

Company: L-DEO - Lamont - Doherty Earth Observatory  
Vessel: Marcus G. Langseth  
Client: Bangs / NSF

Project: MGL1801 -  
Area: North Island, New Zealand  
Start Date: 6-Jan-18

Vessel Sensor Offsets

Towing Offsets

Towing Configuration

Acoustic Overhead

Gun Array Offsets

Streamer Front End

Streamer Tail End

Streamer Complete

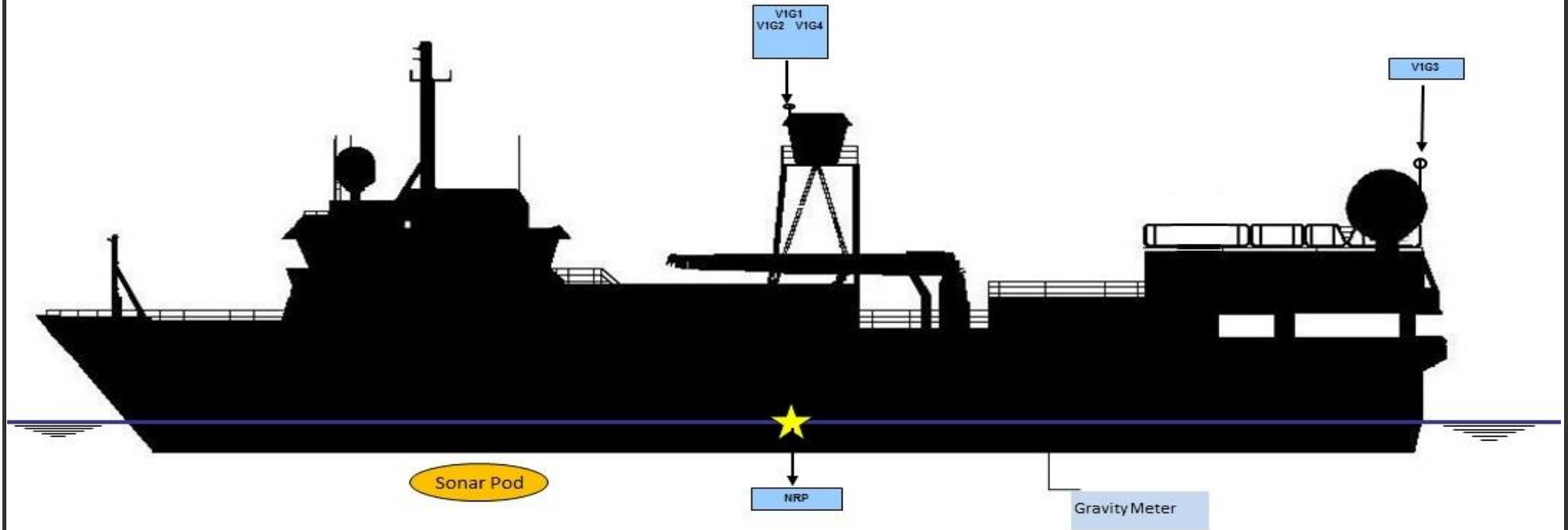
Hydrophone Offsets

Tailbuoy Offsets

Timing



## R/V Marcus G. Langseth - Vessel Sensor Offsets

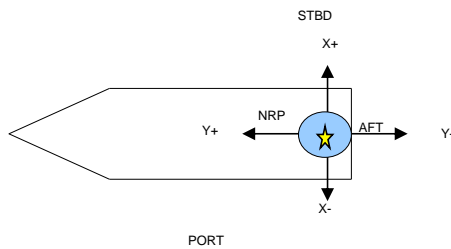


Negative values are above water line

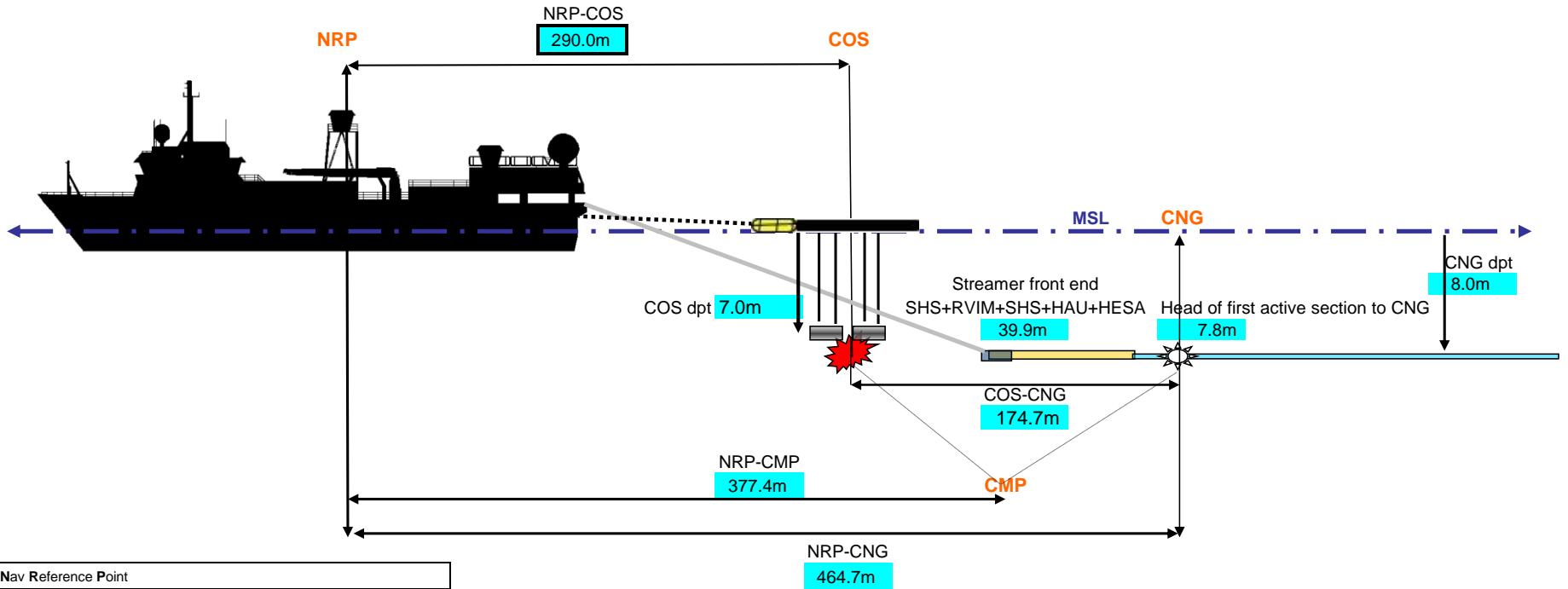
All measurements in meters



		STBD/PORT (X)	FORE/AFT (Y)	UP/DOWN (Z)
<b>NRP</b>	NAVIGATION REFERENCE POINT	0.00	0.00	0.00
<b>V1G1</b>	C-Nav 3050	0.00	0.00	-16.90
<b>V1G2</b>	SeaPath 200	0.00	1.50	-16.90
<b>V1G3</b>	C-Nav 2000	-2.10	-29.20	-14.50
<b>V1G4</b>	Pos MV	-1.30	1.20	-16.90
<b>V1R1</b>	PosNet	-1.30	0.00	-16.90
<b>Sonar Pod</b>	EM122 Knudsen ADCP	0.00	20.20	7.49
	EM122 Center Beam offset (in Spectra)	0.00	13.4	7.49
<b>MRU</b>	Seapath MRU	2.30	14.16	-4.30
<b>BGM</b>	Bell Gravity Meter	0.00	-13.10	1.10



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



NRP	Nav Reference Point
COS	Centre of Source
CNG	Centre of Near Group      Trace # 1      Of S1
CMP	Common Mid-Point
MSL	Mean Sea Level
NRP-Stern	29.5m
NRP-COS	290.0m

All measurements in meters

Cell contents referenced from Config\_offsets tab

### R/V Marcus G. Langseth - Towing Configuration

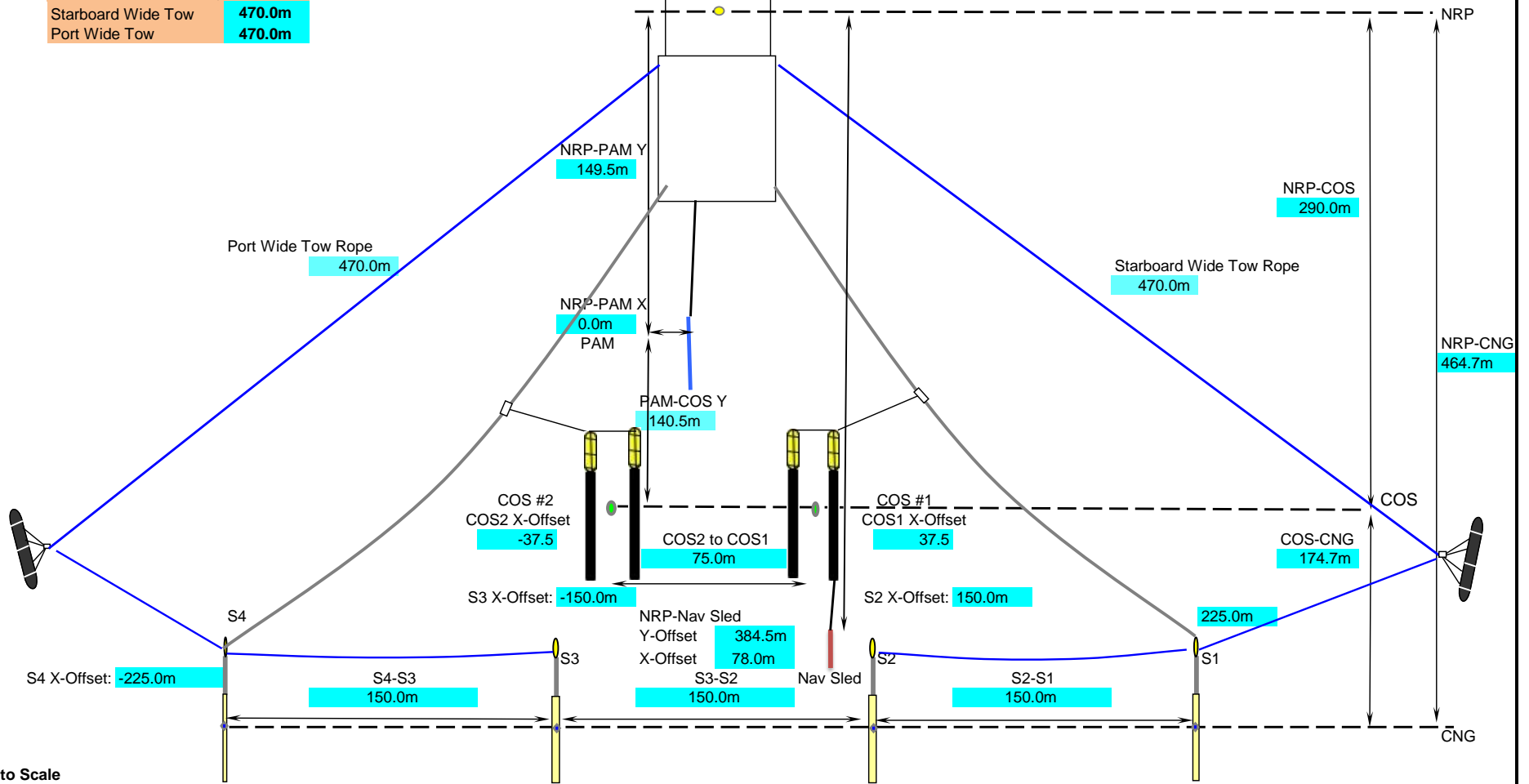
Streamer	Lead-in out	Length	Channels	Spacing
1	465.0m	5850.0m	468	12.5m
2	370.0m	5850.0m	468	12.5m
3	370.0m	5850.0m </td <td>468</td> <td>12.5m</td>	468	12.5m
4	465.0m	5850.0m	468	12.5m

#### # Gun Strings Used

Source 1	subarrays 1 and 2	Vol (in^3)	3300
Source 2	subarrays 3 and 4	Vol (in^3)	3300

#### Wide Tow Rope Deployed

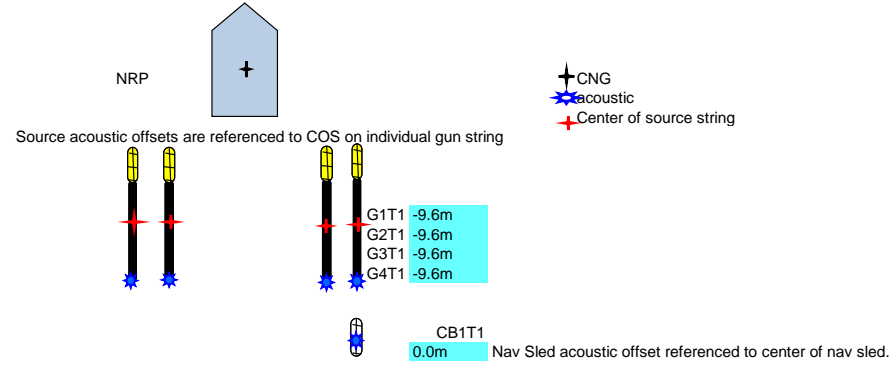
Starboard Wide Tow	470.0m
Port Wide Tow	470.0m



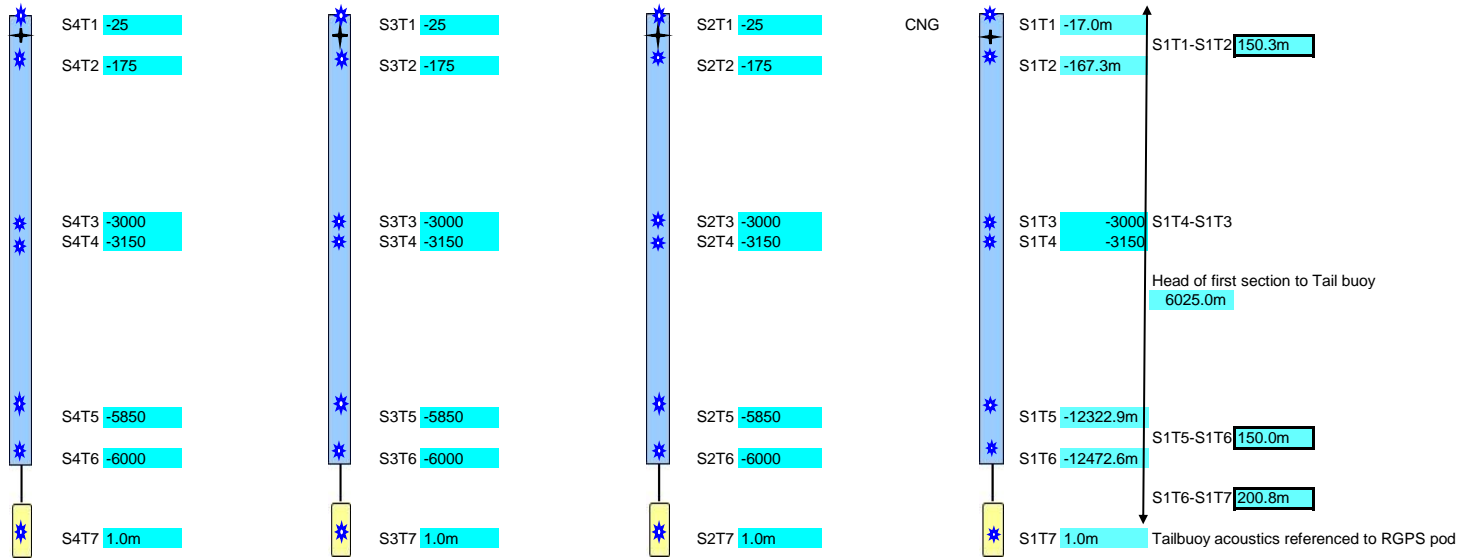
NOT to Scale

Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Acoustic Offsets



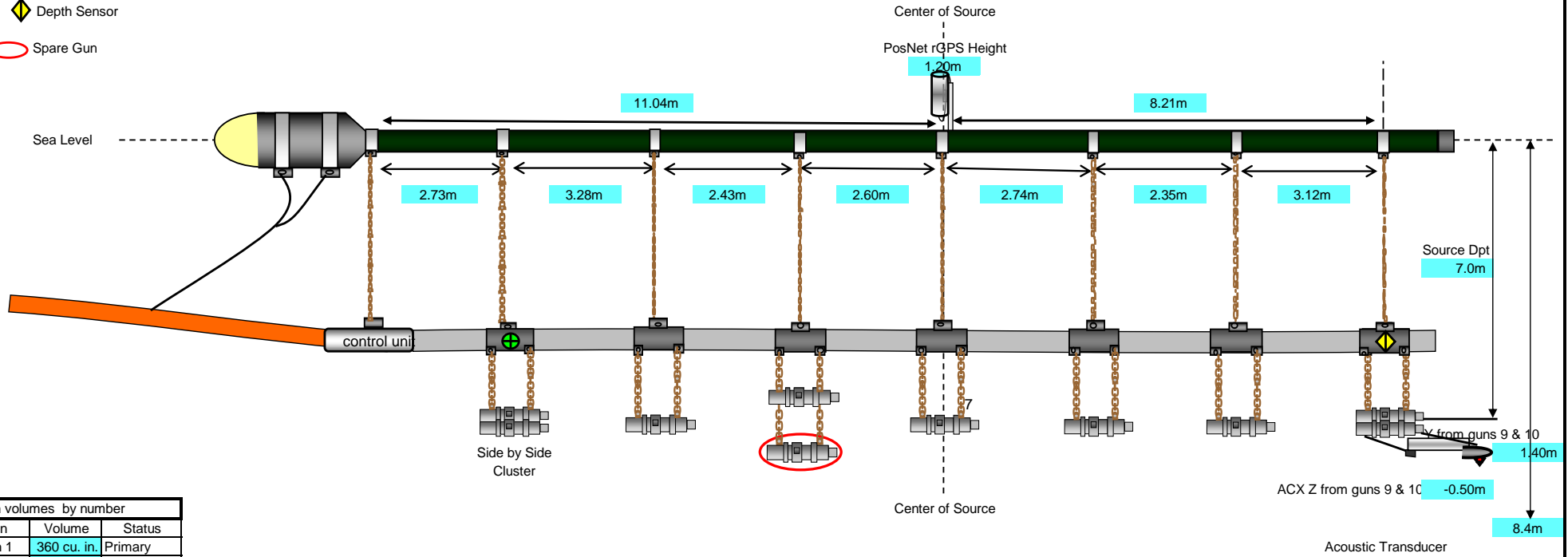
Streamer acoustic offsets are referenced to CNG on individual streamer



Cell contents referenced from Config\_offsets tab

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

- Pressure Sensor
- Depth Sensor
- Spare Gun



Gun volumes by number		
Gun	Volume	Status
Gun 1	360 cu. in.	Primary
Gun 2	360 cu. in.	Primary
Gun 3	40 cu. in.	Primary & Mitigation
Gun 4	180 cu. in.	Primary
Gun 5	180 cu. in.	Spare
Gun 6	90 cu. in.	Primary
Gun 7	120 cu. in.	Primary
Gun 8	60 cu. in.	Primary
Gun 9	220 cu. in.	Primary
Gun 10	220 cu. in.	Primary

Array total volume (without spares) is 3300 cu. in.  
 Guns (1 & 2) in a horizontal cluster, (5 & 6) and (9 & 10) in a vertical cluster  
 Gun clusters have 0.75m between guns and hang 0.95m from center of hanger

Total volume/string (without spare) 1650 cu. in.  
 Horizontal Clusters are 1m from gun port to gun port  
 Single guns hang from hanger 1.15m

All gun volumes, numbering, locations, and offsets were inspected and verified by Chief Source Mechanic.

All measurements in meters  
 NOTE: drawing not to scale

Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Gun Configuration

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

● Center of Source

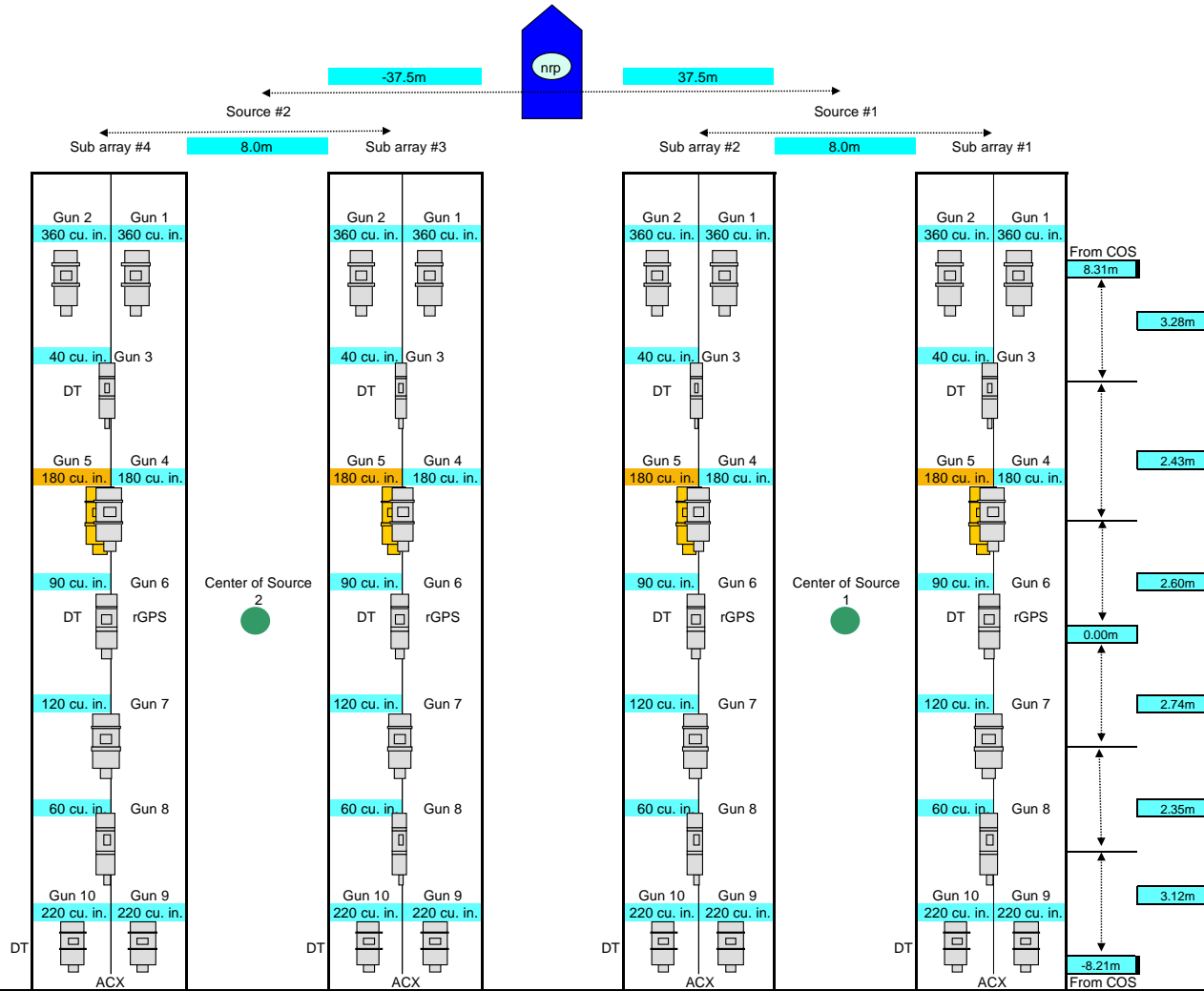


Gun Clusters  
 Guns 1 & 2 horizontal array  
 Guns 4 & 5 vertical array  
 Guns 9 & 10 horizontal array

Gun Offsets relative to Center of String

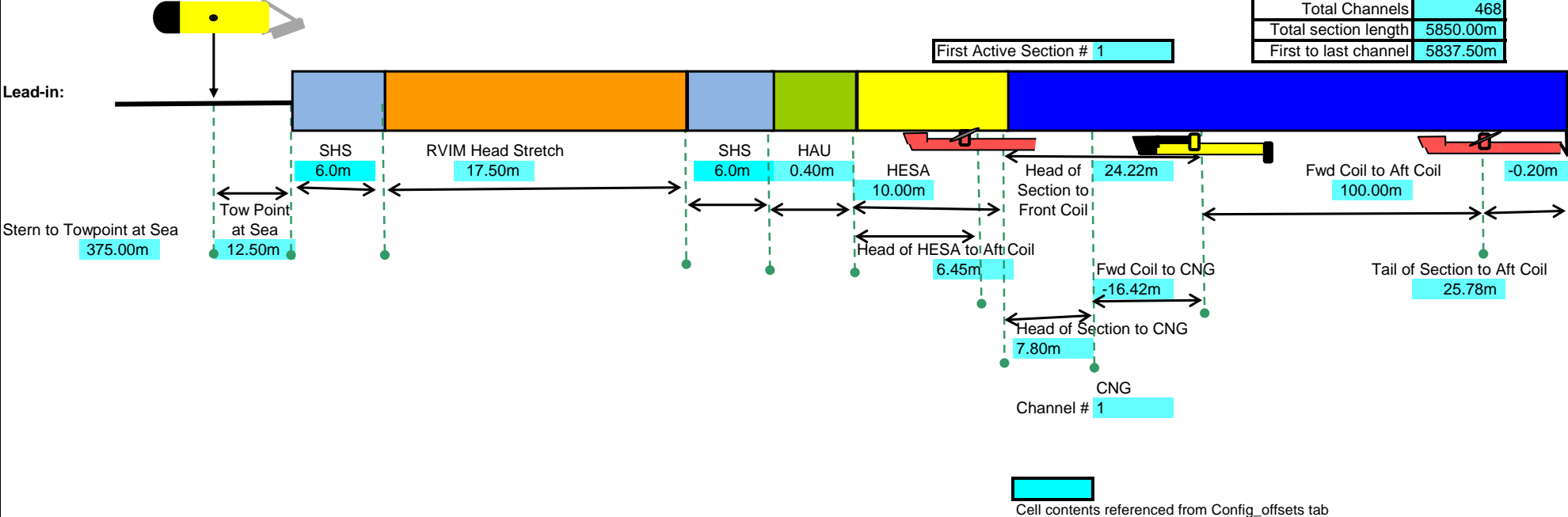
	X	Y
Gun 1	0.50m	8.31m
Gun 2	-0.50m	8.31m
Gun 3	0.00m	5.03m
Gun 4	0.00m	2.60m
Gun 5	0.00m	2.60m
Gun 6	0.00m	0.00m
Gun 7	0.00m	-2.74m
Gun 8	0.00m	-5.09m
Gun 9	0.50m	-8.21m
Gun 10	-0.50m	-8.21m

All measurements in meters



# R/V Marcus G. Langseth - Streamer Front End

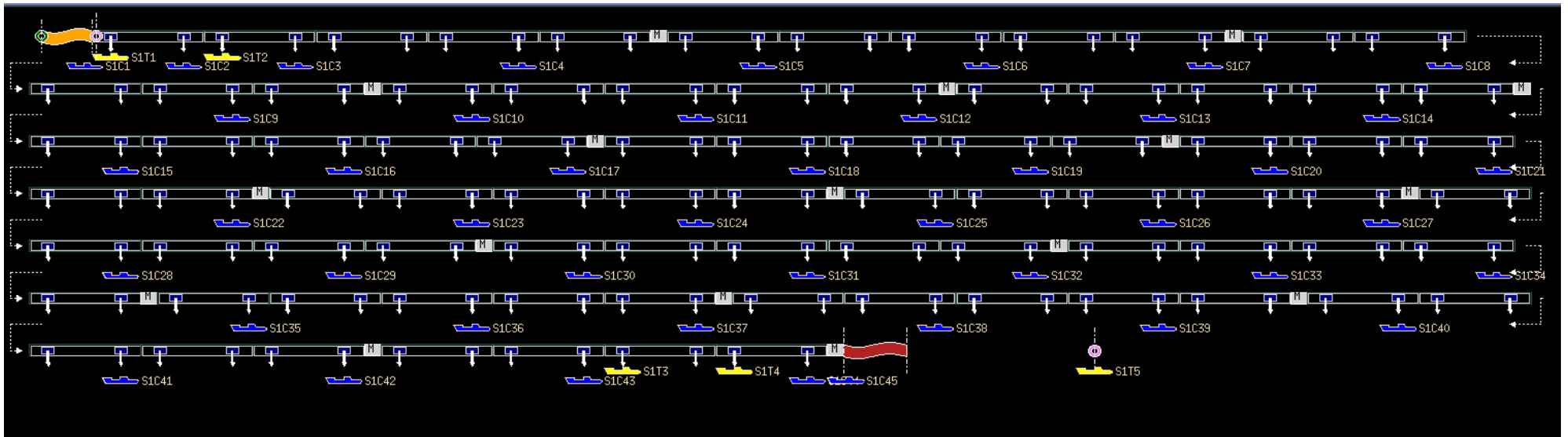
Total active sections	39
Total Channels	468
Total section length	5850.00m
First to last channel	5837.50m





# R/V Marcus G. Langseth - Streamer Complete

Total active sections	39
Total Channels	468
Total section length	5850.00m
First to last channel	5837.50m

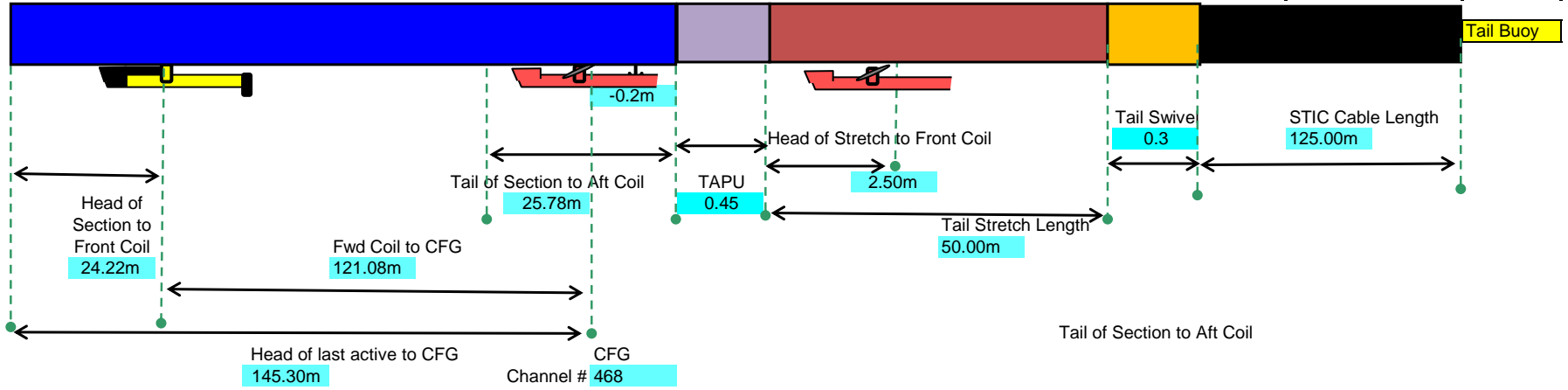


Cell contents referenced from Config\_offsets tab

### R/V Marcus G. Langseth - Streamer Tail End

Total active sections	39
Total Channels	468
Total section length	5850.00m
First to last channel	5837.50m
CFG to TB RGPS	181.95m

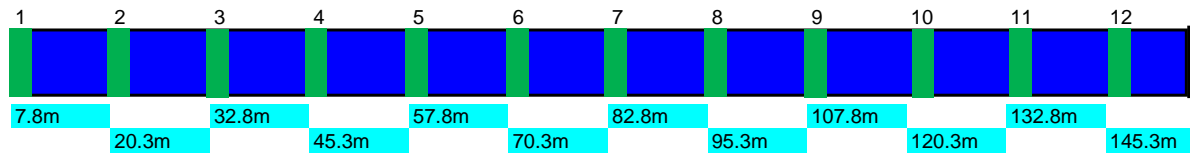
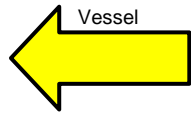
Last Active Section # 39



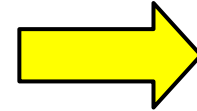
Cell contents referenced from Config\_offsets tab

R/V Marcus G. Langseth - Hydrophone Offsets  
Sercel 150meter SSAS

Number of SSAS Sections 39  
Channels per active section 12  
Total channels 468

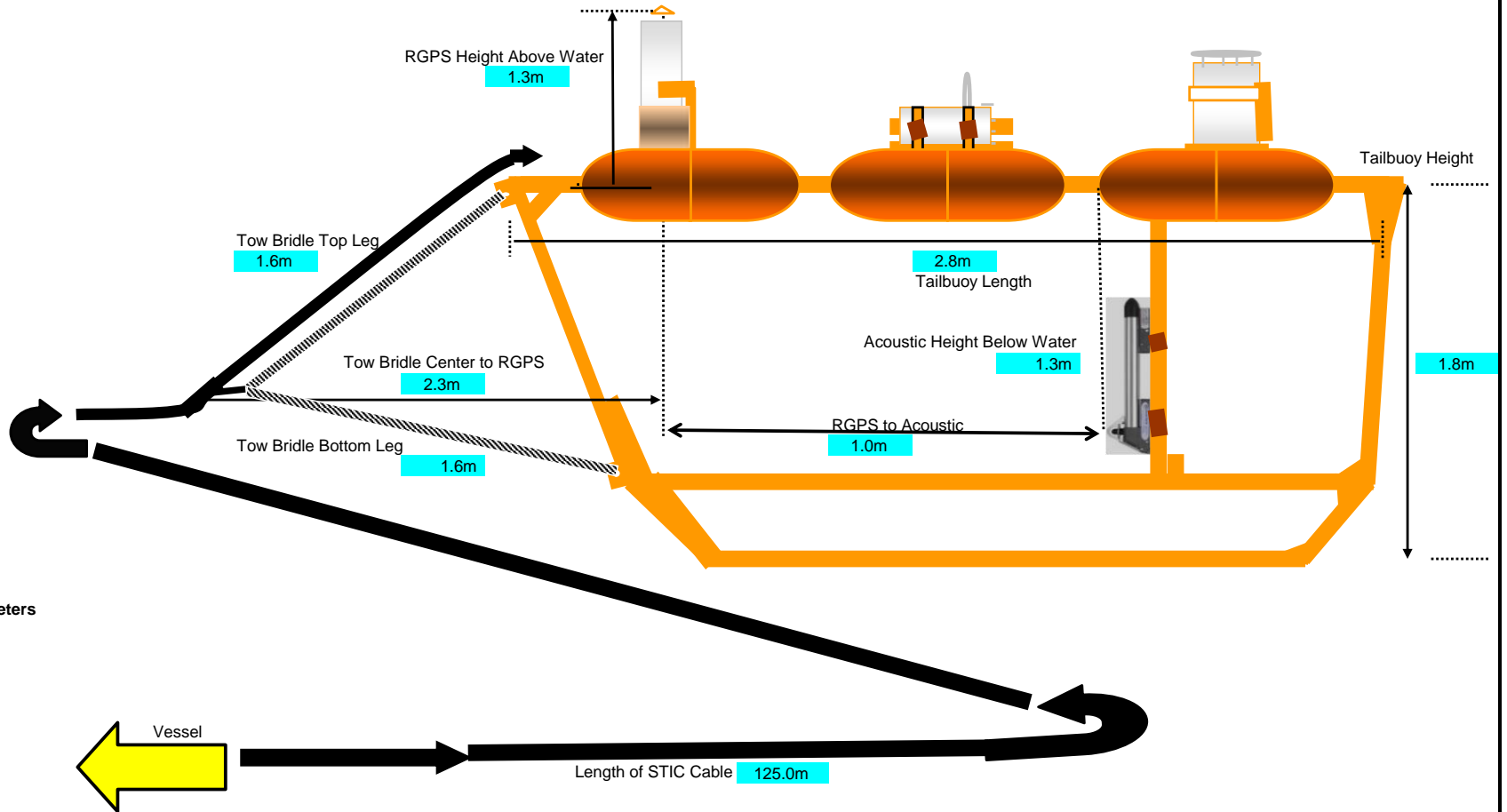


Tail buoy



Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Tailbuoy



All measurements in meters

Cell contents referenced from Config\_offsets tab

