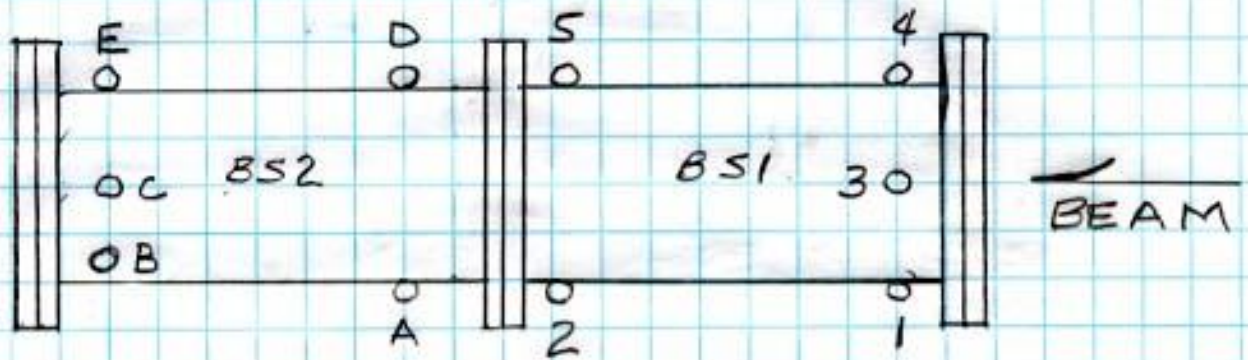


SSRL SPEAR 3  
B/L 4 STOPPERS

8/25/03  
M.P., M.C.



✓ 8/25/03  
MR

	X	Y	Z
1	+6.881 ✓	-.064 ✓	+2.611 ✓
2	+6.889 ✓	-.042 ✓	+19.605 ✓
3	+.315 ✓	+6.839 ✓	+2.824 ✓
4	-6.839 ✓	+.182 ✓	+3.125 ✓
5	-6.834 ✓	+.093 ✓	+19.931 ✓
A	+6.858 ✓	-.022 ✓	+25.563 ✓
B	+6.197 ✓	+2.938 ✓	+42.490 ✓
C	+.351 ✓	+6.834 ✓	—
D	-6.868 ✓	+.216 ✓	+26.100 ✓
E	-6.869 ✓	+.011 ✓	+42.905 ✓

X & Y TO C OF THE TANK

Z'S FROM U/S FLANGE FACE BS1

BL4 Stupper

8-9-03  
Perry Carrillo

X + side  
 FV 6.625  
 NV 6.625  
 1F 8.000  
 N 8.432  
 2F 11.000  
 N 9.897  
 S/R 8.844  
 LOS 15.469

4-0 BS1  
 1  
 15.469  
 7.588  
 1  
6.881 ✓

2  
 15.469  
 7.580  
 1  
6.889 ✓

3  
 15.469  
 4.625  
10.529  
 .315 ✓

4-0 BS2  
 (1) A  
 15.469  
 7.611  
 1  
6.858 ✓

(2) B  
 15.469  
 8.272  
 1  
6.197 ✓

(3) C  
 15.469  
 14.118  
 1  
.351 ✓

FG  
 8-11-02

- side  
 FV 6.625  
 NV 6.625  
 1F 10.000  
 N 7.707  
 2F 3.600  
 N 4.546  
 S/R 5.469  
 LOS 12.094 ✓

3  
 12.094  
 11.416  
 1  
.322 ✓

4  
 12.094  
 4.255  
 1  
-6.839 ✓

5  
 12.094  
 4.260  
 1  
-6.834 ✓

\* BS1

(4) D  
 12.094  
 4.226  
 1  
-6.868 ✓

(5) E  
 12.094  
 4.225  
 1  
-6.869 ✓

\* BS2

BL4 Stopper

8-9-03  
Perry Carrillo

4-0 BS1

Top Fl  
8.444  
6.625  
15.069 ✓

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
15.069	15.069	15.069	15.069	15.069
4.604	14.111	7.230	13.887	13.976
<u>10.529</u> 1/2 Fl	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
- .064 ✓	- .042 ✓	+ 6.839 ✓	+ .182 ✓	+ .093 ✓

4-0 BS2

<u>(1) A</u>	<u>(2) B</u>	<u>(3) C</u>	<u>(4) D</u>	<u>(5) E</u>
15.069	15.069	15.069	15.069	15.069
14.091	11.131	7.235	13.853	14.058
<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
- .022 ✓	+ 2.938 ✓	+ 6.834 ✓	+ .216 ✓	+ .011 ✓

Top Fl.  
8.444  
6.625

FG

8-11-03

# BL4 Stopper

8-9-03  
Perry Carrillo

BS1

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
2.861	19.855	2.824 ✓	3.375	20.181
-.250	-.250		-.250	-.250
+2.611 ✓	+19.605 ✓		+3.125 ✓	+19.931 ✓

✓ 8/29/03  
MRC

BS2

(1) A	(2) B	(3) C	(4) D	(5) E
25.813	42.740	X	26.350	43.155
-.250	-.250		-.250	-.250
+25.563 ✓	+42.490 ✓		+26.100 ✓	+42.905 ✓

Z Ref. 1/8 Flange Face

8-11-03  
FG, MR, LG

4 stopper

(1)

BS 1

BS 2

✓ 8/12/03

# 3

# 2

MR

# 5

Values

+ 6.839

+ 2.938

+ .011

3

#2

2

5

7.225  
1  
8.225 ✓  
6.839

15.064  
-.042  
15.106 ✓  
1

15.064  
2.938  
12.126 ✓  
1

15.064  
.011  
15.053 ✓  
1

HI = 15.064 ✓

14.106 ✓  
14.107 -1 ✓

SKR 11.126 ✓  
11.125 ✓ +1  
11.126 ✓

SKR 14.053 ✓  
14.061 -8  
14.051 +2

Collimator

W/S

D/S

1

2

3

4

15.064  
.830  
14.234 ✓

ols from

☉ of Tank

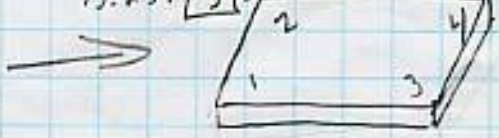
SKR 15.234 ✓  
15.257 -20  
15.249 -15  
15.244 -10  
15.240 -6  
15.239 -5 ✓

SKR 15.237  
15.245 -11  
15.242 -8  
15.237 -3  
15.233 +1  
15.232 +2 ✓

SKR 15.228  
15.224 +4  
15.230 -2 ✓

15.224 +4  
15.226 +2 ✓

13



SSRL LAB

8-9-03

Perry Carrillo

BL 4 stopper

o/s FI  
8.446

o/s FI  
8.446

no pitch

o/s Gun 8.966 below top of flange  
at bottom of block  
Ref. 16.878

13.250 6.625 FL Rod

measure down - 8.966  
1/2 FI + 6.625  
- 2.341

1/2 Block 1.308  
below FI  $\phi$  - 1.033

Block Thickness  
2.616  
1.308

Read - 8.688  
1/2 FL 6.625  
- 2.063  
1/2 Block 1.308  
.755

o/s Gun - 8.793  
6.625  
mike down 2.168  
.100 1.308  
.960 1.860

Accepted by T.R.  
Flange =  $\phi$



# Collimator u/s of BL4 Stopper

8-9-03

Perry Carrillo

Deep 1.660  $\frac{1}{2} = .830$

Wide 6.260  $\frac{1}{2} = 3.130$

Fl 7.980 R= 3.990

Y

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
	15.069	15.069	15.069	15.069
	<u>.830</u>			
	14.239 ✓	14.239	14.239	14.239
	+1 Flange offset			
S/R	15.239 ✓	15.239	15.239	15.239
	15.271	15.263	15.239	15.235
	<del>15.279</del>	<del>15.265</del>	15.237	<del>15.247</del>
	15.260	15.250	15.247	15.229 ✓
	-21 ✓	-11 ✓	15.235 +4	+10

X

		<u>5</u>	<u>6</u>	<u>5</u>	<u>6</u>
FV	6.625	18.354	18.354	18.376	18.376
NV	6.625	<u>3.130</u>	<u>3.130</u>	3.130	
1F	10.000	15.224	15.224	15.246	15.246 S/R
1N	10.688			15.270	15.253 Rd
2F	16.000				
2N	14.300				
S/R	11.729	11.751			
LOS	18.354	18.376			

# 4 Stopper

8-11-03

MR, LG, FG

## Rotatable Plunges

F.V. = 6.625

N.V. = 6.625

1ST F = 8.844

1ST N = 9.992

2ND F = 13.092

2ND N = 12.554

S/R = 11.736

LOS = 18.361 ✓

✓ 8/12/03 BS # 1  
MR

$$\begin{array}{r} 1 \\ \hline 18.361 \\ 6.881 \\ \hline 11.480 \checkmark \\ 1 \\ \hline \text{S/R } 10.480 \checkmark \\ 10.504 -24 \checkmark \end{array}$$

Re buck-in because  
Flanges tightened so they  
moved.

BS #2 TB2  
S #1 TB1

F.V. = 6.197

N.V. = 6.881

1ST F = 11 + 1 = 12

1ST N = 10.402 + 1 = 11.402

2ND F = 16.000 + 1 = 17

2ND N = 13.584 + 1 = 14.584

S/R F = 12.237 - 1 = 11.237

S/R N = 11.553 - 1 = 10.553

LOS = 18.434 ✓

Collimator  
(W/S) (P/S)  
5 6  
18.434  
3.130  
S/R 15.304 ✓ S/R 15.304  
15.300 +4 15.288 +16  
15.302 +2 ✓ 15.288 +16 ✓

# BS 1  
TB 2

$$\begin{array}{r} 18.434 \\ 6.889 \\ \hline 11.545 \checkmark \\ 1 \\ \hline \text{S/R } 10.545 \checkmark \\ 10.543 +2 \checkmark \end{array}$$