

LIGC-T940035-00-B



FACSIMILE MESSAGE

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November 14, 1994

To: Larry Jones
LIGO Project Caltech Pasadena, California

Fax No. (818)304-9834

From: M. L. Tellalian Phone (815)439-6517

Plainfield Engineering - PAE

RE: FTIR Analysis of Contaminated Propanol Flushed Through Test Tube Section
LIGO Design & Qualification Test - Caltech Contract C146

Larry,

Attached is the written report from Fitzsimmons & Associates for the FTIR analysis of the first solvent flush of the test section. I did not have this report when I spoke with Rai. Surprisingly, the report states that "The contaminants found in the earlier solutions ... did not seem to be present in significant amounts." The analysis was done by drying 50 ml. Rai has stated that a large sample may have to be dried to increase the signal to noise ratio when samples are taken from a cleaned tube section. I have asked Bob Fitzsimmons to fax the spectra directly to Rai.

Let me know if you find out anything on cleaning the fire extinguisher. Once it arrives, the fire extinguisher will be flushed with water first and then with a diluted solution of Merckchem. I'll call you when we get into the cleaning.

Regards,

M. L. Tellalian
Plainfield Engineering

R. V. FITZSIMMONS AND ASSOC. INC.
CHEMICAL ANALYSTS AND CONSULTANTS

1860 Arthur Drive
West Chicago, Illinois 60186 BRIDGE & DECK

(708) 231-0680
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ANALYSIS REPORT FOR:

CBI TECHNICAL SERVICES
1501 N. Division St.
Plainfield, IL 60544
Attn: Steve Peters

TECHNICAL SERVICES CO.

TIME

FORM-003 REV. 0

To

MARTIN TELLALAN

DATE 11/1/94

REPORT OF MATERIALS ANALYSIS: Analysis of two propanol solutions for non-volatiles content. Determination of amount and type of non-volatiles.

METHODS: For both the propanol solvent and the contaminated propanol solution, 50 ml of each liquid was quantitatively oven dried in glass petri dishes. The non-volatile materials left after the oven drying were analyzed by FTIR spectral analysis in a KBr matrix.

RESULTS:

Non-Volatile Content of the Propanol Solvent

The solvent was found to contain 27.5 ppm of non-volatile matter which appears to contain a hydrocarbon type oil and other extraneous matter such as fibers.

Non-Volatile Content of Contaminated Solution

This solution contained 56.mg/l (71.ppm) of non-volatile matter. FTIR spectral analysis of the non-volatiles indicates that a hydrocarbon oil or grease and other miscellaneous matter is present in the non-volatile matter. This is quite similar to the non-volatiles of the propanol solvent.

The contaminants found in the earlier solutions that we analyzed for you (Nov. 2, 1994 report) did not seem to be present here in significant amounts.

Copies of the FTIR spectra used in these identifications are enclosed for your examination. Copies of the FTIR spectra of the non-volatiles are enclosed for your examination.