LIGO-C971275-00-D
C971275-00-B DCC

FAX COVER PAGE

CALIFORNIA INSTITUTE OF TECHNOLOGY

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DATE:	6/27/97

FROM:	Larry Jones
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REFER TO:	LIGO-E970045, -E970052, -C971097
SUBJECT:	RSI's tasking for beam tube alignment checks
NUMBER OF PAGES FAXED INCLUDING THIS COVER SHEET:	1

So far, we've tasked RSI to perform three jobs to check CBI's beam tube alignment:

FWD #	Description	Status
RSI-015-1	#1: Module X1, 7 supports, re-check readings	Complete
RSI-016	#2: Module X2, 15 supports	On Hold
?? (Recent)	$3: Module X1, 99 supports	In Work

RSI-016 is still on hold until CBI completes adjustments and again releases the module. The next release on X2 will likely be the complete module, not just 15 supports. Some work had already been completed prior to the Hold: a "level loop" was run from BT/VE 7 to BT/VE 8 and back. Even though this task demonstrated closure at an acceptable level (< 4 mm), the relative elevation of BT/VE 8 deviated from a prior measurement by 14 mm (that level loop had also demonstrated a tight closure). This needs to be checked.

Please modify RSI-016 to have RSI repeat the level loop measurement between BT/VE 7 and BT/VE 8. The former portion of RSI-016 is still on hold, with timing TBD. The new task is to be second in priority behind the new FWD, just issued this week.

Dcc

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FROM:	Larry Jones
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REFER TO:	LIGO-E970052-00-B
SUBJECT:	Rogers' QC chk. #2 task description
NUMBER OF PAGES FAXED INCLUDING THIS COVER SHEET:	2

NOTE: Please call with your comments.

Doc

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REFER TO:	
SUBJECT:	Rogers' task #2 on CBI QC checks
NUMBER OF PAGES FAXED INCLUDING THIS COVER SHEET:	5

NOTE: Please process this ASAP. When I talked with Gary Wagner this morning, he said that he would probably be able to start 4/17. Thanks.

Larry

DCC

LIGO-E970052-00-B

L. Jones 4/14/97

BEAM TUBE SUPPORT ALIGNMENT QUALITY CHECK #2

Statement of task: measure and record lateral (cross axis) alignment offsets and elevations (relative to BT/VE6 = 100.000) of 15 beam tube support rings that have been final aligned by CBI. A support ring at a guided support is shown on the attached sketch.

Eligible support rings: per sketch below, rings at supports #001-015 are final aligned and eligible for measurement. The respective supports are tagged on the road side of each support, with the notation "HNW4 0XX" (where XX represents numerical digits). Note that these supports are located on module X2, which lies between the midstation and the end station of the X arm.

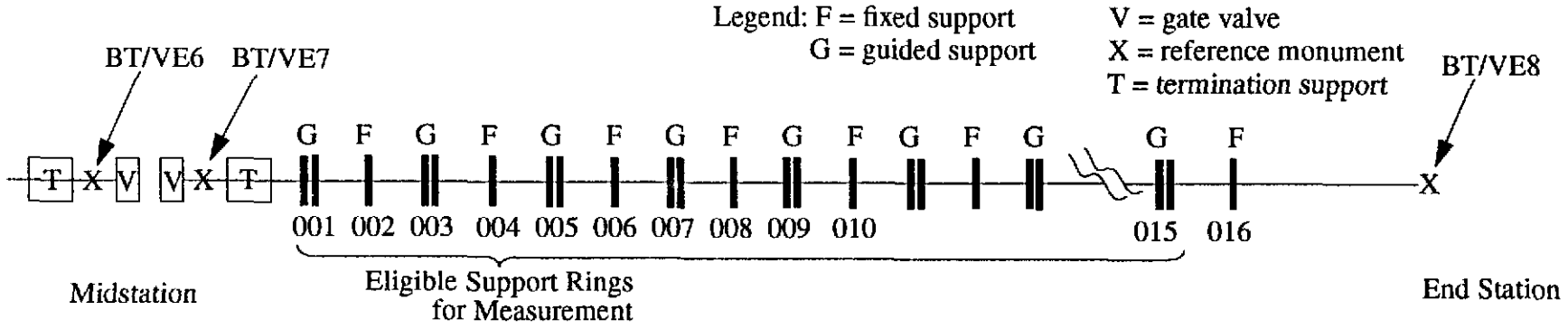
Definition of alignment axis:

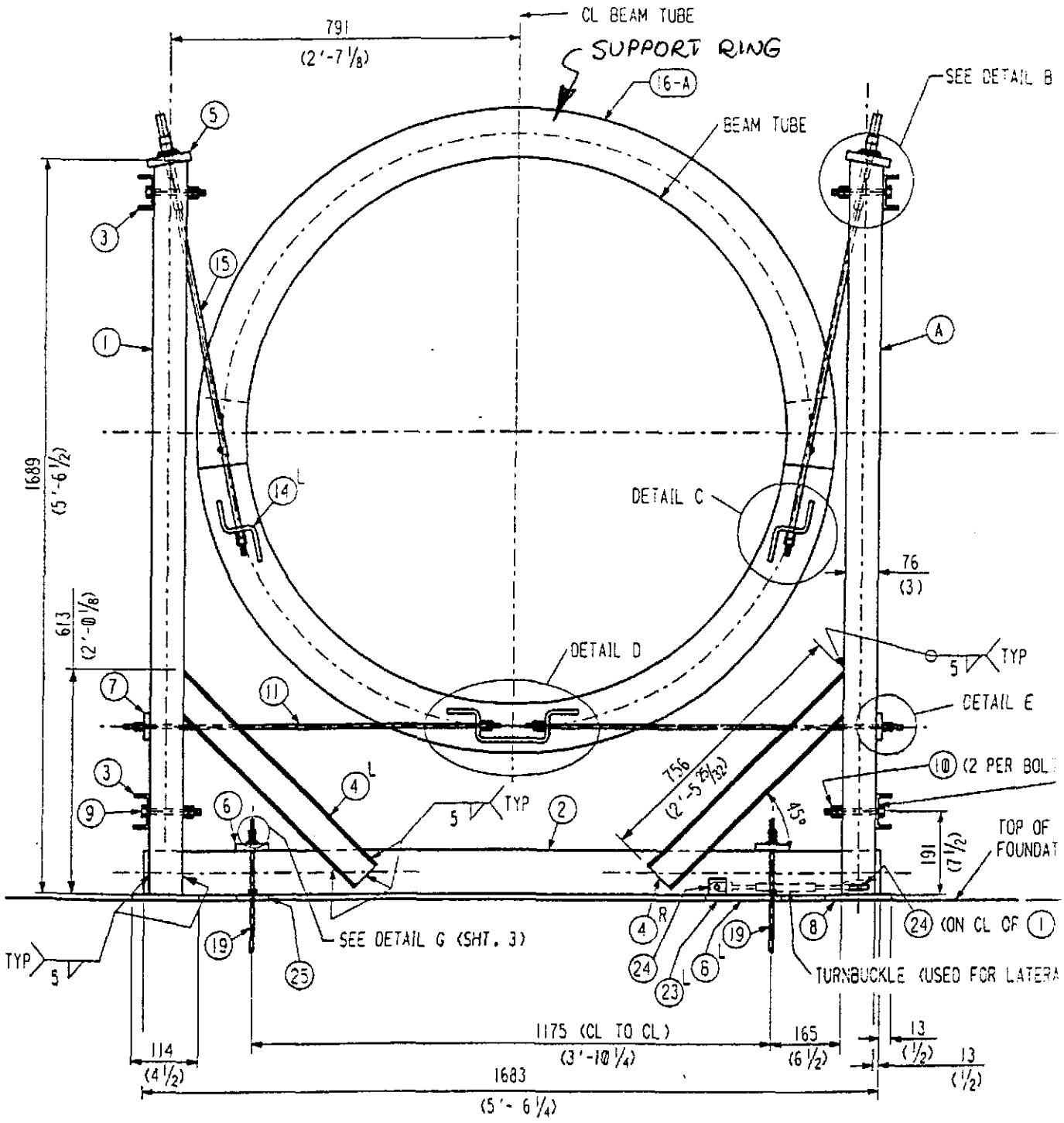
- plan view: axis is defined by brass reference monuments BT/VE7 (Rogers #27) and BT/VE8 (Rogers #28)
- elevation: axis is defined by document TDM 96-014C, attached (heights above reference monuments)

Support ring details:

- specific ring: only one support ring per tube support is to be checked. The guided supports, which have two support rings, are aligned in reference to the support ring nearest the site vertex.
- ring outer diameter: 1447.800 +/- 0.254 mm (57.000 +/- 0.010 in). For the purpose of this task, assume that the ring is a perfect circle, with zero tolerance, and that the tube is perfectly centered in the ring. Any portion of the ring machined O.D. may be used to reference the ring center.

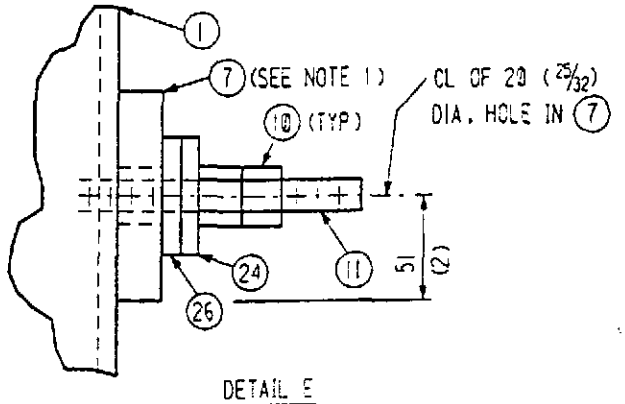
Accuracy of measurement: report data to the best accuracy that practical techniques would dictate; requirements are to within +/- 5 mm for these support rings.





SECTION A-A

(ALL PIECE MARKS AND DIMENSIONS ARE TYP)



DETAIL E

REV. ENTIRE DWG.

5571@219.DGN

TECHNICAL DIRECTION MEMORANDUM

California Institute of Technology

TO *(Name of Contractor)* CBI Services, Inc.	Contract No. PC181520
(Address of Contractor) Richland, WA	TDM No. 96-014C

THIS TDM IS ISSUED PURSUANT TO THE CONTRACT ARTICLE ENTITLED TECHNICAL DIRECTION

PURPOSE ☐ Approval ☐ Disapproval ☒ Clarification ☐ Recommendation

THE CONTRACTOR IS DIRECTED AS FOLLOWS:

Install beam tube centerlines and valve tilts at Hanford VE/BT interfaces as follows:

Arm 2:)

Position: module/station	Height above top of brass marker, inches	Tilt of top of valve toward end station, inches in 49" tube diameter
HX1/corner station	41.78	0.031
HX1/midmodule	*41.86	N/A
HX1/midstation	41.61	0.015
HX2/midstation	41.63	0.015
HX2/midmodule	*42.01	N/A
HX2/end station	41.86	0.000

THE DIRECTIONS GIVEN HEREIN ARE WITHIN THE SCOPE OF THE ABOVE NUMBERED CONTRACT, AND SHALL NOT CONSTITUTE A BASIS FOR ANY CHANGE IN ANY OF THE CONTRACT PROVISIONS OR REQUIREMENTS RELATING TO QUANTITY, QUALITY, FIXED PRICE, DELIVERY OR PERFORMANCE SCHEDULE, OR ANY OTHER TERMS OF THE CONTRACT, NOR SHALL SUCH DIRECTIONS CONSTITUTE ANY CHANGE IN THE INSTITUTE'S OBLIGATION TO YOU UNDER ANY LIMITATION OF FUNDS PROVISION IN THE CONTRACT. BY YOUR ACCEPTANCE OF THIS TECHNICAL DIRECTION MEMORANDUM, YOU AGREE THAT NO CLAIMS FOR CHANGE OR ADJUSTMENT IN ANY OF THE TERMS OR PROVISIONS OF THE ABOVE NUMBERED CONTRACT WILL BE BASED UPON THE DIRECTIONS GIVEN HEREIN.

IF YOU TAKE EXCEPTION TO ANYTHING CONTAINED IN THIS MEMORANDUM, DO NOT PROCEED WITH DIRECTIONS, AND NOTIFY THE INSTITUTE'S AUTHORIZED REPRESENTATIVE, WHOSE SIGNATURE APPEARS BELOW, OF SUCH FACT AS SOON AS POSSIBLE, BUT IN ANY EVENT, NO LATER THAN FIVE (5) DAYS FROM THE DATE THIS MEMORANDUM IS RECEIVED.

SIGNED

Larry K. Jones — 3/14/97

AUTHORIZED REPRESENTATIVE — DATE

Larry K. Jones

PRINT NAME

Beam Tube Technical Manager

TITLE

CALIFORNIA INSTITUTE OF TECHNOLOGY

THE CONTRACTOR ACCEPTS THIS TECHNICAL DIRECTON MEMORANDUM WITHOUT EXCEPTION

SIGNED

AUTHORIZED REPRESENTATIVE — DATE

PRINT NAME

TITLE

CONTRACTOR

Arm 1:

Position: module/station	Height above top of brass marker, inches	Tilt of top of valve toward corner station, inches in 49" tube diameter
HY1/corner station	41.74	0.000
HY1/midmodule	*41.58	N/A
HY1/midstation	41.78	0.015
HY2/midstation	41.78	0.015
HY2/midmodule	*41.76	N/A
HY2/end station	41.70	0.030

* Elevations at the midmodule markers are to be used for checking purposes only; the axis of the modules must be defined by the module end markers. The term "midmodule" means the marker at the approximate midpoint of that particular module.