

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

Project: MGL1701 - CEVICHE

Area: South Atlantic Ocean, Chile

Start Date: 10-Jan-17

Vessel Sensor Offsets

Towing Offsets

Towing Configuration

Acoustic Overhead

Gun Array Offsets

Streamer Front End

Streamer Tail End

Streamer Complete

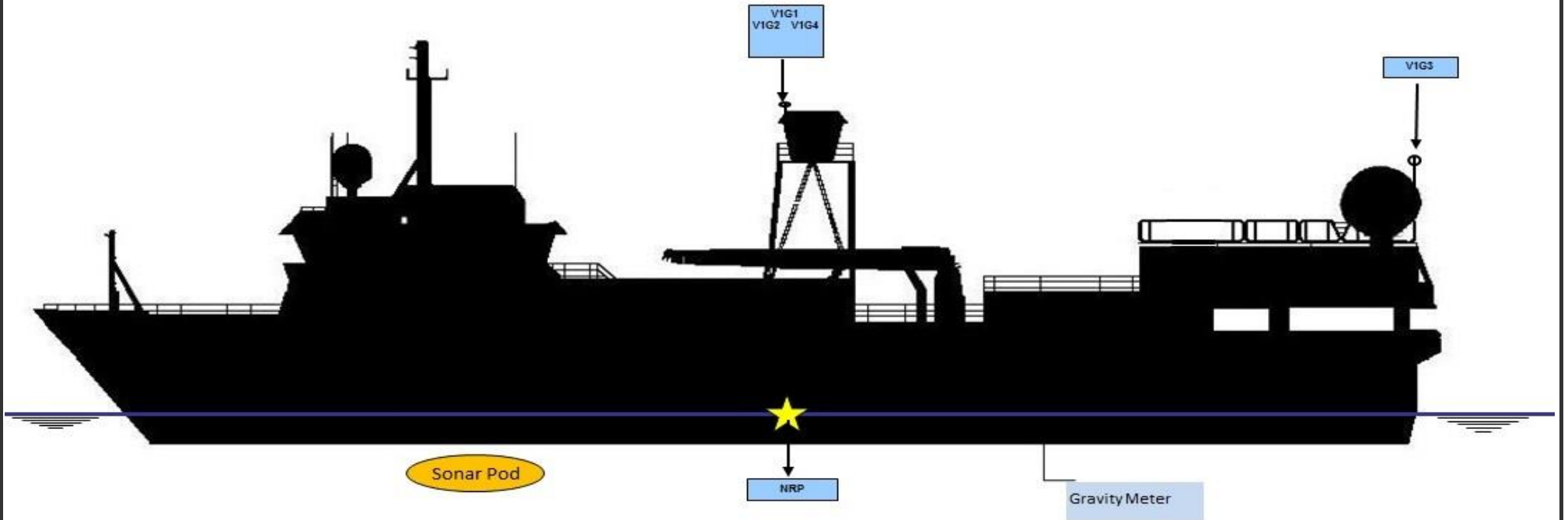
Hydrophone Offsets

Tailbuoy Offsets

Timing



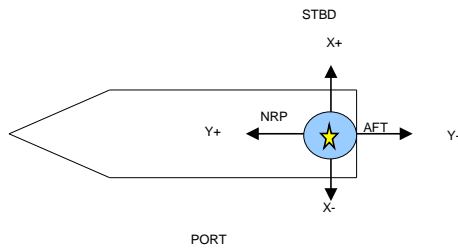
## R/V Marcus G. Langseth - Vessel Sensor Offsets



Negative values are above water line  
All measurements in meters

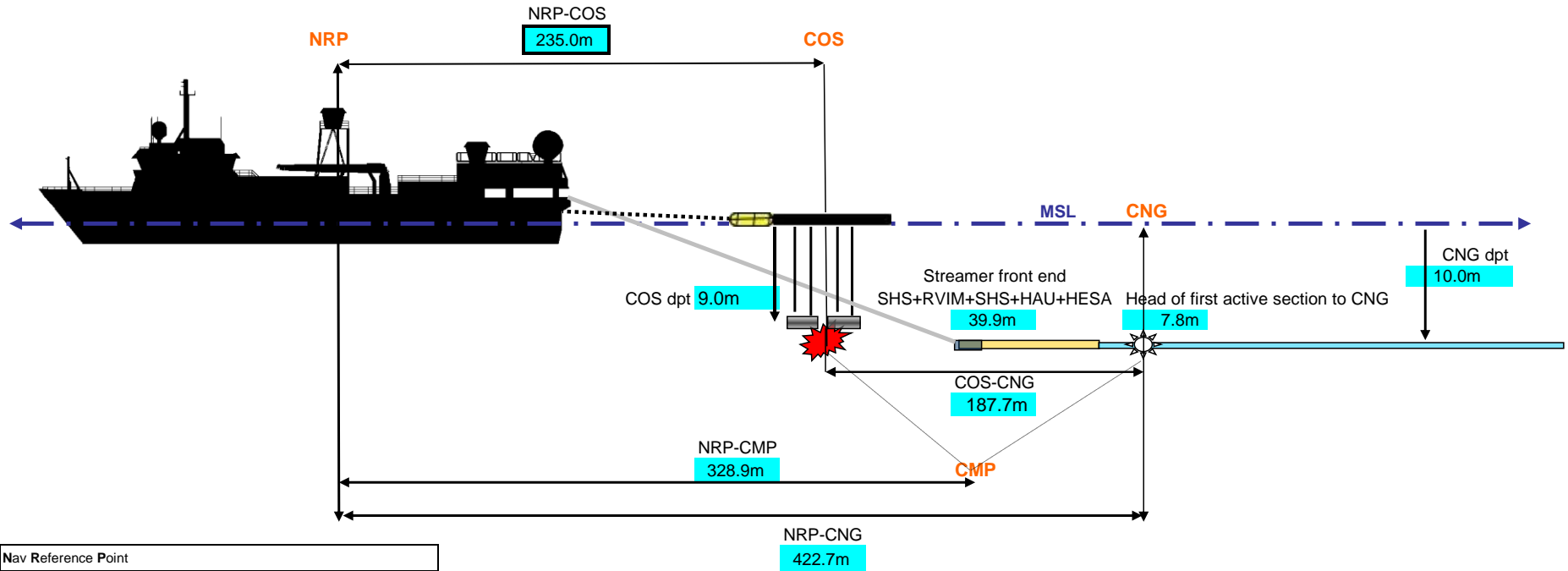


		STBD/PORT (X)	FORE/AFT (Y)	UP/DOWN (Z)
<b>NRP</b>	NAVIGATION REFERENCE POINT	0.00	0.00	0.00
<b>V1G1</b>	C-Nav 3050	0.00	0.00	-16.90
<b>V1G2</b>	SeaPath 200	0.00	1.50	-16.90
<b>V1G3</b>	C-Nav 2000	-2.10	-29.20	-14.50
<b>V1G4</b>	Pos MV	-1.30	1.20	-16.90
<b>V1R1</b>	PosNet	-1.30	0.00	-16.90
<b>Sonar Pod</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



Note: All Echosounders are used in Spectra with 6.6m ship's draft correction applied.

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



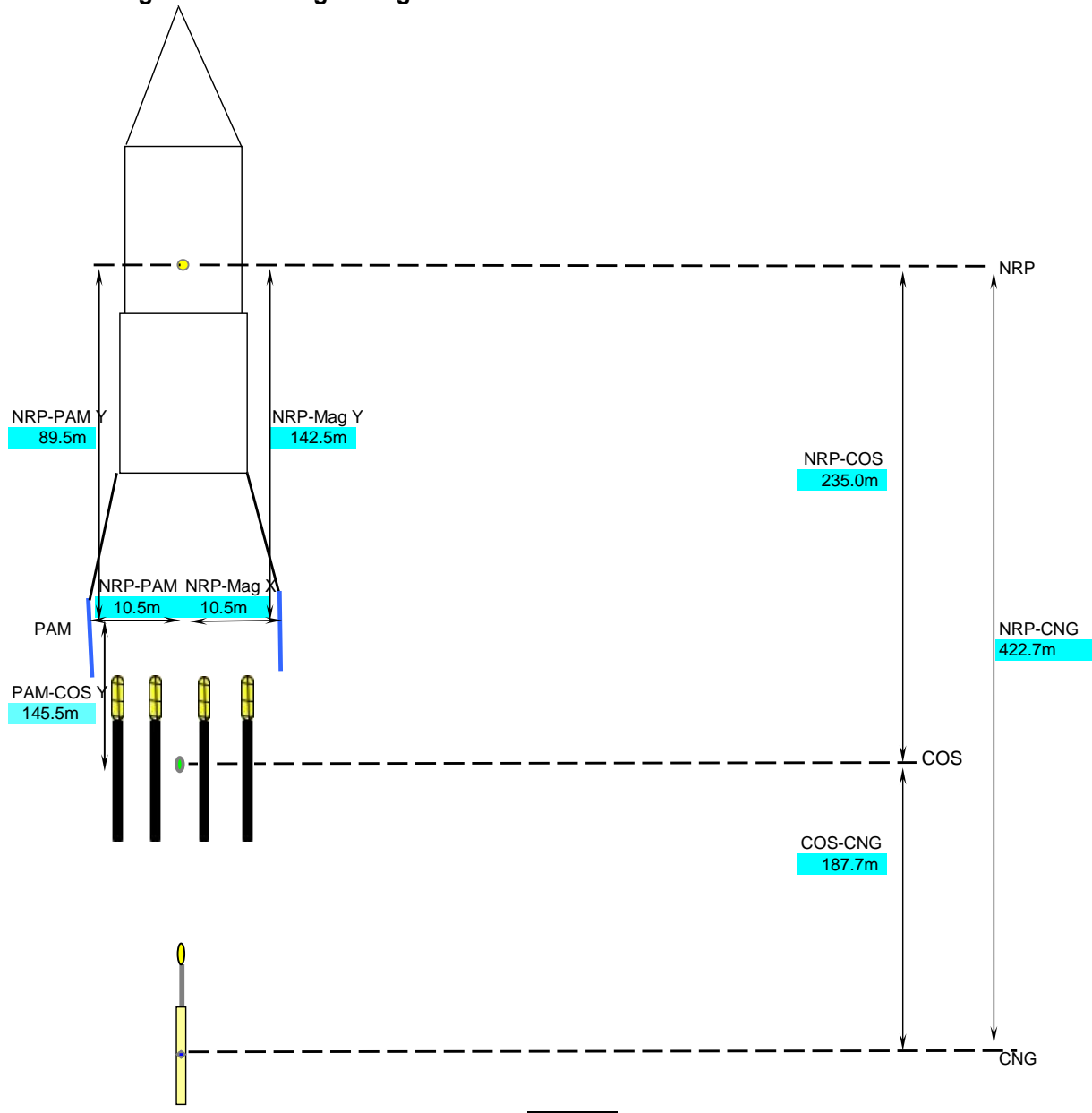
NRP	Nav Reference Point	
COS	Centre of Source	
CNG	Centre of Near Group	Trace # 1 Of S1
CMP	Common Mid-Point	
MSL	Mean Sea Level	
NRP-Sterr	29.5m	
NRP-COS	235.0m	

All measurements in meters

Cell contents referenced from Config\_offsets tab

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

	# Streamers	Length	Channels	Spacing
SEAL	1	15150	1212	12.5m
# Gun Strings Used	4		Vol (in^3)	6600



NOT to Scale

Cell contents referenced from Config\_offsets tab

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

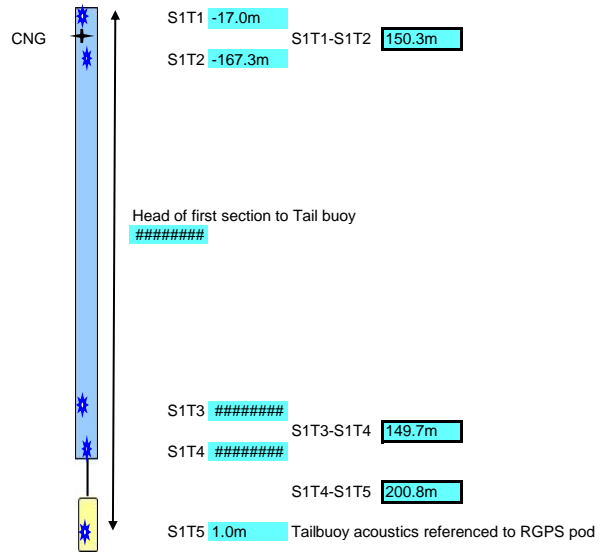


Source acoustic offsets are referenced to COS on individual gun string



- G1T1 -9.6m
- G2T1 -9.6m
- G3T1 -9.6m
- G4T1 -9.6m

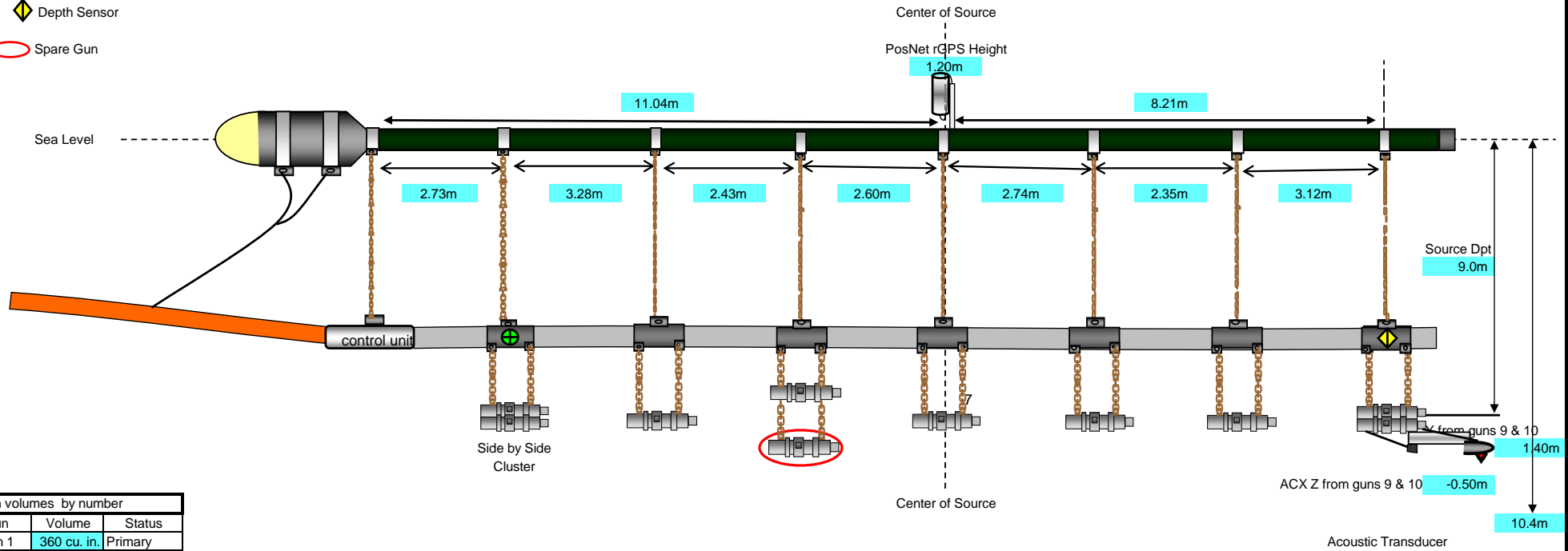
Streamer acoustic offsets are referenced to CNG on individual streamer



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 6600 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 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



Spare Gun

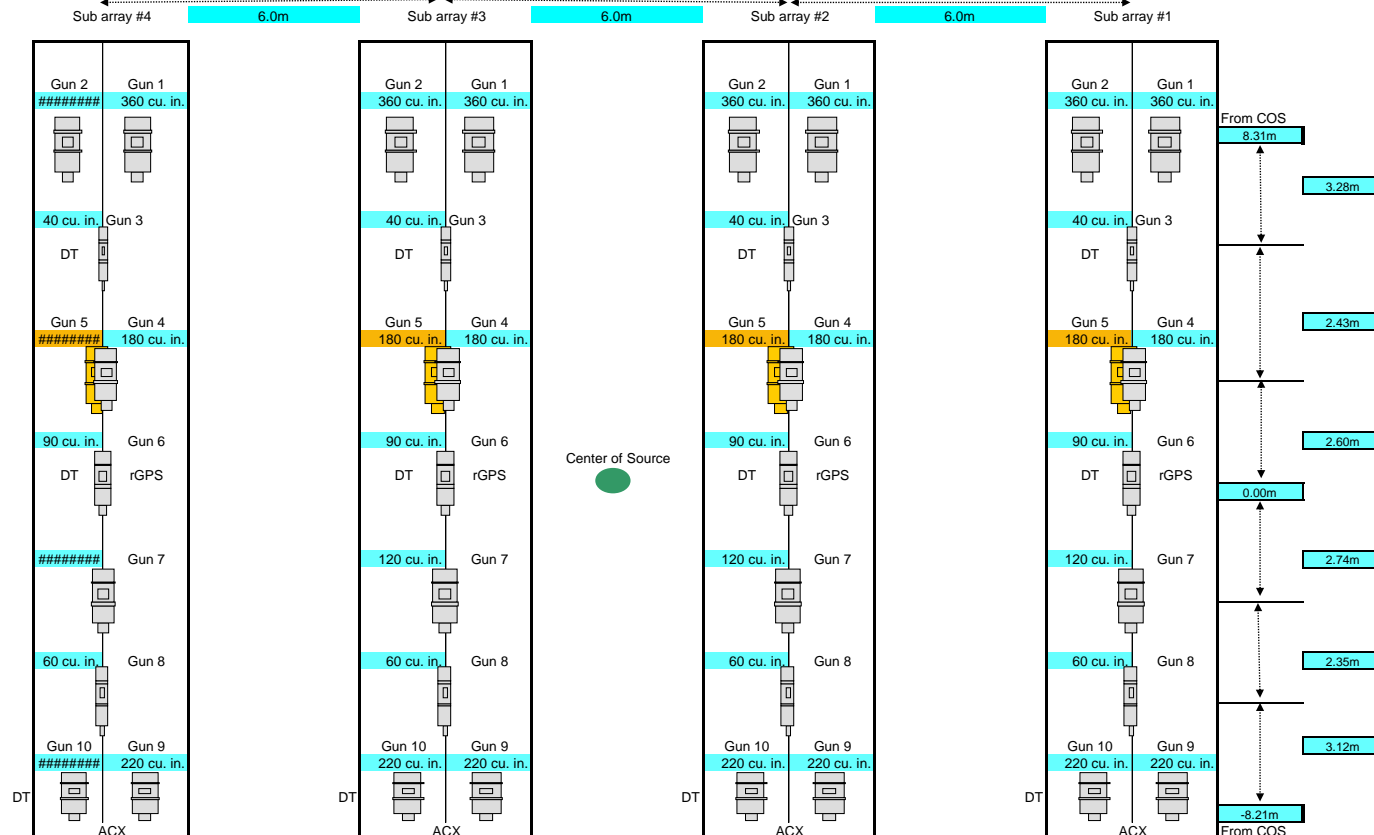
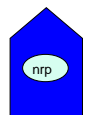
Gun Clusters

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

Gun Offsets relative to Center of String

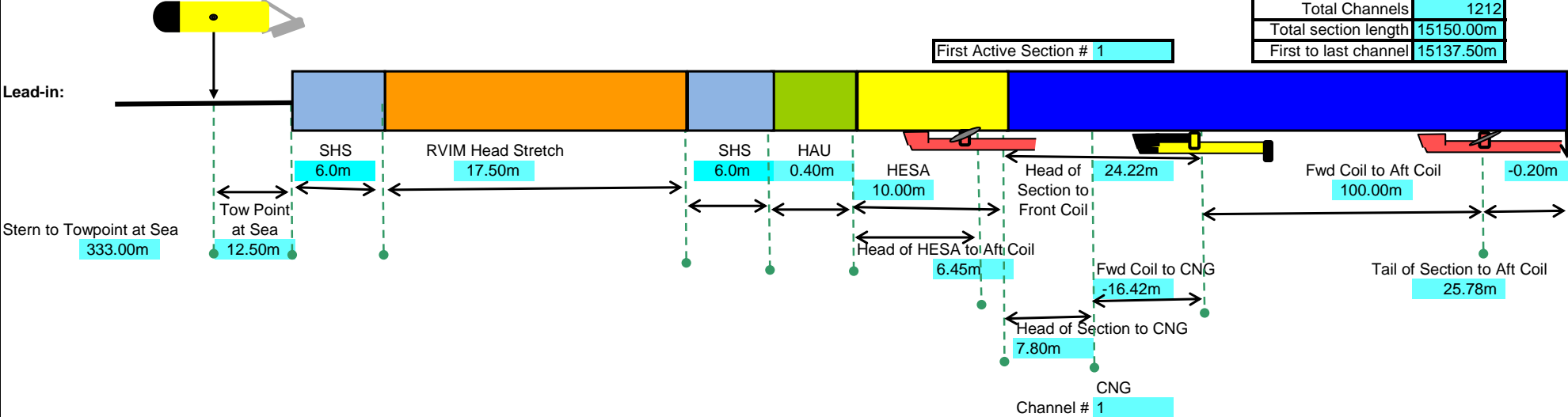
	X	Y
Gun 1	0.50m	8.31m
Gun 2	-0.50m	8.31m
Gun 3	0.00m	5.03m
Gun 4	0.00m	2.60m
Gun 5	0.00m	2.60m
Gun 6	0.00m	0.00m
Gun 7	0.00m	-2.74m
Gun 8	0.00m	-5.09m
Gun 9	0.50m	-8.21m
Gun 10	-0.50m	-8.21m

All measurements in meters



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

Total active sections	101
Total Channels	1212
Total section length	15150.00m
First to last channel	15137.50m



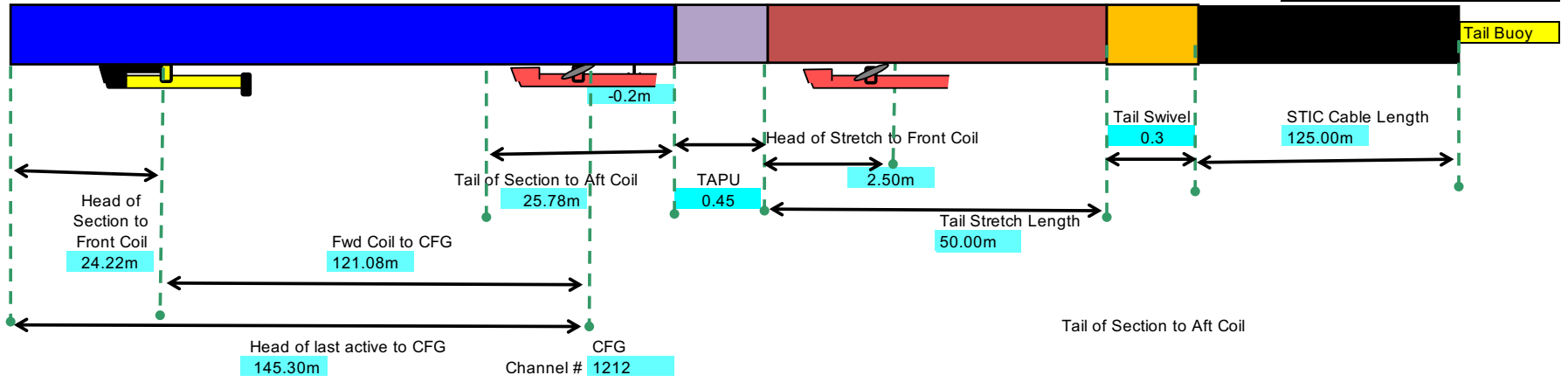
Cell contents referenced from Config\_offsets tab



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

Last Active Section # 101

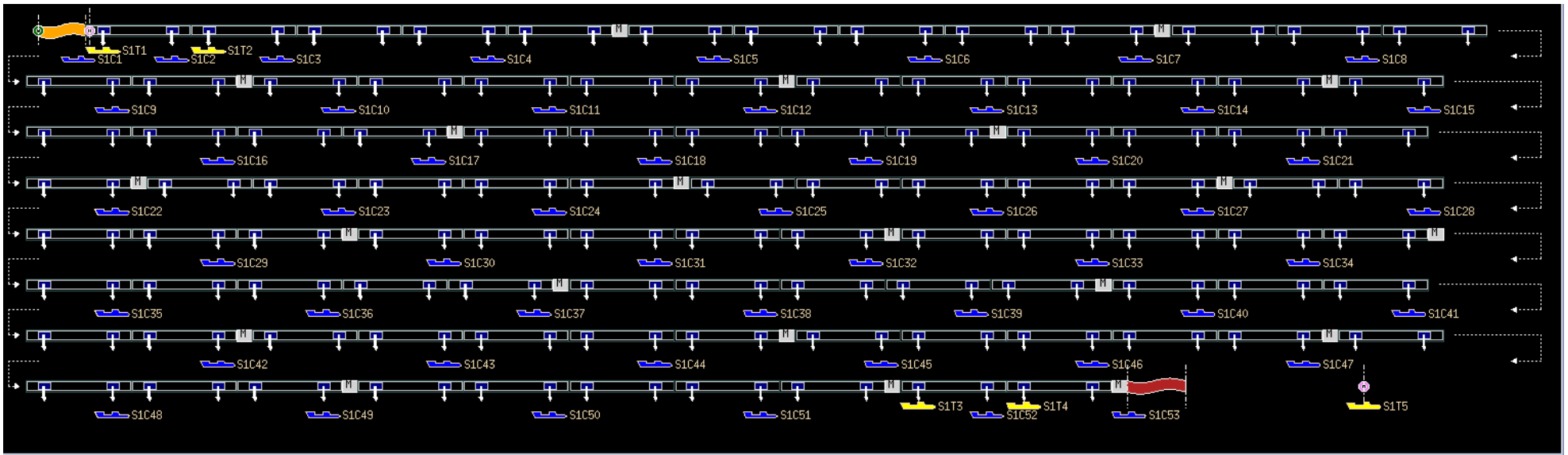
Total active sections	101
Total Channels	1212
Total section length	15150.00m
First to last channel	15137.50m
CFG to TB RGPS	181.95m




Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Streamer Complete

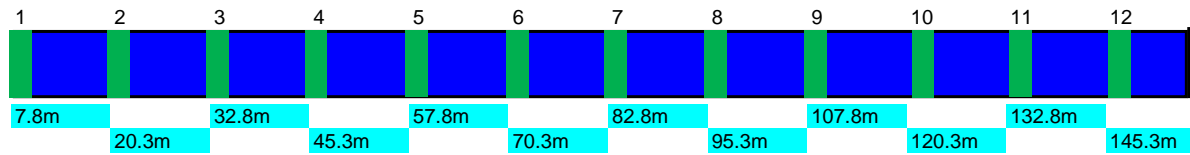
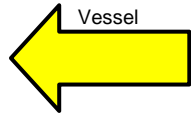
Total active sections	101
Total Channels	1212
Total section length	15150.00m
First to last channel	15137.50m



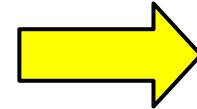
 Cell contents referenced from Config\_offsets tab

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

Number of SSAS Sections 101  
Channels per active section 12  
Total channels 1212

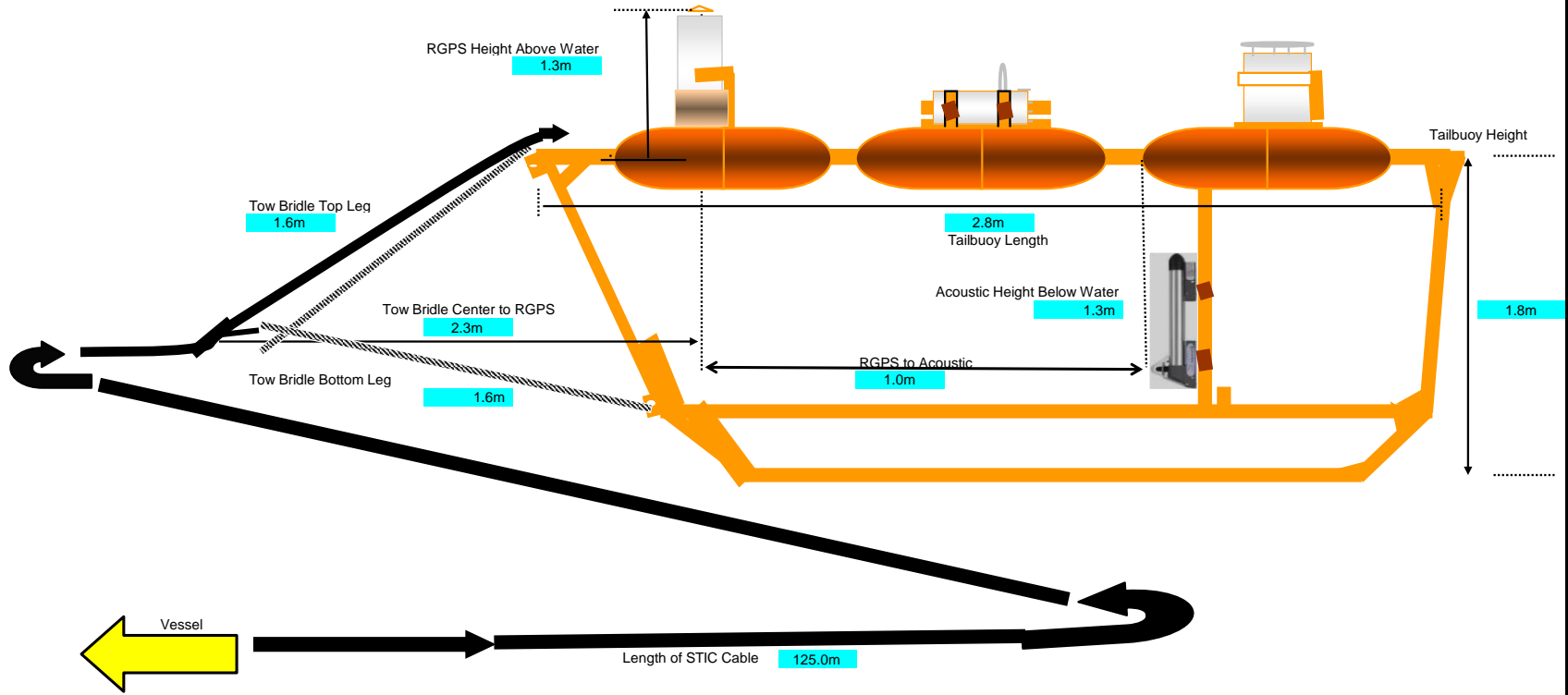


Tail buoy



Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Tailbuoy



All measurements in meters

Cell contents referenced from Config\_offsets tab

R/V Marcus G. Langseth - System Timing Diagram

