

Caltech

c/o WHC,

PO Box 1970,

Mail Drop S9-02, Richland, WA 99152

A FAX FOR:

Date:

10/15/96

Number of pages including cover sheet:

7

To:

ALBERT LAZZARINI

Phone:

Fax phone: ✓ 818 304 9834

CC:

From:

L. JONES

LIGO Project

Route 10, Mile Marker 2

Richland, WA 99352

Phone:

509-372-2335

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509-372-2178

REMARKS:

Urgent

For your review

Reply ASAP

Please comment

READINGS TAKEN BY CBI OF TRIMBLE EQUIPMENT TO CHECK
LINEARITY OF OUTPUT WITH 1MM STEPS IN POSITION, TO 25MM.
NOTE THAT READINGS ARE ONLY 10 S IN DURATION.
PLOTS ARE SHOWING AVERAGES OF 5 READINGS, E.G. POSITION.

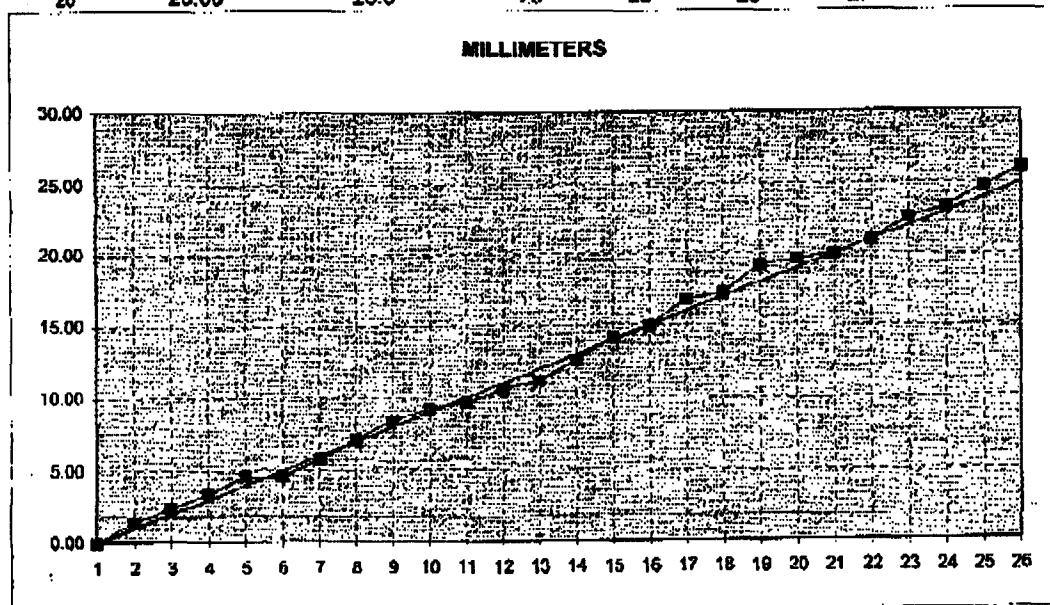
CALTECH-LIGO PROJECT



HORIZ-CLOCKWISE

HORIZONTAL TANGENT COUNTER-CLOCKWISE TO BASE STATION

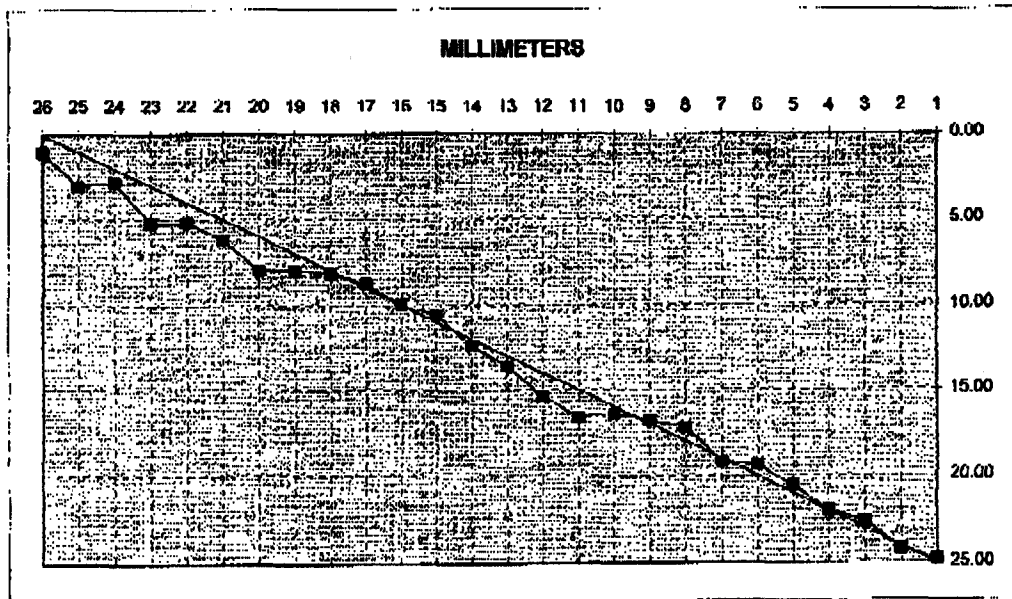
POSITION	INDICATOR MILLIMETERS	DATA COLLECTOR READING - 10 SECOND DURATION					
		AVERAGE	2 Second	4 Second	6 Second	8 Second	10 Second
01	0.00	0.0	0	0	0	0	0
02	1.00	1.4	1	2	1	2	1
03	2.00	2.4	2	2	3	2	3
04	3.00	3.4	3	4	3	3	4
05	4.00	4.6	5	4	5	5	4
06	5.00	4.6	5	4	5	5	4
07	6.00	5.8	5	6	5	7	6
08	7.00	7.2	6	8	7	8	7
09	8.00	8.4	8	9	8	9	8
10	9.00	9.2	9	10	9	9	9
11	10.00	9.6	9	9	10	10	10
12	11.00	10.6	10	11	10	11	11
13	12.00	11.2	10	12	12	10	12
14	13.00	12.6	12	12	13	13	13
15	14.00	14.2	13	15	15	14	14
16	15.00	15.0	14	14	15	16	16
17	16.00	16.8	16	17	18	16	17
18	17.00	17.2	16	18	19	18	17
19	18.00	19.2	19	19	20	19	19
20	19.00	19.6	19	20	20	20	19
21	20.00	20.0	19	20	21	21	19
22	21.00	21.0	19	22	22	20	22
23	22.00	22.6	22	22	23	23	23
24	23.00	23.4	23	23	24	23	24
25	24.00	24.8	25	24	26	24	25
26	25.00	26.0	25	25	26	27	27



HORIZ-CLOCKWISE

HORIZONTAL TANGENT CLOCKWISE FROM BASE STATION

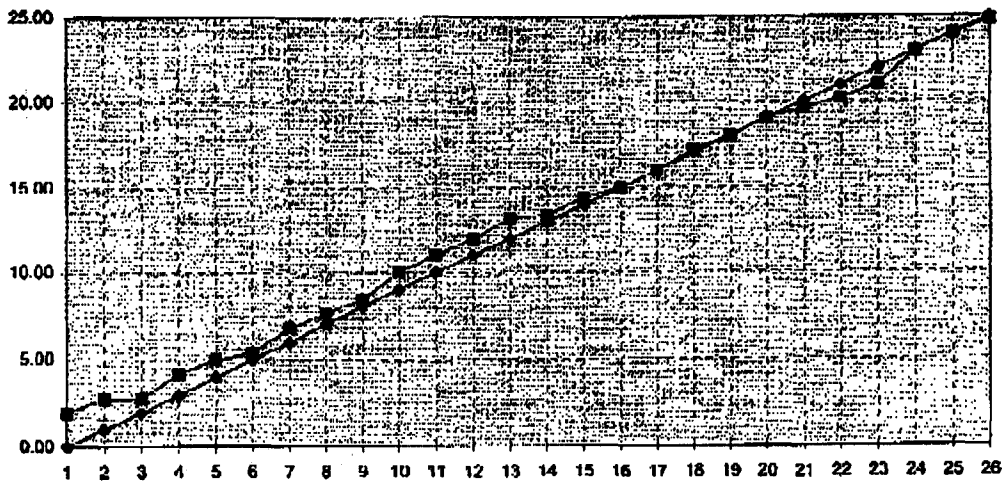
POSITION	INDICATOR MILLIMETERS	DATA COLLECTOR READING - 10 SECOND DURATION					
		AVERAGE	2 Second	4 Second	6 Second	8 Second	10 Second
01	25.00	24.8	25	25	25	24	25
02	24.00	24.2	24	24	24	25	24
03	23.00	22.6	23	23	22	23	22
04	22.00	22.0	22	22	21	23	22
05	21.00	20.6	21	21	20	20	21
06	20.00	19.4	20	18	19	20	20
07	19.00	19.2	20	20	19	18	19
08	18.00	17.2	17	16	17	18	18
09	17.00	16.8	17	17	18	17	17
10	16.00	16.4	17	16	16	17	16
11	15.00	16.6	16	18	17	18	16
12	14.00	15.4	15	16	16	15	15
13	13.00	13.6	14	13	13	14	14
14	12.00	12.4	13	13	12	12	12
15	11.00	10.6	11	10	10	11	11
16	10.00	10.0	10	10	10	10	10
17	9.00	8.8	9	9	9	8	9
18	8.00	8.2	9	8	8	8	8
19	7.00	8.0	8	8	8	8	8
20	6.00	8.0	8	8	8	8	8
21	5.00	6.2	6	7	6	6	6
22	4.00	5.2	6	5	5	5	5
23	3.00	5.2	5	5	6	5	5
24	2.00	2.8	3	4	3	2	2
25	1.00	3.0	3	3	3	3	3
26	0.00	1.0	1	1	1	1	1



HORIZ-TOWARD

HORIZONTAL RADIAL TOWARD BASE STATION							
POSITION	INDICATOR	DATA COLLECTOR READING - 10 SECOND DURATION					
		AVERAGE	2 Second	4 Second	6 Second	8 Second	10 Second
01	0.00	2.0	1	2	3	2	2
02	1.00	2.8	4	2	3	2	3
03	2.00	2.8	3	2	4	3	2
04	3.00	4.2	5	4	4	4	4
05	4.00	5.0	5	5	6	5	4
06	5.00	5.4	5	6	5	6	5
07	6.00	6.8	6	7	7	6	8
08	7.00	7.6	8	7	8	8	7
09	8.00	8.4	9	8	9	8	8
10	9.00	10.0	10	10	10	10	10
11	10.00	11.0	10	11	12	11	11
12	11.00	12.0	12	12	12	12	12
13	12.00	13.2	13	13	14	13	13
14	13.00	13.4	14	13	14	13	13
15	14.00	14.4	14	14	15	15	14
16	15.00	15.0	15	15	16	15	15
17	16.00	16.0	15	16	17	16	16
18	17.00	17.2	17	16	17	18	18
19	18.00	18.0	17	19	18	18	18
20	19.00	19.0	19	19	19	19	19
21	20.00	19.6	18	19	21	20	20
22	21.00	20.2	20	20	20	20	21
23	22.00	21.0	21	21	21	21	21
24	23.00	23.0	23	22	23	24	23
25	24.00	24.0	25	24	24	24	23
26	25.00	24.8	25	25	24	25	25

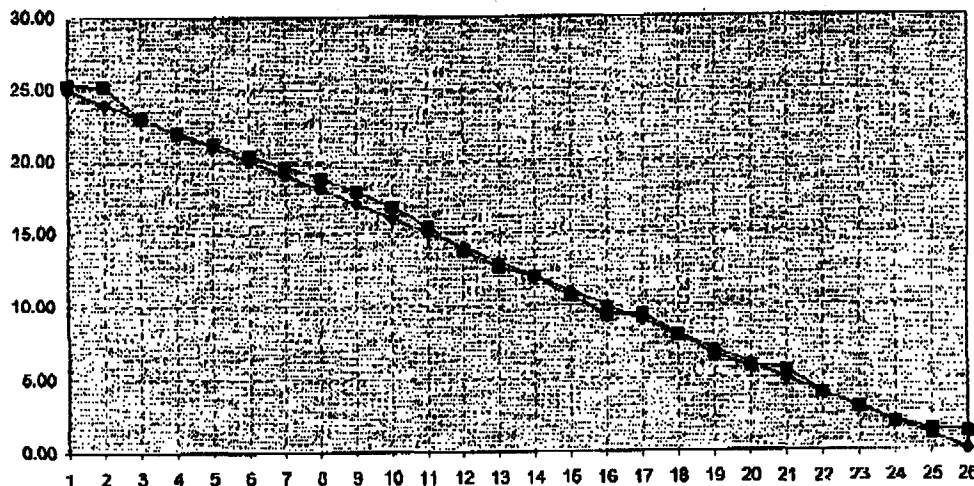
MILLIMETERS



HORIZ AWAY

HORIZONTAL RADIAL AWAY FROM BASE STATION							
POSITION	INDICATOR	DATA COLLECTOR READING - 10 SECOND DURATION					
		AVERAGE	2 Second	4 Second	6 Second	8 Second	10 Second
01	25.00	25.4	24	26	27	26	25
02	24.00	25.2	25	26	26	25	24
03	23.00	23.0	22	24	24	22	23
04	22.00	22.0	21	22	23	22	22
05	21.00	21.2	22	21	21	21	21
06	20.00	20.4	20	21	21	20	20
07	19.00	19.6	19	19	20	21	19
08	18.00	18.8	18	19	20	19	18
09	17.00	17.8	18	19	18	17	17
10	16.00	16.8	17	18	16	17	16
11	15.00	15.4	14	15	16	16	16
12	14.00	13.8	13	13	14	15	14
13	13.00	12.6	13	12	13	12	13
14	12.00	12.0	12	13	11	12	12
15	11.00	10.6	10	10	11	11	11
16	10.00	9.4	9	11	9	9	9
17	9.00	9.4	9	10	10	9	9
18	8.00	8.0	8	8	9	8	7
19	7.00	6.6	7	6	7	6	7
20	6.00	5.8	6	5	6	6	6
21	5.00	5.6	5	7	5	6	5
22	4.00	4.0	3	4	5	4	4
23	3.00	3.0	2	3	4	3	3
24	2.00	2.0	2	2	2	2	2
25	1.00	1.4	1	2	1	2	1
26	0.00	1.2	1	2	1	1	1

MILLIMETERS

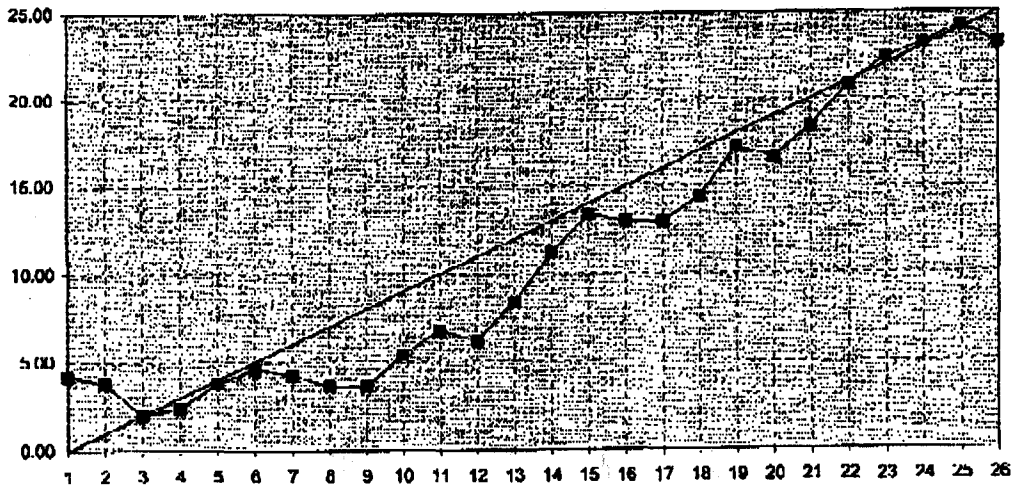


VER I-UP

VERTICAL - UP DIRECTION

POSITION	INDICATOR	DATA COLLECTOR READING - 10 SECOND DURATION					
		MILLIMETERS	AVERAGE	2 Second	4 Second	6 Second	8 Second
01	0.00	4.2	3	5	5	4	4
02	1.00	3.8	4	2	5	4	4
03	2.00	2.0	3	2	3	0	2
04	3.00	2.4	3	2	4	0	3
05	4.00	3.8	2	5	4	3	5
06	5.00	4.8	4	3	5	6	5
07	6.00	4.2	6	5	4	4	2
08	7.00	3.6	3	5	4	2	4
09	8.00	3.6	3	4	5	4	2
10	9.00	5.4	7	5	6	4	5
11	10.00	6.8	7	6	7	7	7
12	11.00	6.2	9	6	6	5	5
13	12.00	8.4	9	7	8	9	9
14	13.00	11.2	11	9	11	12	13
15	14.00	13.4	11	14	12	15	15
16	15.00	13.0	13	12	11	14	15
17	16.00	13.0	13	13	13	13	13
18	17.00	14.4	13	12	16	16	16
19	18.00	17.2	16	17	21	16	16
20	19.00	16.6	18	16	14	17	18
21	20.00	18.4	20	19	17	18	18
22	21.00	20.8	21	20	19	22	22
23	22.00	22.4	21	22	23	24	22
24	23.00	23.2	24	25	21	23	23
25	24.00	24.2	25	24	24	24	24
26	25.00	23.2	24	22	23	24	23

MILLIMETERS



VERT-DOWN

VERTICAL - DOWN							
POSITION	INDICATOR	DATA COLLECTOR READING - 10 SECOND DURATION					
		AVERAGE	2 Second	4 Second	6 Second	8 Second	10 Second
01	25.00	21.8	22	22	21	23	21
02	24.00	20.0	19	20	21	20	20
03	23.00	20.4	20	19	21	19	23
04	22.00	23.2	23	23	27	25	18
05	21.00	18.2	20	20	18	17	16
06	20.00	17.4	17	17	16	17	20
07	19.00	17.8	17	16	18	20	19
08	18.00	15.0	17	14	15	13	16
09	17.00	11.8	13	11	12	10	13
10	16.00	12.0	12	11	12	12	13
11	15.00	10.6	10	11	9	11	12
12	14.00	10.2	10	9	10	10	12
13	13.00	10.4	10	11	12	9	10
14	12.00	7.6	10	6	7	7	8
15	11.00	8.0	7	8	7	9	9
16	10.00	8.0	8	7	10	8	7
17	9.00	3.2	1	2	3	4	6
18	8.00	6.4	5	4	8	9	6
19	7.00	3.8	2	7	4	1	5
20	6.00	2.6	2	3	2	3	3
21	5.00	4.8	3	7	6	5	3
22	4.00	3.4	5	4	2	3	3
23	3.00	4.0	4	3	6	3	4
24	2.00	2.4	4	1	2	2	3
25	1.00	1.4	1	3	1	2	0
26	0.00	2.2	3	1	3	1	3

