

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

Project : MGL-0814 Gulick
Area : St. Elias Erosion
Start Date : 09 September 2008



Full Service Navigation, Positioning, and

NCS SubSea
(Australasia) Pty Ltd
Unit 2, 22 Cohn St.
Carlisle, Western
Australia
Phone 61 8 9355 5207
Fax 61 8 9355 5141

NCS SubSea Inc
Houston Office
3928 Bluebonnet
Stafford, Texas 77477
Phone 281-491-3123
Fax 281-491-3105
Info@ncs-subsea.com

www.ncs-subsea.com

[Vessel Sensor Offsets](#)

[Towing Offsets](#)

[Acoustic Offsets](#)

[Gun Array Offsets](#)

[Gun Configuration](#)

[Streamer Front End](#)

[Tailbuoy Offsets](#)

[Timing](#)



The logo for NCS SubSea, featuring the letters 'NCS' in a large, bold, blue font, with 'SM' in a smaller font to the right. Below 'NCS' is the word 'SubSea' in a blue, sans-serif font. The background of the logo is a photograph of a ship's deck with various equipment.

NCSSM
SubSea

and Survey Solutions

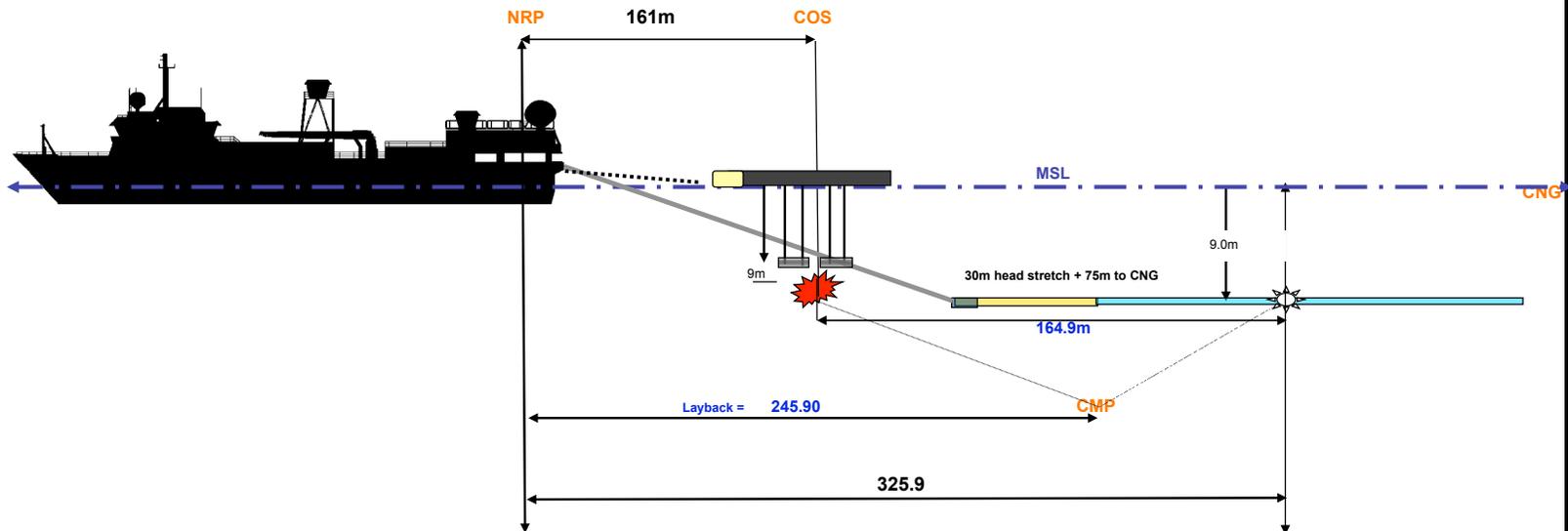
NCS SubSea Inc
Houma Office
148 Thompson Rd.
Houma, LA 70363

www.ncs.com



R/V Marcus G. Langseth - Towing Offsets

*** Offsets used for sequences ***

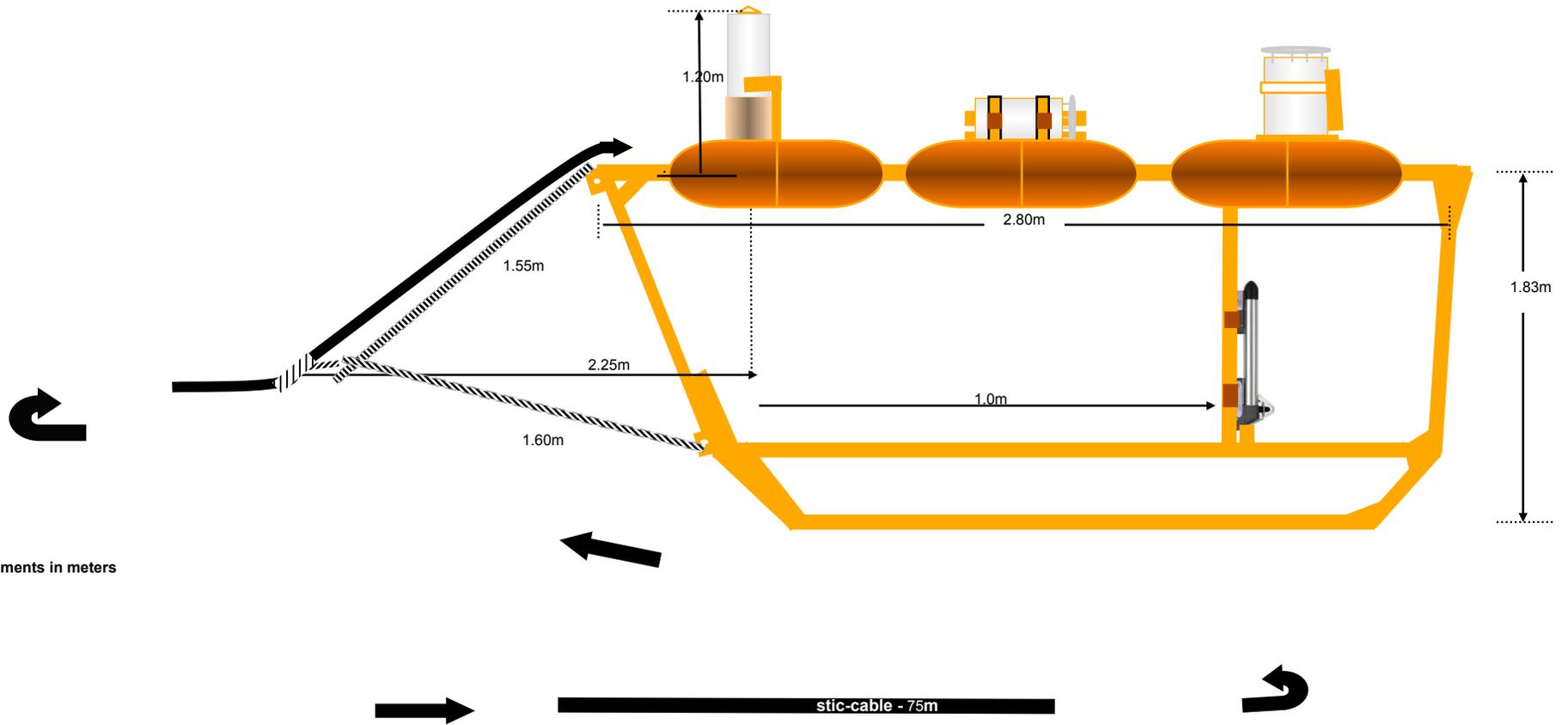


*** Offsets used for acquisition ***				
NRP-Stem	4.20 m		NRP	Nav Reference Point
NRP-COS	161.00 m	211m	COS	Centre of Source
NRP-CNG	325.90 m	375.9m	CNG	Centre of Near Group (Trace # 001)
COS-CNG	164.90 m	164.9m	CMP	Common Mid-Point
NRP-CMP	325.9 m	Layback 375.9m	MSL	Mean Sea Level

Numbers in **RED** apply to STEEP02 MCS and STEEP11

All measurements in meters

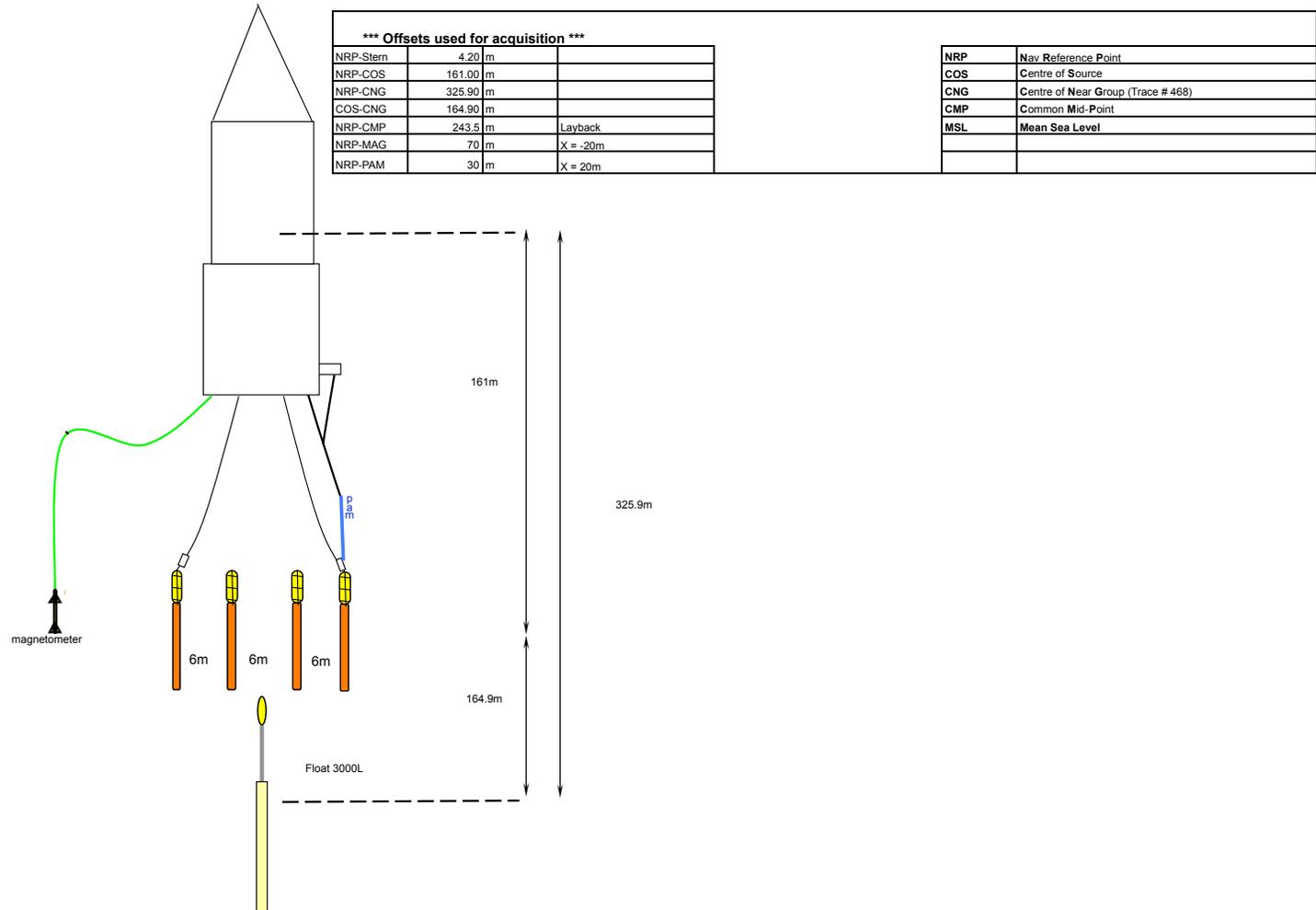
R/V Marcus G. Langseth - Tailbouy



r/v Marcus G. Langseth "tow" configuration

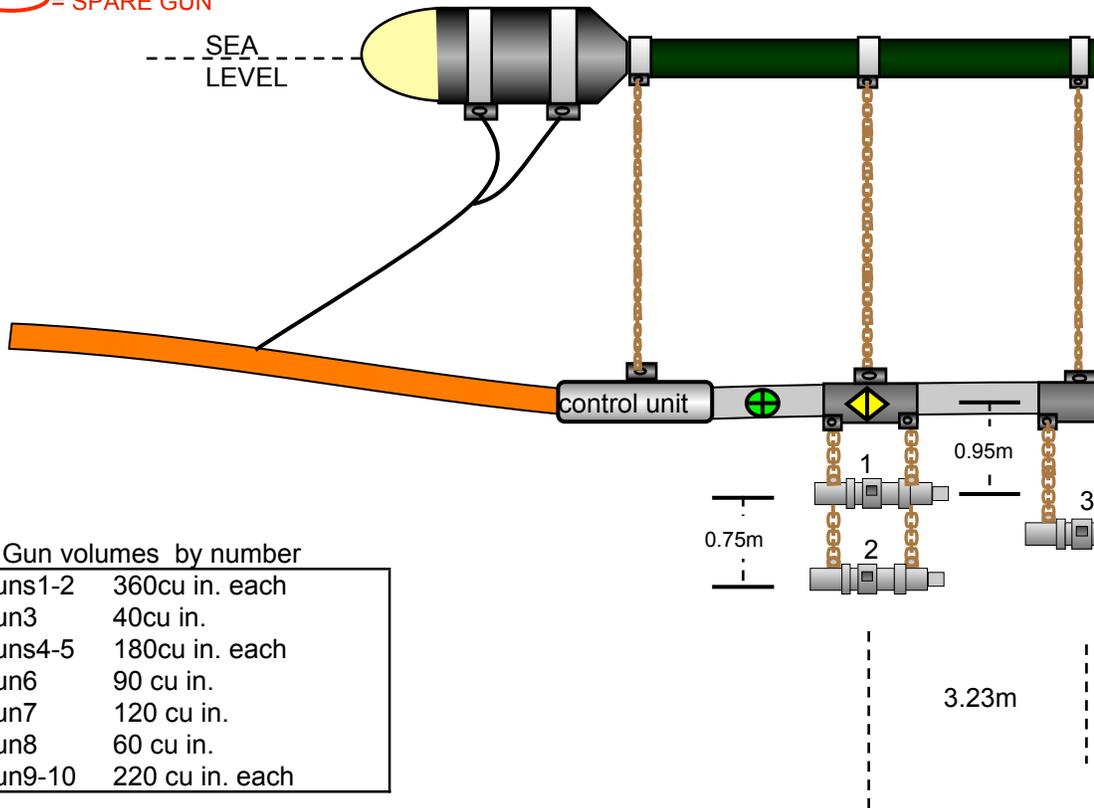
R/V Marcus Langseth
1 x 8100
4 Gunstrings

NOT to Scale



-  Sonardyne HGPS Transceiver 7887
-  Pressure Sensor
-  Depth Sensor

 = SPARE GUN

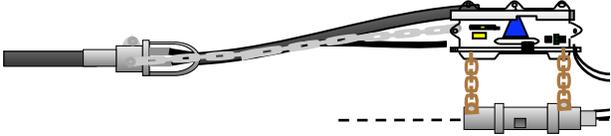


Gun volumes by number

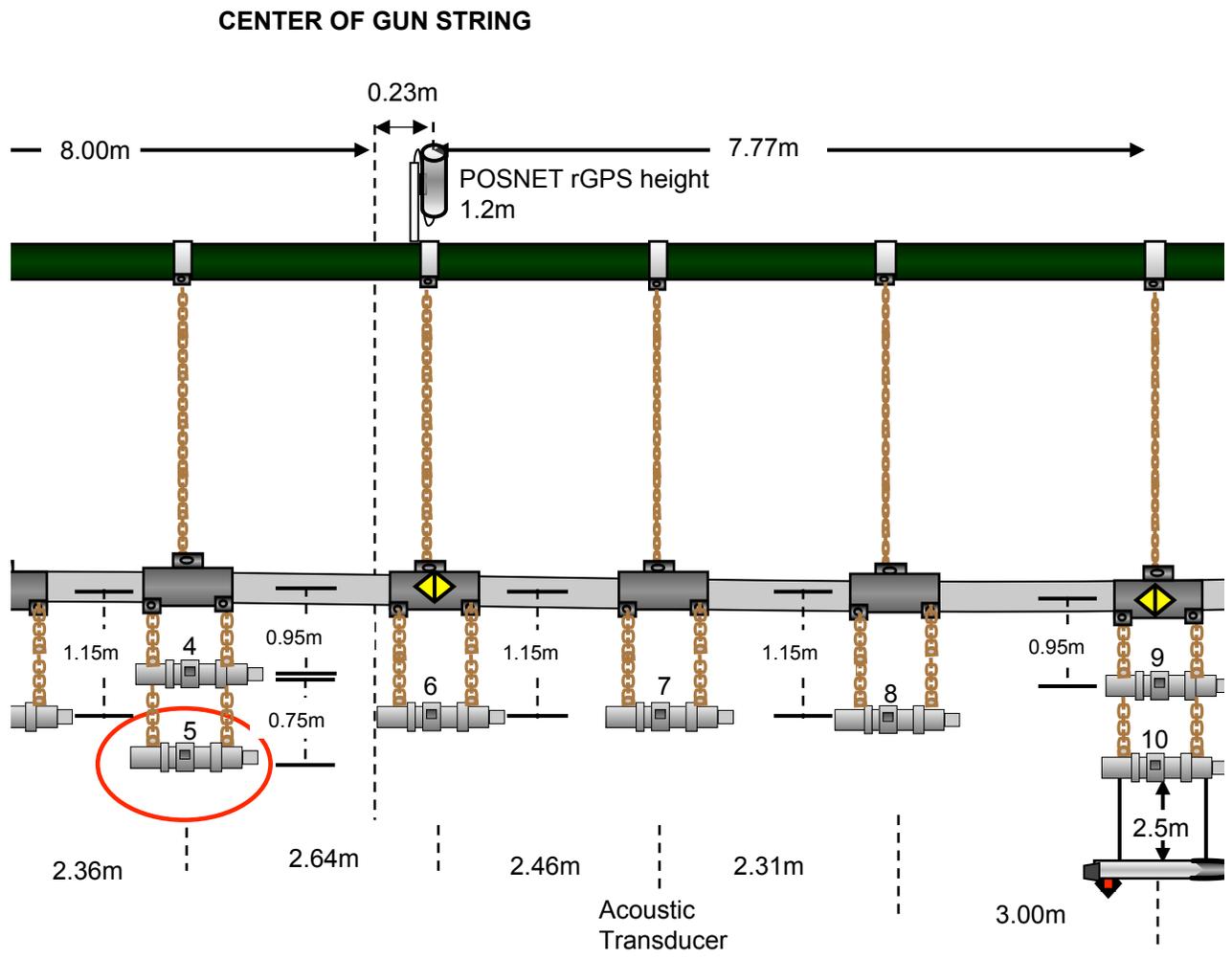
Guns1-2	360cu in. each
Gun3	40cu in.
Guns4-5	180cu in. each
Gun6	90 cu in.
Gun7	120 cu in.
Gun8	60 cu in.
Gun9-10	220 cu in. each

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

All gun volumes, numbering, locatio



rcus G. Langseth - Gun Array Offsets

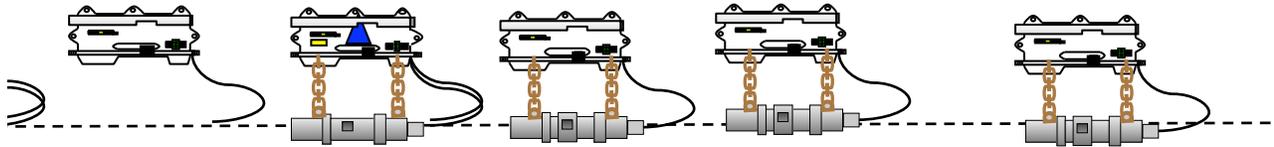


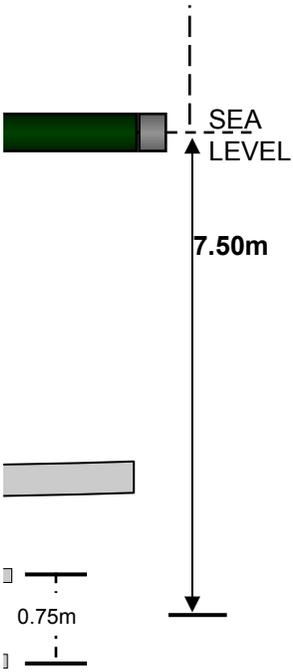
Clusters 4, 5, 6, 7, 8, 9, 10, have all clusters hanging vertically from center of hanger

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

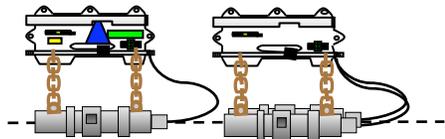
All measurements in meters

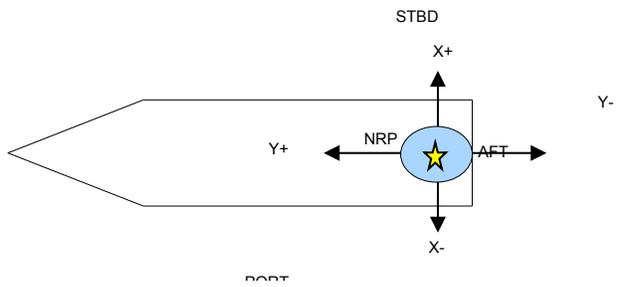
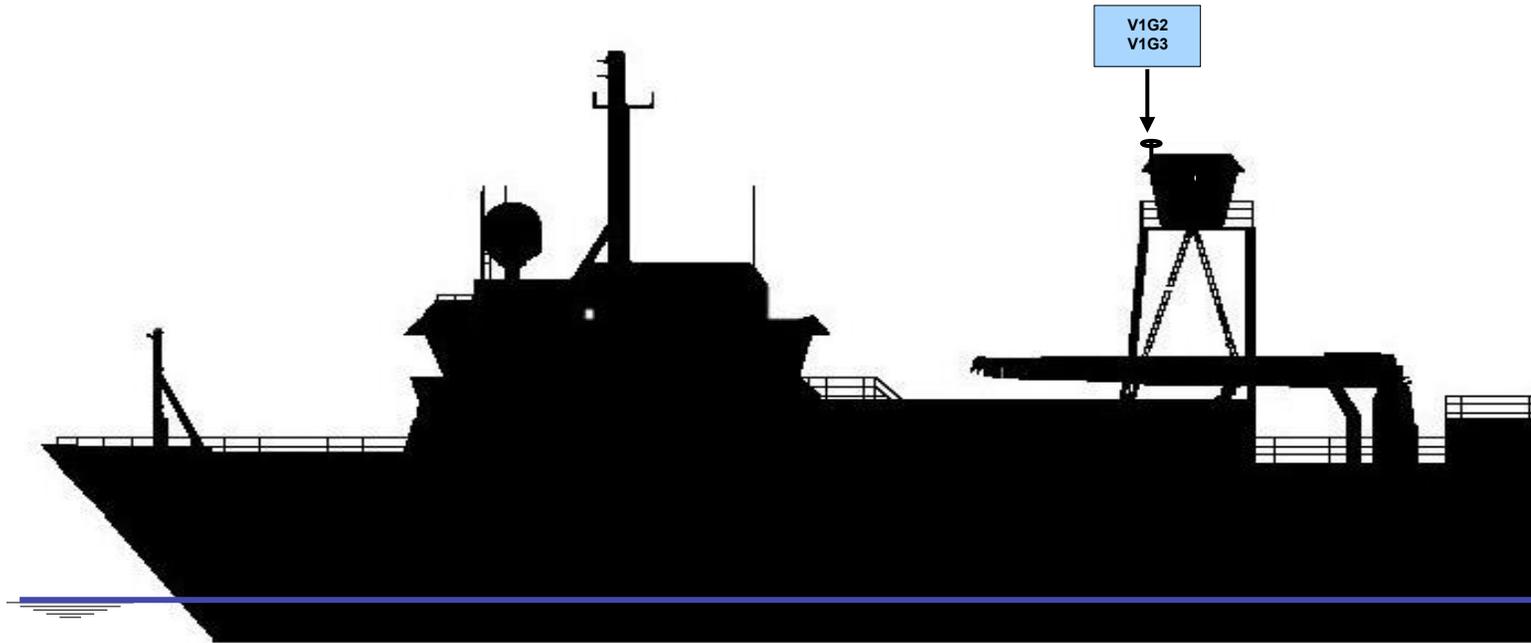
Dimensions, and offsets approved by chief gunner Tom Spoto.





scale



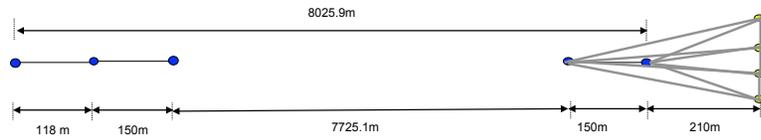


NRP	NAVIGATION REFERENCE P
V1G1	C-Nav
V1G2	SeaPath 200
V1G3	Pos MV
V1G4	PosNet
V1R1	PosNet

R/V Marcus G. Langseth - Acoustic Offsets

Sonardyne SIPS 1

- HGPS Transceiver 7887 & Shock Mounted Transducer 7660
- XSRS 8005 Acoustic Transceiver (Longlife Battery)



All measurements in meters

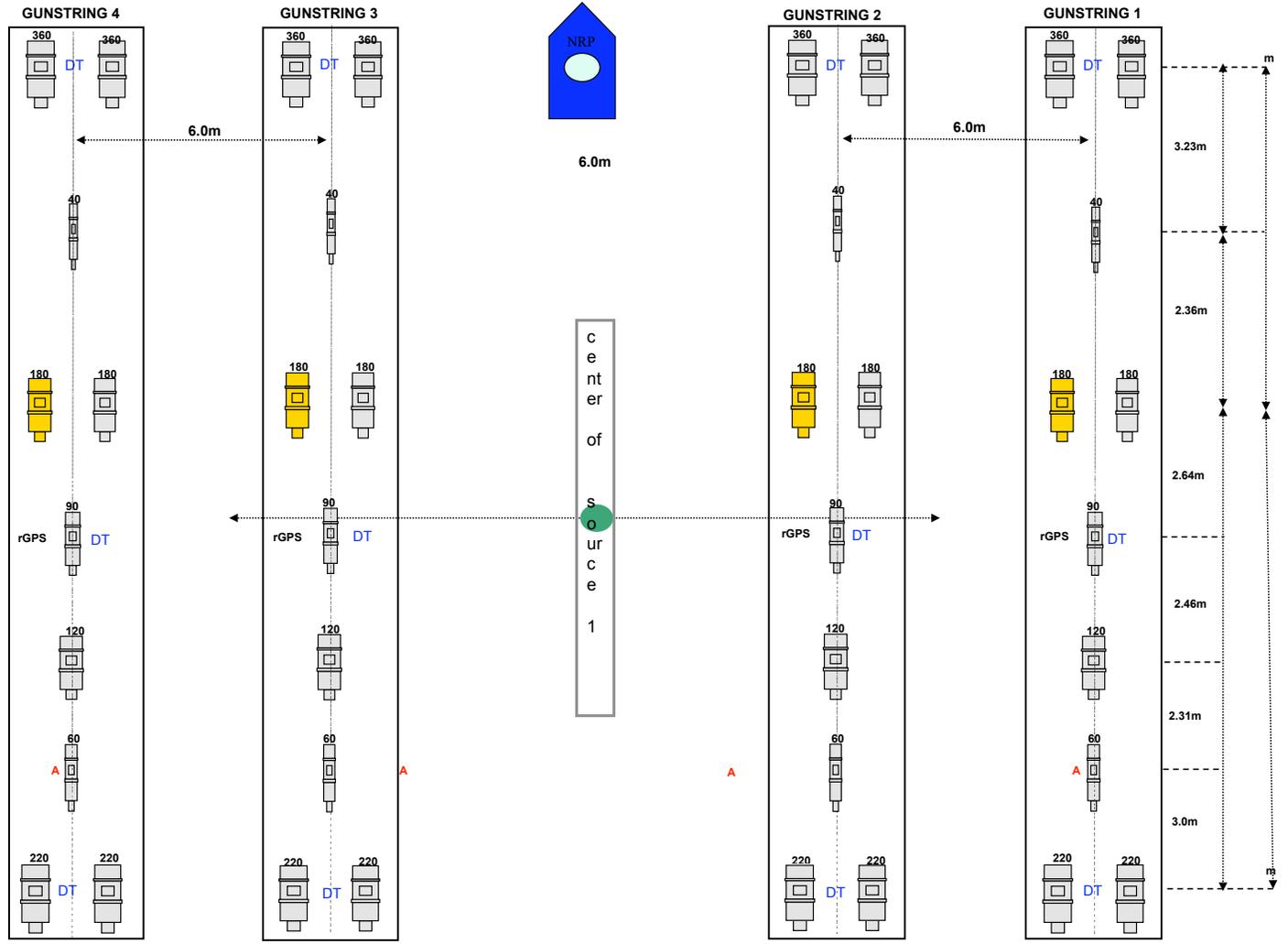
r/v Marcus G. Langseth - Gun Configuration

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

 Spare Gun

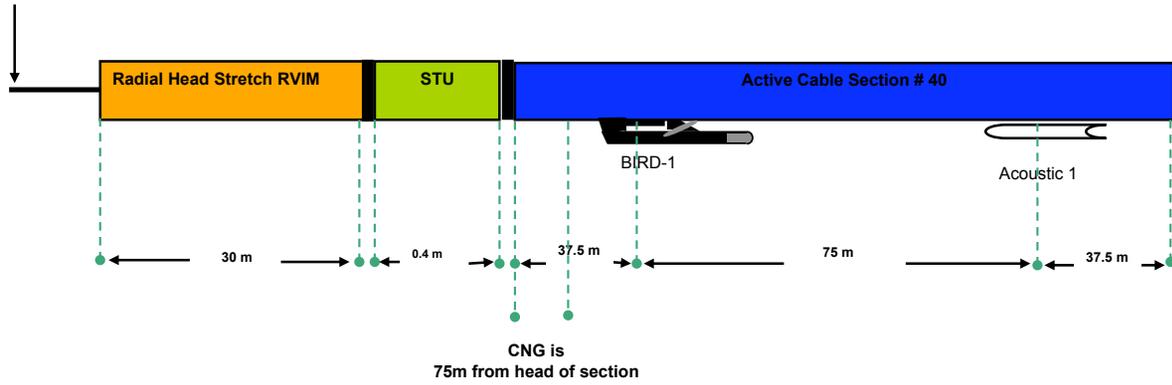
Cluster Guns are mounted 1m apart
 String 1 cluster 9 & 10 mounted horizontally
 String 2, 3, & 4 all clusters mounted vertically.

All measurements in meters



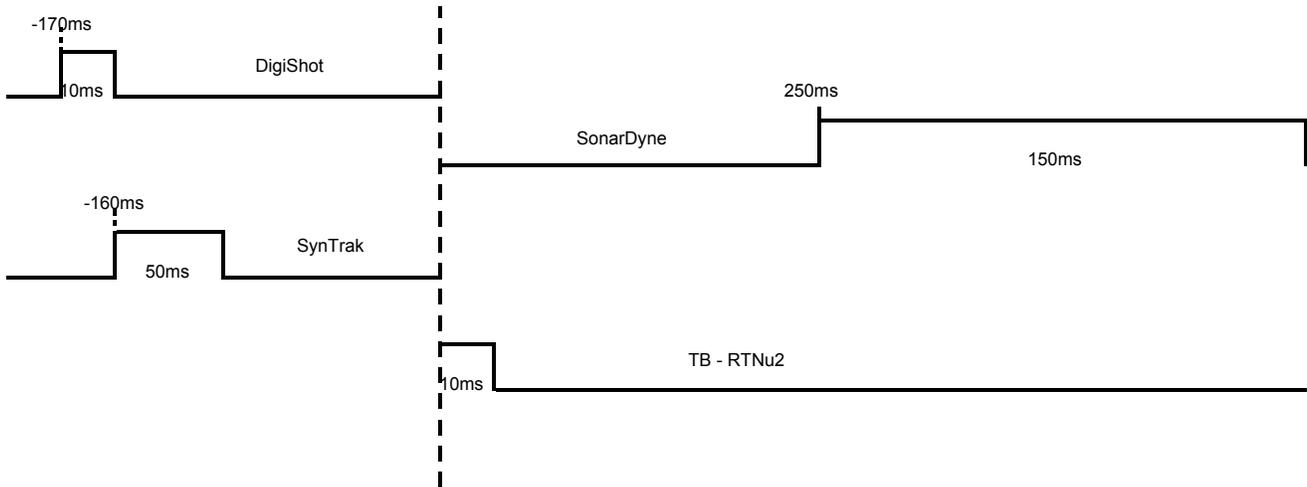
R/V Marcus G. Langseth - Streamer Front End

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



MGL0814

TO Shot Predict



TIMING

Gulick

Spectra timing for r/v Marcus G. Langseth

