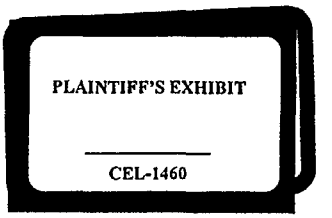

CELANESE ENGINEERING RESINS
Bishop, Texas

To: Mr. D. A. Reck May 7, 1986

FROM: G. D. Boyd GDB-376-86

LABORATORY MONTHLY HIGHLIGHTS

APRIL, 1986

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HIGHLIGHTS

EAST LAB

Luis Benavides completed his training in the East Lab wet chemical section and is now on the current technician work schedule.

Rodney Pope reported to the East Lab on April 28 and is presently training in the wet chemical section.

Estevan Cardona returned to the West Lab on April 28.

The East Lab prepared nine 55-gallon drums of nucleant for the Nylon Unit.

Forty-five samples were collected in April. Below is a list of sampling by contaminant:

	TWA	STEL
Antimony	-	2
Asbestos	-	2
Benzene	4	-
Formaldehyde	20	-
Methanol	12	-
Mica	1	4

In addition to the samples listed above, 63 area noise samples were collected for Leo Trejo (noise reduction projects). Work is also being done to determine the reproducibility of the Assay Technology formaldehyde badge results.

The accounting portion of the BLISS software was debugged by Baytek Engineering so that May's workload report (available June 1) should be accurate. Several other minor problems exist with the software, but it is believed that most of these are associated with the either the LAS or the installation of the last operating system. A new version of the LAS and the operating system will be released by Hewlett-Packard later this year that should solve many known problems and upgrade the LAS.

Three plotters, one bar-code reader, and one line printer were ordered for the Laboratory computer system. The plotters will mainly be associated with the SPC effort, while anticipated increases in report printing dictated the need for a dedicated system printer.

The Baytek proposal for enhancing the BLISS system was reworded and clarified to more closely fit Laboratory needs. The new proposal has been submitted to Baytek for quotation adjustment.

The APAP waste streams were tested for compatibility with the current #16 Boiler waste-liquid burn system and the Polyol components of that stream. The APAP waste streams were completely compatible with the current system. A mixing system similar to the current Polyol mix tank will be required.

A series of evaporations were performed on samples from October 1985, February 1986 and April, 1986 from Solar Ponds 7E-A, 8E-A and 13E. This study was designed to determine if evaporation rates and residue concentrations have changed (due to lower volume) as compared to the data from October 1985 (FRD-142-86).

This investigation determined that the Solar Ponds contain the following ambient dry point residues:

	Wt% Residue		
	7E-A	8E-A	13E
October 10, 1985	----	14.2	---
October 28, 1985	14.8	----	---
February 24, 1986	15.0	13.3	---
April 18, 1986	17.2	15.4	66.5

A report will be written to detail this investigation.

Dioxolane process development studies are complete and documentation is underway. Diethylene glycol in the ethylene glycol (EG) feed builds up and eventually fills the reactor to the point where HCHO conversion and reaction efficiency are adversely effected. "Pure" EG will be required. This has no significant effect on the economics. No other "inert" components build up to any significant extent. Reactor blow-down requirements should represent no more than 0.5-1.0% efficiency loss. Process yields are about 96% based on EG and about 95% based on HCHO (assumes 1% loss due to reactor blow-down).

EAST LAB

The Laboratory is developing a method for the analysis of Elvamide in the Elvamide concentrate added to Celcon as an acid scavenger in the M25, M90, M270-Natural product line. Currently, extraction with an alcoholic solvent followed by gravimetric analysis of the non-Elvamide portion of the concentrate (not alcohol soluble) appears best suited for routine application. Development of the exact procedure and determining the accuracy of this procedure is underway.

The silicone concentration of incoming lots of LW90-SC was determined. The analyses of the incoming lots showed the silicone oil content to be below specifications (18022 wt%) at 17.3 wt%. Quality Assurance and Purchasing are currently conferring with the outside compounder. A round robin testing procedure may be needed to resolve differences seen between the Bishop Laboratory and the outside compounder.

In-house training on the basic Olympus Image Analyzer system was provided by Olympus personnel. Additionally, the analysis system, designed for the analysis of black specks in keycap Celanex, was realigned and checked. The system is operational as designed and development of a black speck analytical method is underway.

The West Laboratory SPC Team is in the process of determining which processes (analyses) will be tracked by the team. Evaluation of the analyses currently tracked is underway. Additionally, data is being gathered on which analyses are involved in the most amount of re-analyses. This information will provide a basis for setting up an extensive SPC program in the West Laboratory.

The West Laboratory Quality Manual has been completed. The analytical methods have not been revised to the correct format. It is estimated that approximately 150 methods will need to be revised. Also, we are currently awaiting NBS calibrated standards to be able to proceed with the tool and gage calibration portion of the program.

PROCESS ANALYZER GROUP

Factory training and source inspection for the Spill Control TOD analyzers was completed April 23, 24. Krebs cyclone sample filters are on order to replace the Collins Filters, previously used in these sample systems. This should provide adequate filtration with reduced maintenance requirements.

The SH-2 Komline-Sanderson oxygen analyzer has been on-line for two weeks now. The sample system was modified to allow removal of excess liquid (present through condensation or entrainment). Work is underway to determine and minimize the analyis bias due to the liquid knock-out. The Quench/ Grinder vent O_2 analyzer modifications are almost complete. This analyzer should be on-line the first week of May.

The MH-2 TO Feed GC continues to run well.

The Honda Reactor Feed GC (for ETOX and Methylal Analysis) experienced several shut-downs this month due to sample pump failures. Thus far, the analysis has worked well but sample system reliability has been unacceptable.

The MH-2 titrator is still down, awaiting modifications in the return line from the sample system cyclone discharge.

The density gage on T-243 OH is currently being installed. Startup is scheduled for late May.

The MS cooling tower blowdown conductivity engineering package has been issued.

The Turbidity analyzer on the injection well stream was changed to the BOD clarifier outfall on a trial basis. The analyzer has performed well in this service. A second analyzer will be purchased to allow analysis at both sample points.

A survey is underway to evaluate all plant analyzers for cost effectiveness. Those not cost effective will be upgraded, replaced, or removed from service. The preliminary survey should be complete by June.

All Analyzer Personnel have been trained on SPC techniques. John Donnell and Mike Coleman, Analyzer Group SPC facilitators, will be going to Clear Lake in May to discuss Clear Lake's Analyzer SPC successes and failures.

STATISTICS

	% OVERTIME	% ABSENTEEISM
West Lab	2.5	2.6
East Lab	5.2	0.9
Process Analyzers	2.1	0.9