm formaldehyde was the minimum detectable limit for the extracted samples because of a dilution factor of 5. A report will be issued detailing all organic and inorganic concentrations.

WEST LABORATORY

Methods have been developed and parameters (black speck sizes) defined for the brown and gray Celanex keycap products. Analytical runs using eight to ten disks for evaluations are being conducted to determine the analytical variance between runs and how these compare with the actual number of specks which are present.

009980

A flowchart for the Izod method "process" has been completed. This is the second process to be evaluated by the West Laboratory SPC Team. The first process, the melt index method, is being monitored to determine the effects of the implementation of SPC techniques.

The Laboratory is supporting Nylon operations personnel in identifying the source of water in the Dowtherm used to heat the nylon reactor coil. The source of the water may be a reactor leak or a condenser leak on the vent of the Dowtherm system. The reactor coil leak hypothesis is supported by the presence of ammonia or an amine (possible decomposition products of the nylon salt). However, no adipic acid was observed in the system. If a coil leak did not exist, the only other currently known source of water would be the condenser cooling water. Both of these possible leak sources are being monitored to determine which is the problem.

G. D. Boyd and T. A. Jasek attended a demonstration of a robotic automation system presented by Zymark, Inc., in San Antonio on August 27, 1986. The system consisted of the robotic arm and associated computer control system. The focus of the demonstration was the associated modules, each with a defined purpose, which allowed for easy set up and start up.

A. E. Retherford and N. A. Flaten attended a meeting in Summit to further discuss the incorporation of GAF sample testing and finished lot releasing at Bishop. B. D. Fink, J. Morrow and D. Samms, were also in attendance. Procedures were developed to begin receiving GAF samples from the outside compounders at Bishop for testing. Samples have begun to arrive and testing is in progress. The samples are also being tested in the Wayne, N. J. laboratory. Initially, analytical results between the two labs are good. September 9, 1986 appears to be a realistic target date for fully implementing the testing at Bishop.

Work continues on the West Laboratory Quality Manual. Temperature and tool and gauge calibrations are in progress on numerous equipment in the Laboratory and in production. With the exception of vacuum and pressure gauges, calibration is expected to be complete by the September BSI follow-up audit. Equipment is on order for the calibration of pressure and vacuum gauges. Calibration will be completed upon arrival.

A meeting to discuss the initial results of the physical testing round-robin results was held in late August. Representatives from Florence, Summit, and Bishop attended. The conclusions and further action items will be published by O. Garcia. A second round of testing is expected to conclude in December.

Work continues on the evaluation of the "anti-stat decay" method for AS270 products. Bishop is still having problems resolving the variations seen in the same sample on repeat moldings. A 2-inch disk insert has been ordered for the "MUD" mold. It is hoped that molding on the Cincinnati machine will decrease some of the variability and will more closely resemble conditions used by Summit. The insert is expected to arrive in 4-6 weeks.

009981

PROCESS ANALYZER GROUP

The MH-2 flake conveying system oxygen analyzer installation is 90% complete. Start-up should be complete by 9/15/86. The MH-2 quench tank vent oxygen analyzer sample system will be revised to include a steam jet aspirator and a liquid knock-out system. Installation is approximately 25% complete. Design work has resumed on the installation of the remaining four oxygen analyzers in Celcon. Four surplus Taylor analyzers will be used, saving approximately \$30M-\$50M and reducing installation time.

The MH-2 Reactor Feed GC remains down due to sample pump reliability problems. Modifications to the MH-2 Titrator sample system cyclone have been completed. The modifications to the cyclone discharge appear to be an effective solution to the plugging problems encountered before. Titrator method optimization is underway to improve analysis repeatability. The MH-2 TO feed (V-1505) GC continues to run well. The MOMA and DIMOMA analysis is being used in a closed loop to control MEAL addition in the reactor.

Work is progressing on the SH-1 analyzer house. A delivery of about 9/15/86 is anticipated.

Dohrman personnel gave a short training course on their TOC analyzer to the analyzer mechanics. The course covered analyzer operation and general maintenance.

Celcon #2 cooling tower pH installation is complete and is working well.

The density gage on T243-OH is complete and all needed data has been collected and quantitated. The documentation package will be issued in September.

A redundant pH analyzer has been added to the Front Ditch to back up the existing transmitter. This should increase the confidence level on a pH excursion to the Front Ditch.

The installation of TOD and pH analyzers on the Spill Containment is nearing completion. All analyzers have been installed and are operating "on process" with signals going to the computer. Final optimization and checkout is underway.

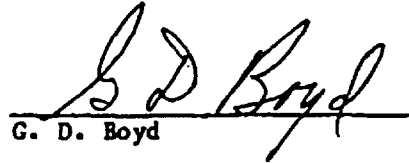
The evaluation of TOD as a replacement for the Front Ditch COD analyzers is on hold pending shipment of a new M-85 TOD (loaner) analyzer from Ionics.

An inspection of the Plant was conducted on August 5 by the State Bureau of Radiation Control. The inspection consisted of selective examinations of procedures and records, interviews, radiation surveys and a tour of various installations. The inspection went well. One technical violation was noted: "Current copy of the Texas Regulation for Control of Radiation was not available." This is being corrected.

009982

STATISTICS

	<u>% OVERTIME</u>	<u>% ABSENTEEISM</u>
EAST LAB	4.7	6.3
WEST LAB	8.1	0.2
PROCESS ANALYZER GROUP	3.4	1.9


G. D. Boyd

GDB/erg

009983

PURCHASE ORDER



CELANESE
ENGINEERING RESINS, INC.

1. KIMBLE CO
600 JIM
CHRISTIAN TX 78469

MAIL INVOICE IN DUPLICATE TO ACCT. PAYABLE AT:

CELANESE ENGINEERING RESINS, INC.

P.O. BOX 428

BISHOP, TX 78343

SHIP ON OR BEFORE: 12/24/86

VIA
BEST WAY

HWY 77 2MI. SO. BISHOP, TX 78343

W/O
40113
DEPT. 103 M
COST DISTRIBUTION
PCT. 103 M

DATE 12/03/86	PURCHASE ORDER NUMBER 041 04783-6
BUYER	SHOW THIS NUMBER AND THE ITEM NUMBER ON ALL PACKAGES AND DOCUMENTS.
CONTRACT NO.	REQUISITIONER
BILL OF MATERIAL NO.	
TERMS OF PAYMENT NET 30 DAYS	
F.O.B. TERMS DEST - FRI. PP & ALLOWED	
VENDOR NO. 2485051	VENDOR SHIP TO

QUANTITY	UNIT OF MEASURE	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
2	EAC	CELANESE STK 37-565-540 0-15" & 0-30" VACUUM, GAUGE, 1/2" NPT LOWER CONNECTION, 316SS TUBE AND SOCKET, 4-1/2" FACE, ASHCROFT 1279SS, OR EQUAL	26.220	131.10
2	EAC	CELANESE STK 37-567-050 0-300# GAUGE, LIQUID SILICONE FILLED, 1/2" NPT LOWER CONNECTION, 316SS TUBE & SOCKET, 4-1/2" FACE, ASHCROFT 1279SS, OR EQUAL	32.790	65.58
3	EAC	CELANESE STK 137-593-120 1/4" X 42" LENGTH W/12" LEADS THERMO COUPLE, IRON/CONSTANTAN, SINGLE SS SHEATH, VARNISHED ASBESTOS INSULATED LEADS, PART #2FT-1-42-AB-12 FOR NO 4 T-33 BED SHTD.	38.930	114.00
				297.51

009994

SUBJECT TO ALL THE TERMS AND CONDITIONS ON THE FACE AND BACK HEREOF AND ATTACHED HERETO BY BUYER, ALL OF WHICH ARE A PART OF THIS ORDER.

WE ACCEPT THIS ORDER UPON ALL THE TERMS AND CONDITIONS STATED ON THE -- AND BACK AND ATTACHED BY

TOTAL

297.51

CELANESE ENGINEERING RESINS, INC.

SIGNATURE
Carol Starkston

TITLE

DATE

12-5-86

BY

Amuldeo

CELANESE ENGINEERING RESINS
Bishop, Texas

TO: Mr. D. A. Reck

April 10, 1986

FROM: G. D. Boyd

GDB-371-86

LABORATORY MONTHLY HIGHLIGHTS

MARCH, 1986

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Celanese Ltd.
J. Smillie
78/80 St. Albans Road
Watford, Hertfordshire
WD2 4AP
ENGLAND

009995

HIGHLIGHTS

EAST LABORATORY

Steve Vogt completed his training in the chemical section and is presently on the regular work schedule.

Luis Benavides reported to the East Lab on March 31 and is presently training in the chemical section. His projected training completion date is May 2, 1986.

Pam Wagner reported to the West Lab on March 31, 1986.

Fifty-nine personnel samples were collected in March. Below is a list of sampling by contaminant:

	TWA	STEL
Antimony	-	1
Asbestos	3	1
Formaldehyde	19	
Noise	29	
Total Dust	6	

In addition to the samples listed above, 4 Assay Technology badge samples (formaldehyde) were collected for the side-by-side comparison study, 19 area noise samples were collected for Leo Trejo (noise reduction projects), and 13 area formaldehyde samples were collected to determine background formaldehyde levels in Kingsville, Bishop, and Corpus Christi.

Revision A.85 of the RTE-A operating system for the lab HP-1000 was installed on March 19, 1986. Only two hours down time were required to install the new software because the majority of the work was accomplished at Hewlett-Packard's Corpus Christi office. A newer version of the LAS (GC software) and BLISS were installed at the same time.

One training session for non-Lab personnel on the use of the BLISS search routine was held March 20. This search routine allows sophisticated access to the analytical results in the Lab data base. More training sessions will be held as interest demands.

The initial meeting of the Laboratory SPC team was held on March 25, 1986. Team members include Leanne Harvey, Team Leader; Jim Russell, Facilitator; Felix Soliz, Lab Supervisor; Cinda Alvarado, Rey Garcia, Don Skrovan, Jim Vargas, and Steve Vogt. Rodney Pope is also assigned to this team and will join us upon his transfer to the East Laboratory in May.

Flow-through core-testing of the simulated APAP unit waste streams was completed in March. As suspected, the hydroxylamine proved to be incompatible with the Bishop and Bay City well formations. Hydroxylamine reacts at room temperature in the core, causing much gas formation. The testing will be documented in April.

009996

Development of the 1,4-dioxolane process is nearing completion. Total organic carbon analyses of the waste water stream indicate that there are unknowns present which we do not see by our gas chromatography (GC) analyses. These "extra" by-products reduce the yield by 0.5 - 1.0%. Current work is focused on determining whether "inerts" have built up in the reaction mixture which may require some blow-down and efficiency loss. The Tech Center will do some corrosion testing to help select a suitable material of construction for the reactor and reboiler. This will complete the development effort. Our current best estimate of process yield to dioxolane is 95% based on formaldehyde fed and 96% based on ethylene glycol fed.

WEST LABORATORY

The Tech Center has completed analyzing the various distillation samples of return methanol from SH-1 using gas chromatography/mass spectroscopy (GC/MS). These analyses did not identify any potential compounds which would cause yellowing of Celcon (when reacted with Irganox). Since the GC/MS analyses concentrated only on the major components, concentration and separation of the minor components is underway using liquid chromatography.

Method development (utilizing the Image Analyzer) for black specks in Celanex keytop products is in progress. Speck sizing and differentiation is underway.

Analysis for silicone oil in four complaint lots from Polyplastics has been completed. Three of the four lots were found to contain less than 18 wt% silicone oil (specification 20 ± 2 wt%). The samples were analyzed using a gravimetric method. Additionally, one sample was analyzed by the method used by Polyplastics. The Bishop analysis was confirmed by the Polyplastic analytical method.

An EMS Advisory Council was established to provide guidance and maintain smooth operation of the EMS Crew. The membership was established and some preliminary action items were assigned. The first meeting is tentatively scheduled for May.

David Clapper (Senior Lab Technician) and Toyo Kawamura (Warehouse Foreman) provided two 40-hour ECA courses for the new members of the EMS Crew. Thank you, David and Toyo!

PROCESS ANALYZER GROUP

All pH meters and sample loss flow switches for the Spill Control project are in Plant. Initial TOD analyzer checkout and factory training has been rescheduled for April 23 and 24. The first two TOD analyzers are now scheduled to ship to Bishop during the last week of April. Sample system optimization continues.

009997

The Acetate reactor water analyzer is on-line and showing acceptable correlation with Karl Fisher water analysis. Unit lab sampling has been reduced to once every two hours.

Problems were encountered with the MO-IV absorber vent analyzer. % HCHO has been low and sometimes below the detectable limit of the analyzer. Some problems in the sample system have been identified. Work is continuing to resolve these problems and identify others.

CO analyzers were installed in the MS control room AC duct and the tank car cleaning rack breathing air. These are both operating well.

The engineering package for the T-243 OH density meter is complete and the analyzer should be installed in April.

The SH-2 Konline-Sanderson oxygen analyzer has been taken off-line until sample system modifications are complete. The SH-2 Quench/Grinder Vent oxygen analyzer's purge was incorrectly connected to 1 psi nitrogen, which was inadequate for purge requirements. We are awaiting the connection of approximately 40 psi nitrogen.

The MH-2 TO Feed GC has been up and running most of the month, and has been turned over to the unit. The Honda feed GC is in the final stages of commissioning, and calibration methods are being optimized. We anticipate completion by mid-April.

The titrator was started up for the analysis of low levels of free TEA before and after the HH system. We are currently optimizing the analysis parameters. Plugging problems have been encountered with the Quench tank sample stream to the titrator. Engineering is making piping modifications to correct this.

A Uniloc oxygen analyzer, salvaged from Paraform, will be installed on the Flake Compaction/Transfer system.

STATISTICS

% OVERTIME

% ABSENTEEISM

EAST LAB	7.5	2.5
WEST LAB	15.1	1.7
PROCESS ANALYZER GROUP	3.7	0.8

009998

ANALYTICAL COSTS

Starting this month product line analytical costs will be reported in this section of the Laboratory Monthly Summary. These costs are not calculated by the Accounting Department methods and do not represent current allocated Laboratory charges. The following is a summary of what these costs represent and how they are calculated:

1. Costs are for analytical services provided by SNE personnel only. (Routine Analytical)
2. Reporting is on a calendar month basis.
3. Charges are based on average analyst time to complete an analysis multiplied by an hourly analyst rate.
4. Analyst rates are determined from the annual Laboratory budgets and the number of analyst hours available.
5. Only budget items supporting the routine analytical function are included in the rates.

Detailed analytical cost reports will eventually be provided for each product line. These reports will differ depending whether they are generated by LDMS or BLISS but will contain essentially the same information. LDMS generated reports for Celcon are attached for general distribution this month as examples. The costs are incorrect in the examples but can be multiplied by 2 to obtain approximate values. Correct detailed reports will be distributed to all product lines serviced by LDMS in May. Reports from the BLISS system should be available in June following corrections to the system library program. Detailed reports from both systems will be sent only to the product line superintendents unless otherwise requested. A monthly 'LABORATORY ANALYTICAL COST SUMMARY' should also be completed in June and will be widely distributed. An incomplete summary is included in this report.

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