

Company : LDEO  
Vessel : Marcus G.Langseth  
Client : NSF

Project : MGL-0812 Pacific Rise  
Area : East Pacific Rise  
Start Date : 22 June 2008



Full Service Navigation, Positioning, and Survey Solutions

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[Vessel Sensor Offsets](#)

[Towing Offsets](#)

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[Gun Array Offsets](#)

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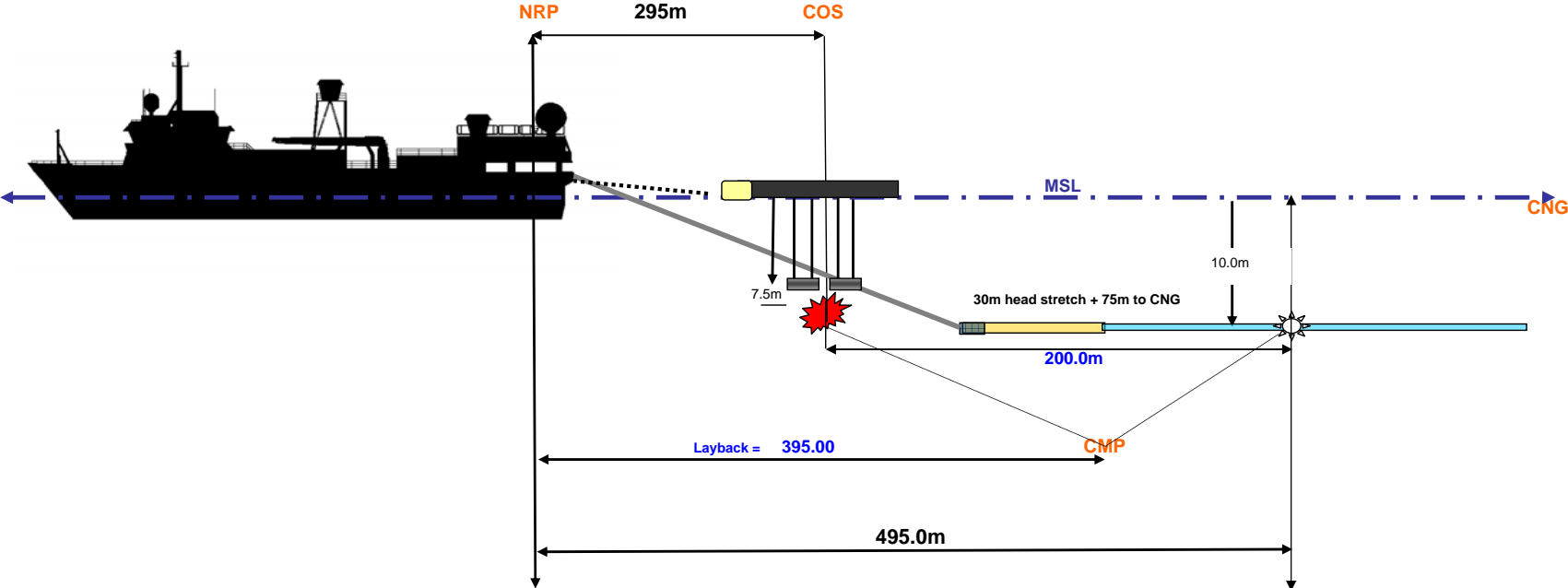
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R/V Marcus G. Langseth - Towing Offsets

\*\*\* Offsets used for sequences \*\*\*



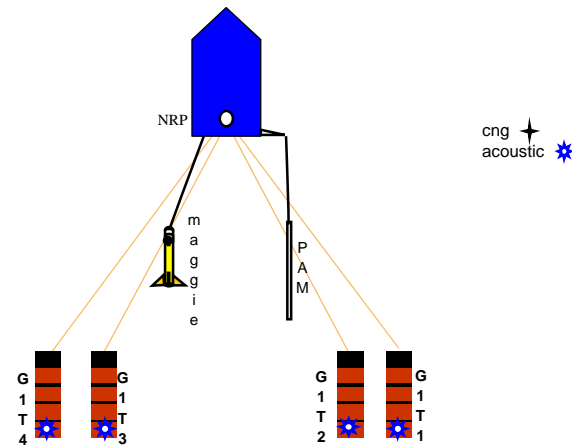
\*\*\* Offsets used for acquisition \*\*\*

NRP-Stern	4.20	m	
NRP-COS	295.00	m	
NRP-CNG	495.00	m	
COS-CNG	200.00	m	
NRP-CMP	395	m	Layback

NRP	Nav Reference Point
COS	Centre of Source
CNG	Centre of Near Group (Trace # 001)
CMP	Common Mid-Point
MSL	Mean Sea Level

All measurements in meters

cng -> S1T1 = -37.04m  
 cng -> S1T2 = -186.04m  
 G1T1 -> G1S1: x = 0.0 y = -8.23 z = -11.88  
 G1T2 -> G1S2: x = 0.0 y = -8.23 z = -11.88  
 G1T3 -> G1S3: x = 0.0 y = -8.23 z = -11.88  
 G1T4 -> G1S4: x = 0.0 y = -8.23 z = -11.88

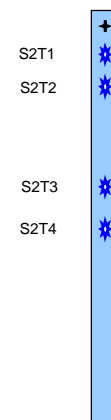


Cable acoustic offsets are referenced to cng on individual streamers

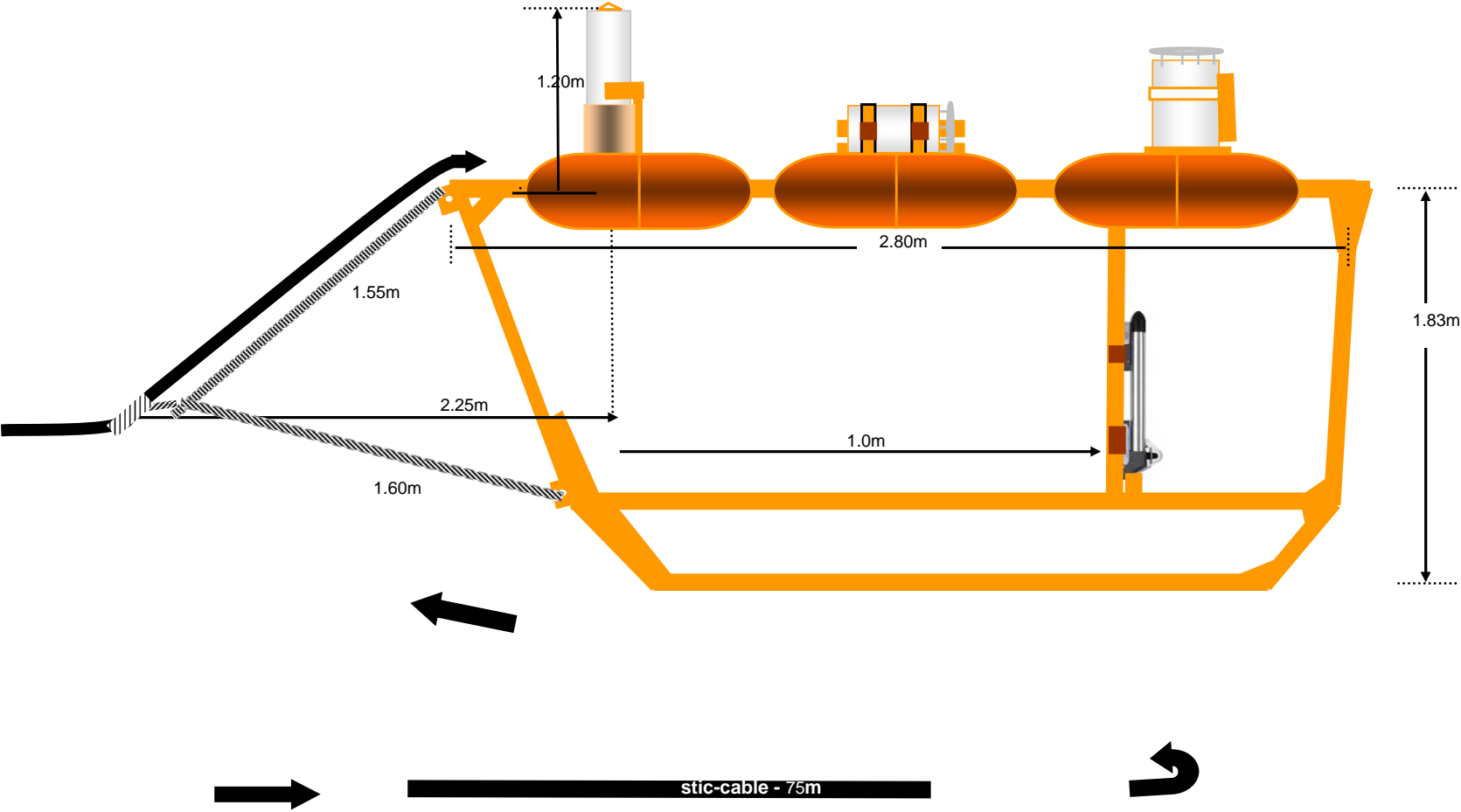
Tailbuoy acoustics referenced to dGPS pod



-37.4  
 -185.69  
 -2885.69  
 -3035.69



R/V Marcus G. Langseth - Tailbouy



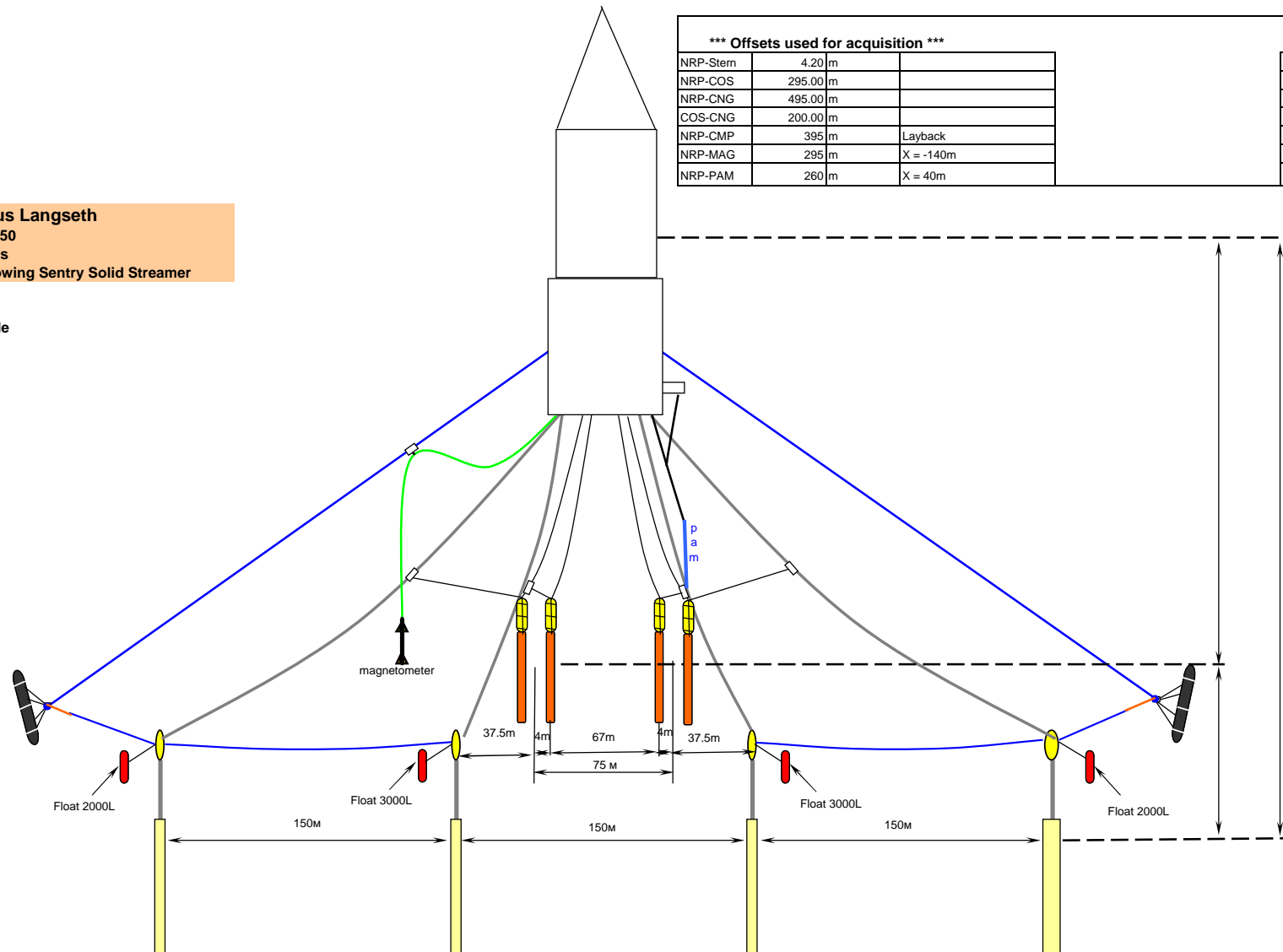
All measurements in meters

## r/v Marcus G. Langseth "tow" configuration

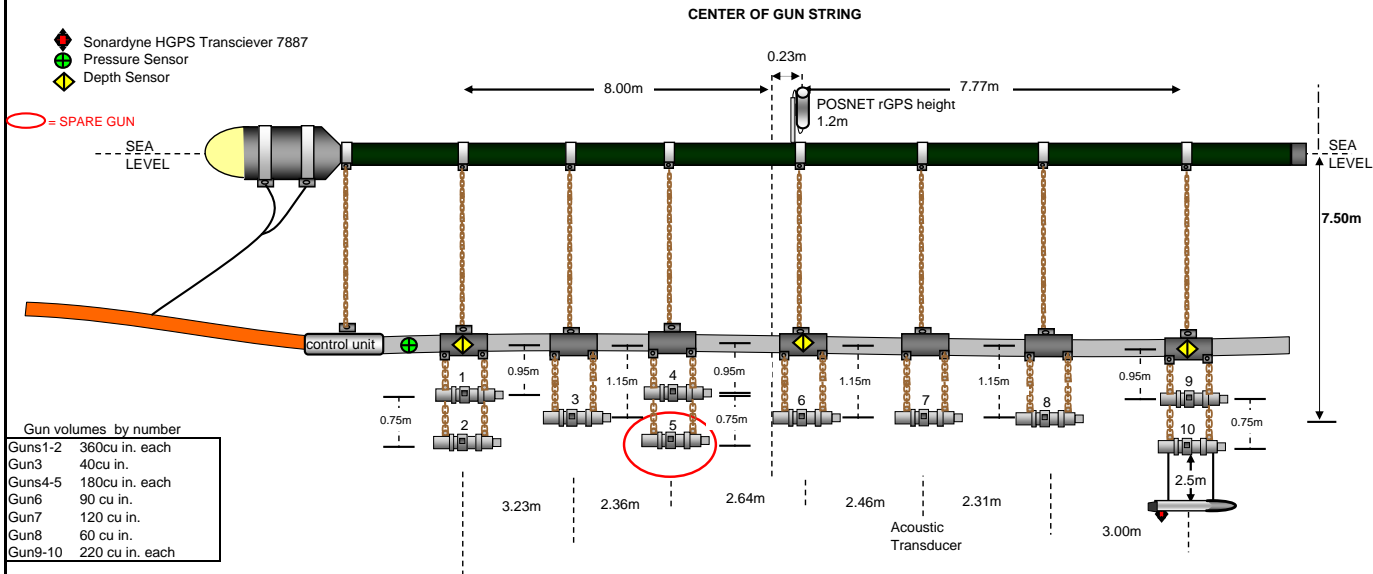
*** Offsets used for acquisition ***			
NRP-Stem	4.20	m	
NRP-COS	295.00	m	
NRP-CNG	495.00	m	
COS-CNG	200.00	m	
NRP-CMP	395	m	Layback
NRP-MAG	295	m	X = -140m
NRP-PAM	260	m	X = 40m

**R/V Marcus Langseth**  
**4 x 6000 x 150**  
**4 Gunstrings**  
**Baro 16's towing Sentry Solid Streamer**

**NOT to Scale**



# R/V Marcus G. Langseth - Gun Array Offsets

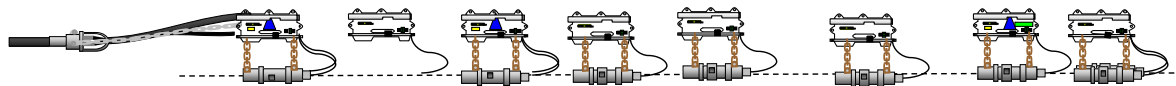


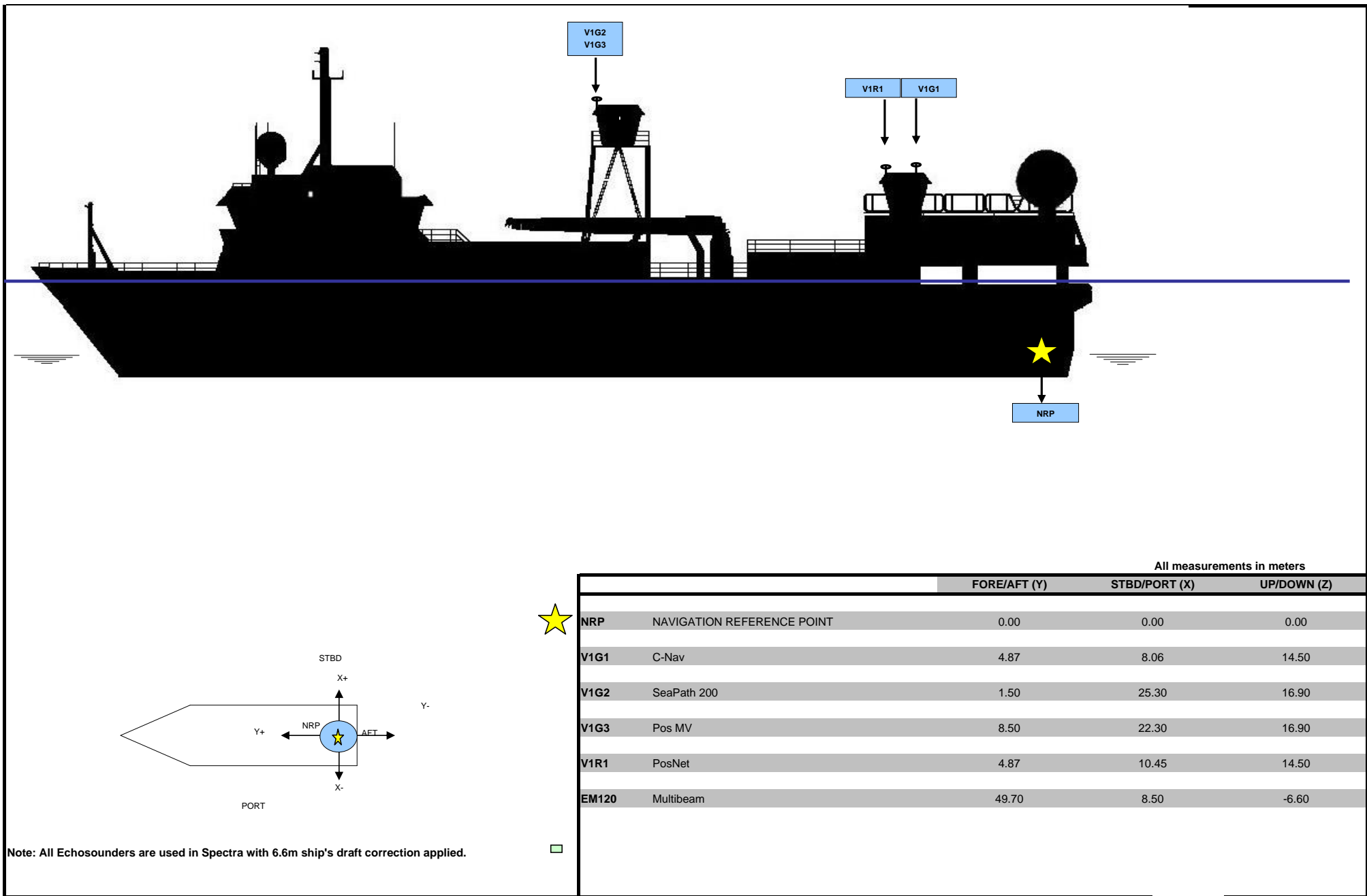
Array total volume (without spares) is 6600 cubic inches.  
 String 1 has guns 9 & 10 in a horizontal cluster; Strings 2, 3, 4, have all clusters hanging vertically.  
 Gun clusters have 0.75m between guns and hang 0.95m from center of hanger

Total volume per string (without spare) 1650 cubic inches.  
**Cluster Guns are 1m apart. NOTE: drawing not to scale**  
 Single guns hang from hanger 1.15m

All gun volumes, numbering, locations, and offsets approved by chief gunner Tom Spoto.

All measurements in meters

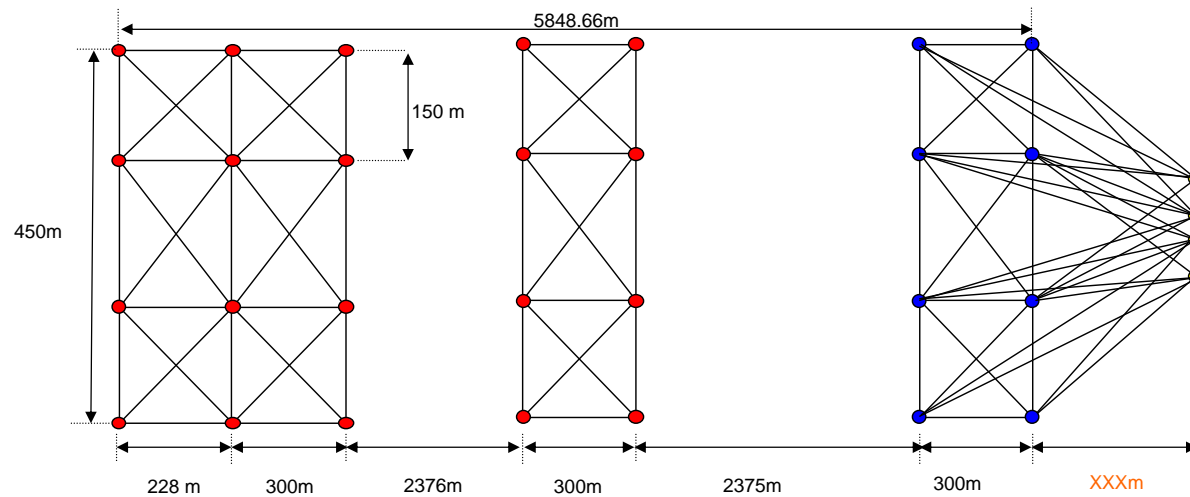




## R/V Marcus G. Langseth - Acoustic Offsets

### Sonardyne SIPS 1

- HGPS Transciever 7887 & Shock Mounted Transducer 7660
- XSRS 8005 Acoustic Transceiver (Longlife Battery)
- XSRS 7885 Acoustic Transceiver
- XSRS 8018 ASV (Combined Transceiver and Velocimeter)



All measurements in meters



# r/v Marcus G. Langseth - Gun Configuration

DT = Depth Transducer  
A = Acoustic  
P = Pressure Sensor - located  
in front of gun's 1 & 2

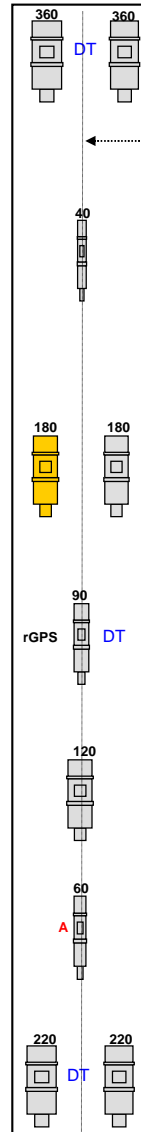
Center of Source 1 & 2



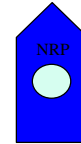
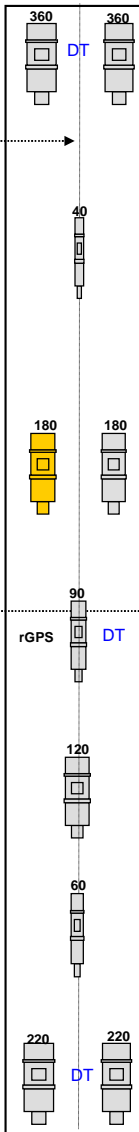
Cluster Guns are mounted 1m apart  
String 1 cluster 9 & 10 mounted  
horizontally  
String 2, 3, & 4 all clusters mounted  
vertically.

All measurements in meters

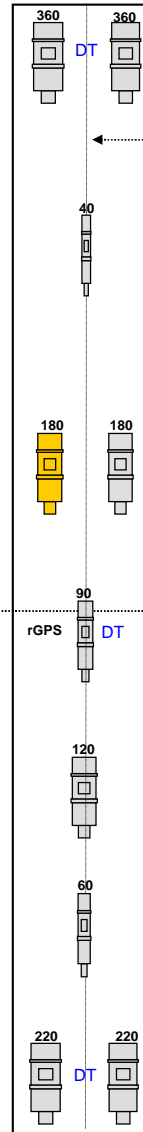
GUNSTRING 4



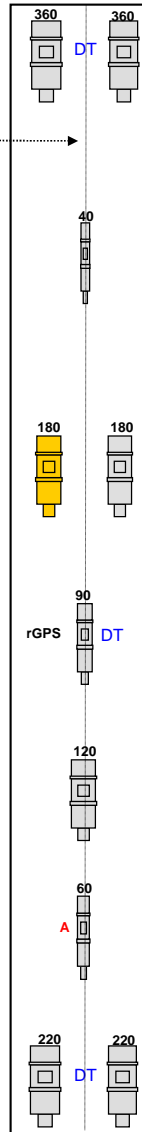
GUNSTRING 3



GUNSTRING 2



GUNSTRING 1



C  
e  
n  
t  
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r  
  
o  
f  
  
S  
o  
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2

C  
e  
n  
t  
e  
r  
  
o  
f  
  
S  
o  
u  
r  
c  
e  
  
1

3.23m  
2.36m  
2.64m  
2.46m  
2.31m  
3.0m

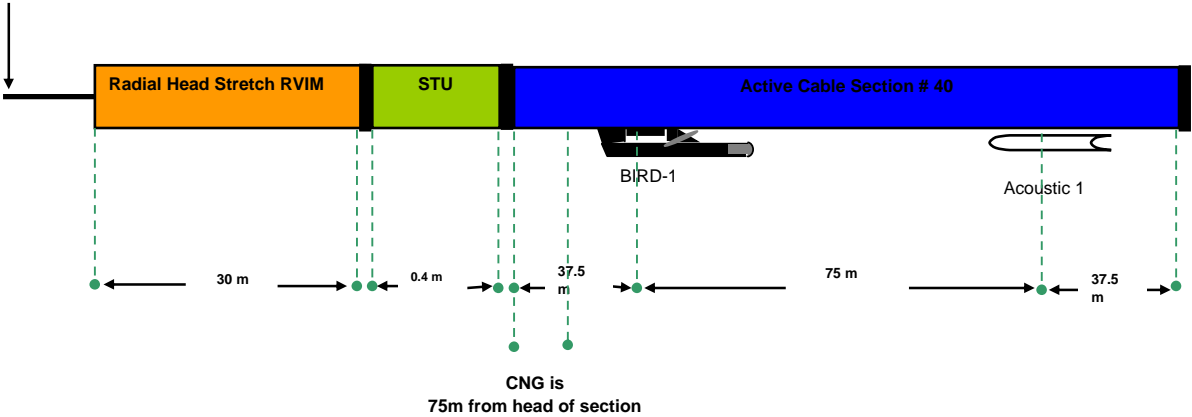
8.0m

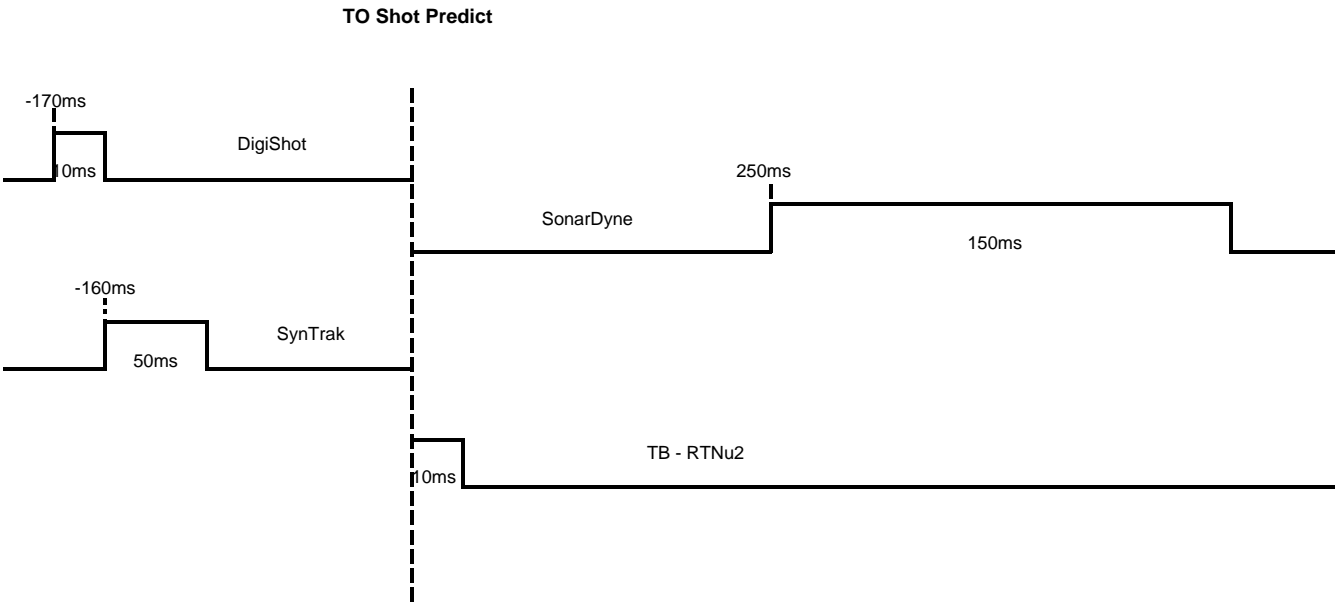
8.0m

75m

R/V Marcus G. Langseth - Streamer Front End

Lead-in:  
Outer = 505m  
Inner = 465m





## Spectra timing for r/v Marcus G. Langseth

