

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

Project: MGL2309  
Area: Blake Plateau  
Scope: Seq 008 - 034  
Start Date: 29-Jul-23

**Vessel Sensor Offsets**

**Towing Offsets**

**Towing Configuration**

**Gun Array Offsets**

**Streamer Front End**

**Streamer Tail End**

**Streamer Complete**

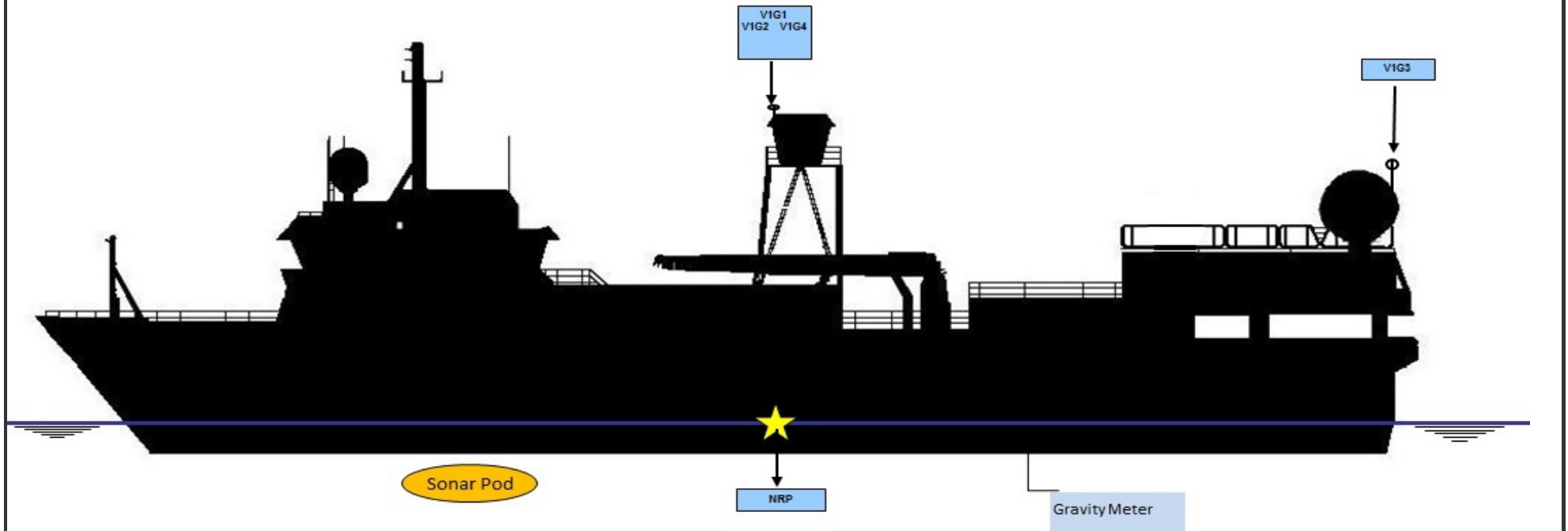
**Hydrophone Offsets**

**Tailbuoy Offsets**

**Timing**



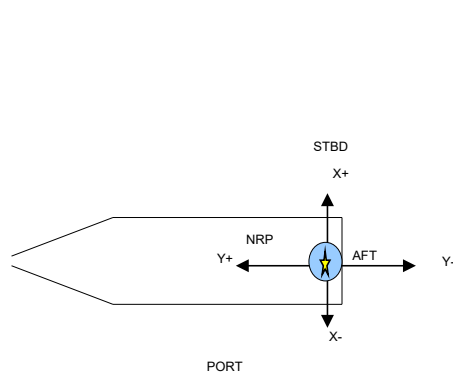
## R/V Marcus G. Langseth - Vessel Sensor Offsets



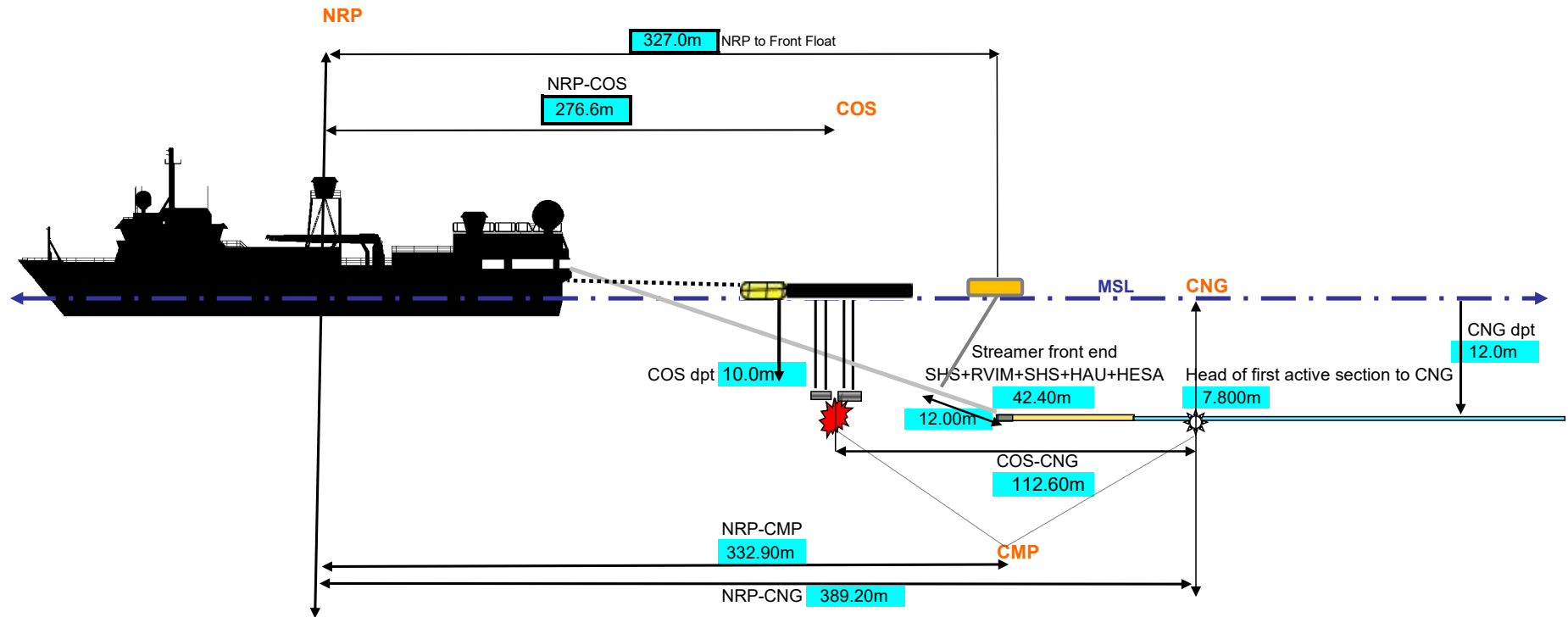
Negative values are above water line

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>	SeaPath 330	Orca	0.00	0.00	-16.90	
<b>V1G2</b>	C-Nav3050 MMO Tower	Orca	0.00	0.00	-16.90	
<b>V1G3</b>	C-Nav3050 Stern	Orca	-1.95	-31.83	-14.50	
<b>V1G4</b>	Pos MV	Orca	2.39	12.75	-16.90	
	PosMV Output position is IMU mounted in stbd drylab					
<b>V1R1</b>	PosNet		-1.30	-0.02	-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		2.39	12.75	-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
CMP	Common Mid-Point
MSL	Mean Sea Level
NRP-Stern	29.2m
NRP-COS	276.6m

All measurements in meters

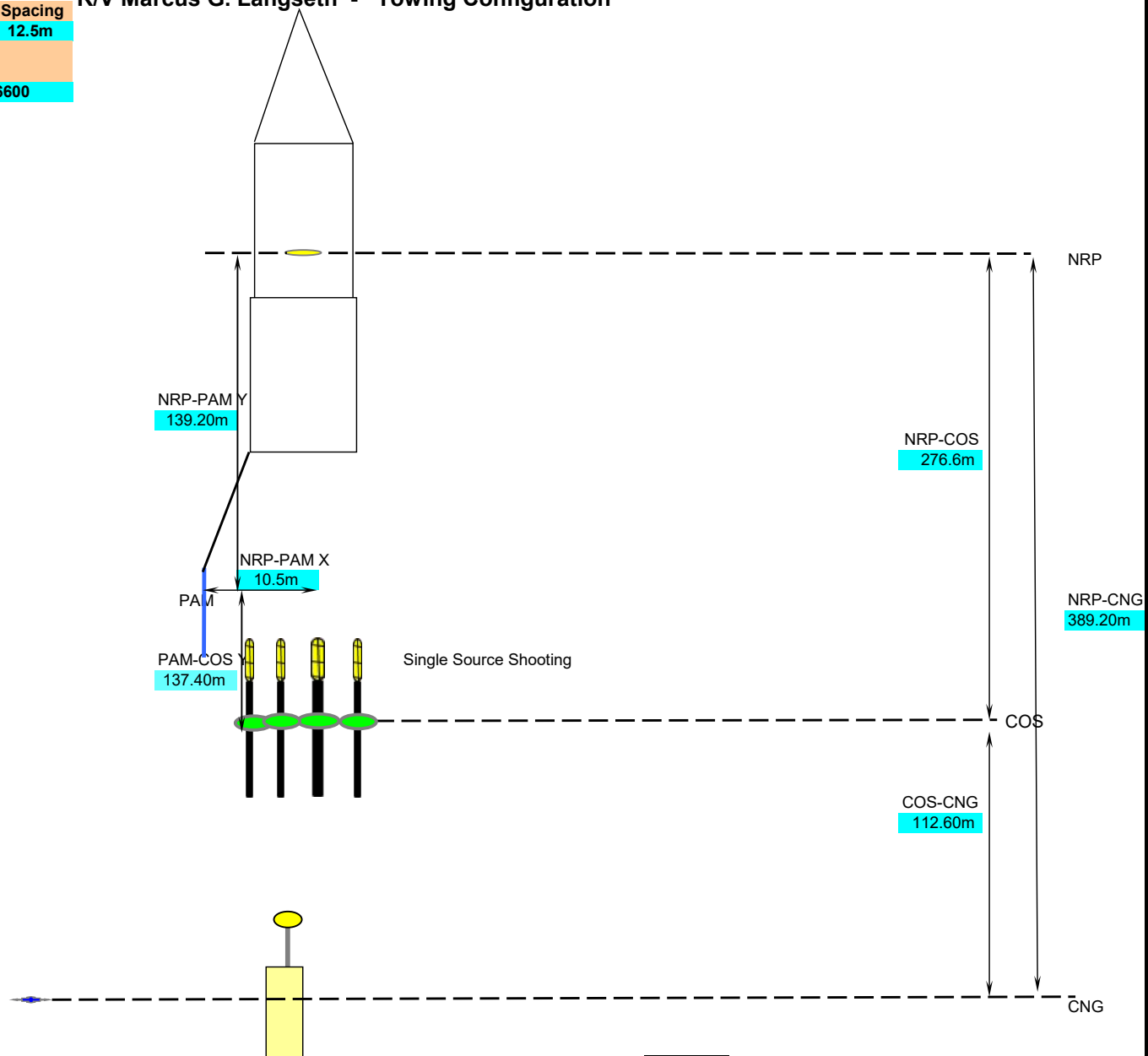
Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Towing Configuration

	# Streamers	Length	Channels	Spacing
SEAL	1	12000	960	12.5m

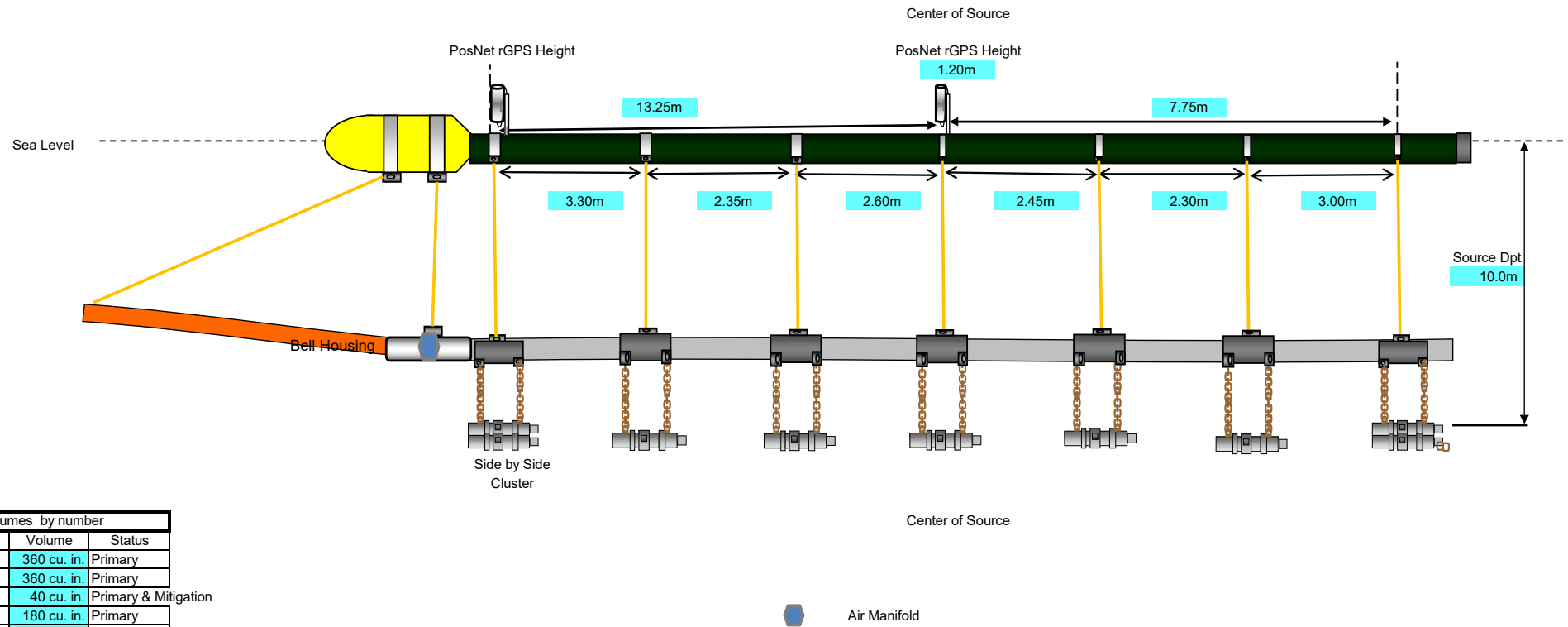
# Gun Strings Used	Vol (in^3)
4	6600



NOT to Scale

Cell contents referenced from Config\_offsets tab

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



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	90 cu. in.	Primary
Gun 6	120 cu. in.	Primary
Gun 7	60 cu. in.	Primary
Gun 8	220 cu. in.	Primary
Gun 9	220 cu. in.	Primary

Array total volume (without spares) is 6600 cu. in. Total volume/string (without spare) 1650 cu. in.

Guns (1 & 2) & (8 & 9) in a horizontal cluster.

Gun clusters have 0.75m between guns and hang 0.95m from center of hanger

Horizontal Clusters are 1m from gun port to gun port

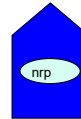
Single guns hang from hanger 1.15m

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



Center of Source

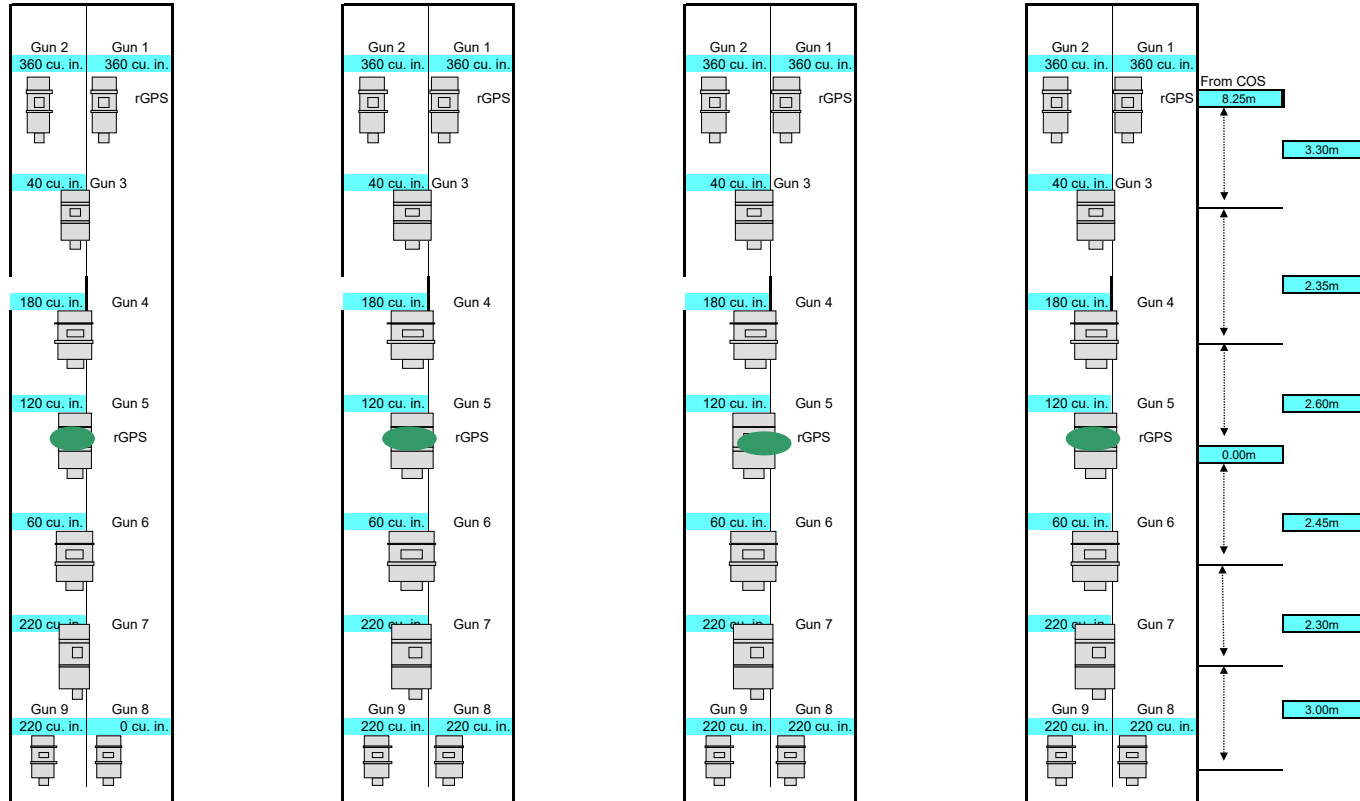
Sub array #4      6.0m      Sub array #3      6.0m      Sub array #2      6.0m      Sub array #1

Gun Clusters  
Guns 1 & 2 horizontal array  
Guns 8 & 9 horizontal array

Gun Offsets relative to Center of String

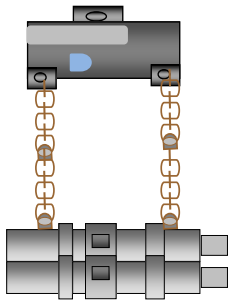
	X	Y
Gun 1	0.50m	8.23m
Gun 2	-0.50m	8.23m
Gun 3	0.00m	5.00m
Gun 4	0.00m	2.60m
Gun 5	0.00m	-2.46m
Gun 6	0.00m	-4.77m
Gun 7	0.50m	-7.77m
Gun 8	-0.50m	-7.77m
Gun 9	0.50m	8.23m

All measurements in meters

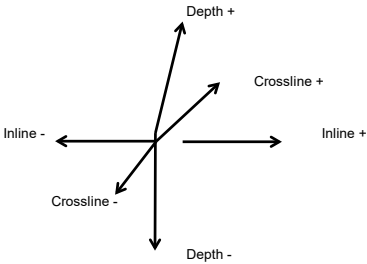


Distances in Meters

Gun Plate



Center of ports between guns 1 and 2 is the reference point



Hydrophone Offsets

Gun String 1				
Plate	Phone	Inline	Crossline	Depth
1	1			
2	2	3.35	0.00	1.00
3	3	5.50	0.00	1.00
4	4			
5	5	10.68	0.00	1.00
6	6			
7	7			

Gun String 2				
Plate	Phone	Inline	Crossline	Depth
1	1			
2	2	3.35	0.00	1.00
3	3	5.50	0.00	1.00
4	4			
5	5	10.68	0.00	1.00
6	6			
7	7			

Gun String 3				
Plate	Phone	Inline	Crossline	Depth
1	1			
2	2	3.35	0.00	1.00
3	3	5.50	0.00	1.00
4	4			
5	5	10.68	0.00	1.00
6	6			
7	7			

Gun String 4				
Plate	Phone	Inline	Crossline	Depth
1	1			
2	2	3.35	0.00	1.00
3	3	5.50	0.00	1.00
4	4			
5	5	10.68	0.00	1.00
6	6			
7	7			

Depth Transducer Offsets

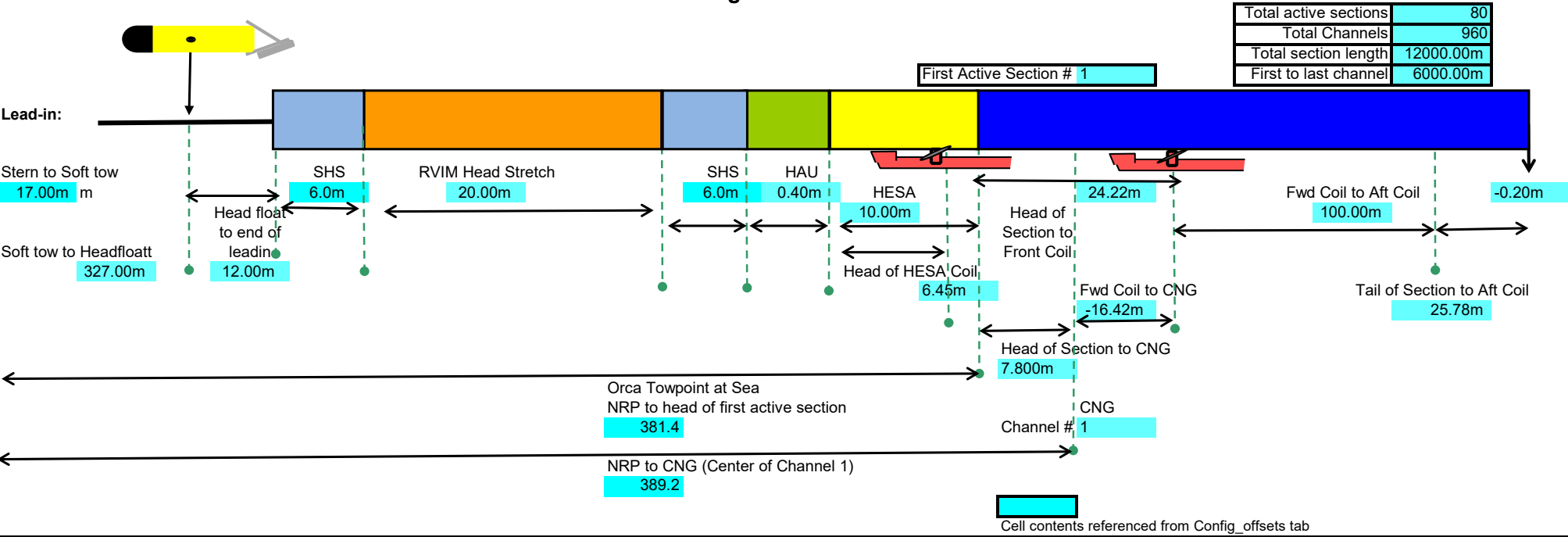
Gun String 1				
Plate	DT	Inline	Crossline	Depth
1	1	0.00	0.00	1.20
2				
3	2	5.75	0.00	1.08
4				
5				
6				
7	3	16.30	0.00	1.23

Gun String 2				
Plate	DT	Inline	Crossline	Depth
1	1	0.00	0.00	1.20
2				
3	2	5.75	0.00	1.08
4				
5				
6				
7	3	16.30	0.00	1.23

Gun String 3				
Plate	DT	Inline	Crossline	Depth
1	1	0.00	0.00	1.20
2				
3	2	5.75	0.00	1.08
4				
5				
6				
7	3	16.30	0.00	1.23

Gun String 4				
Plate	DT	Inline	Crossline	Depth
1	1	0.00	0.00	1.20
2				
3	2	5.75	0.00	1.08
4				
5				
6				
7	3	16.30	0.00	1.23

R/V Marcus G. Langseth - Streamer Front End

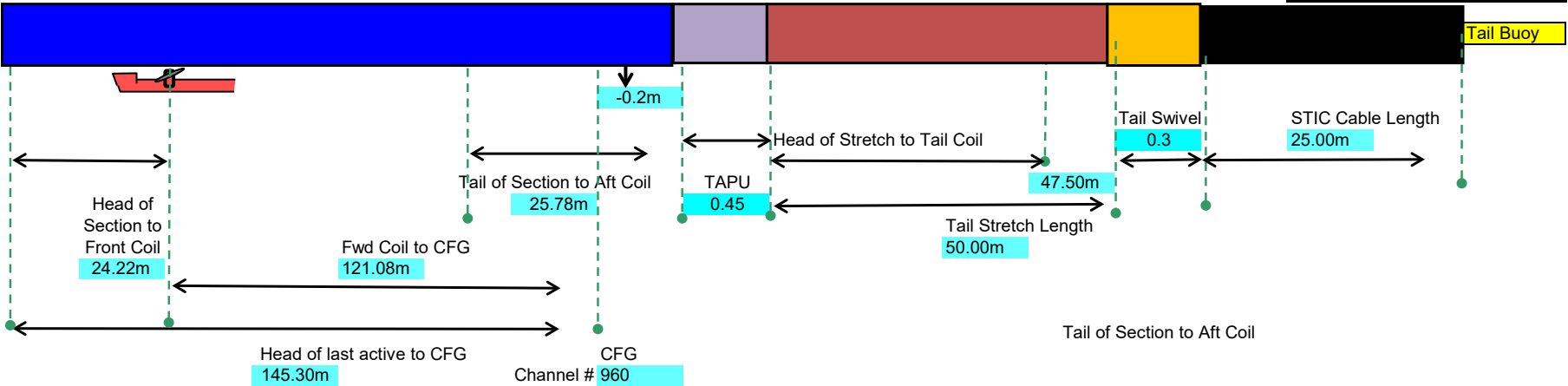




R/V Marcus G. Langseth - Streamer Tail End

Total active sections	80
Total Channels	960
Total section length	12000.00m
First to last channel	6000.00m
CFG to TB RGPS	81.95m

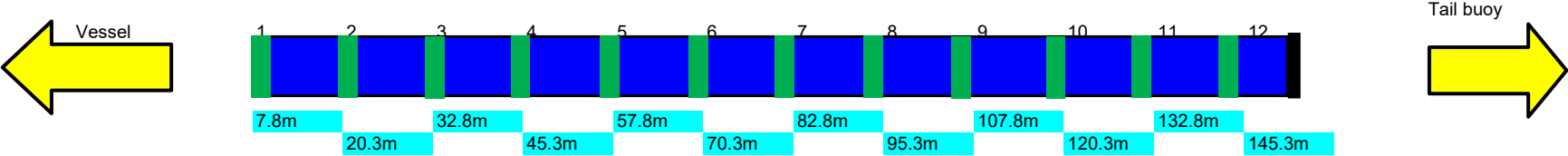
Last Active Section # 80



Cell contents referenced from Config\_offsets tab

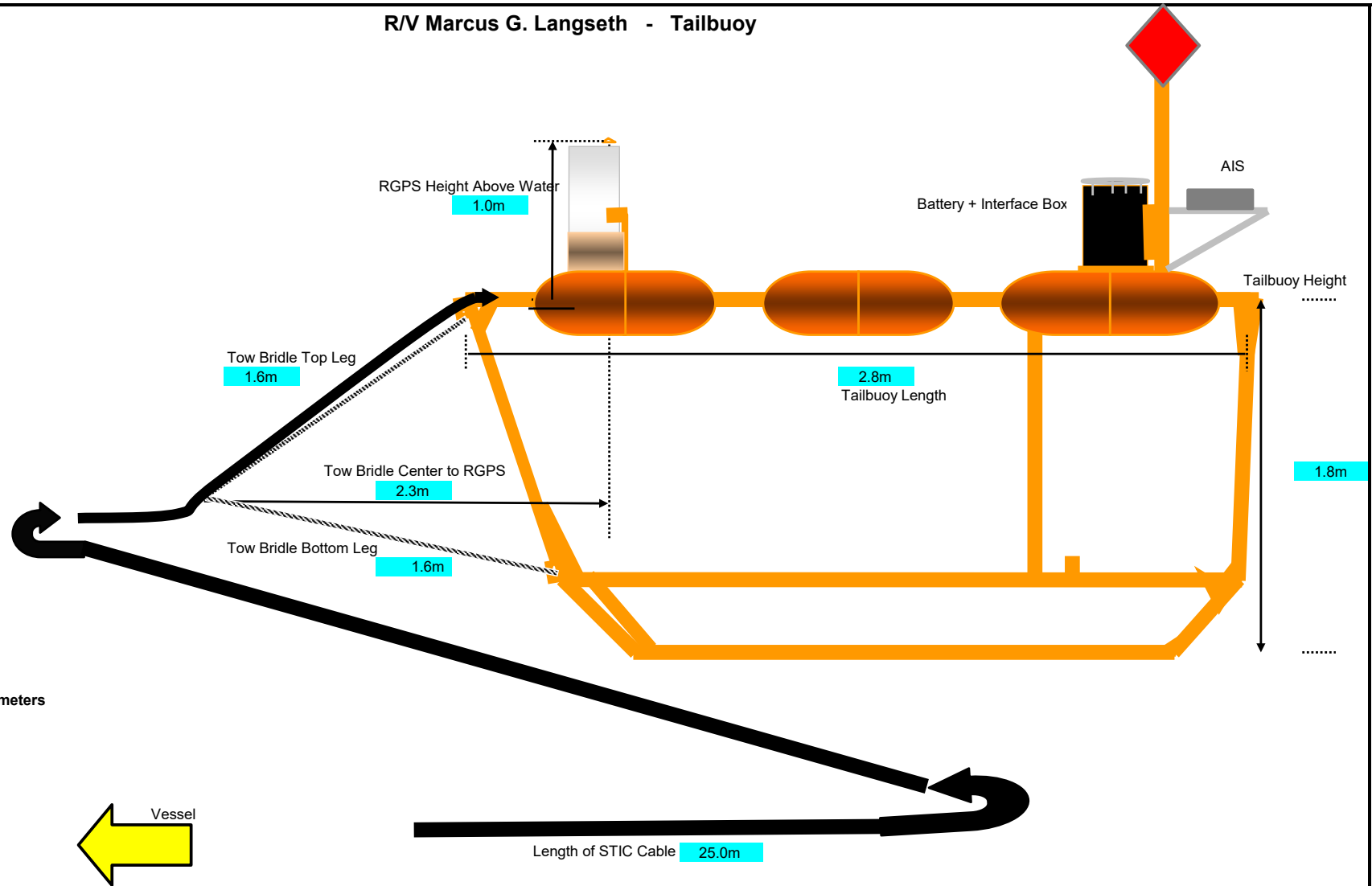
R/V Marcus G. Langseth - Hydrophone Offsets  
Sercel 150meter SSAS

Number of SSAS Sections 80  
Channels per active section 12  
Total channels 960



Cell contents referenced from Config\_offsets tab

# R/V Marcus G. Langseth - Tailbuoy



All measurements in meters

Cell contents referenced from Config\_offsets tab

