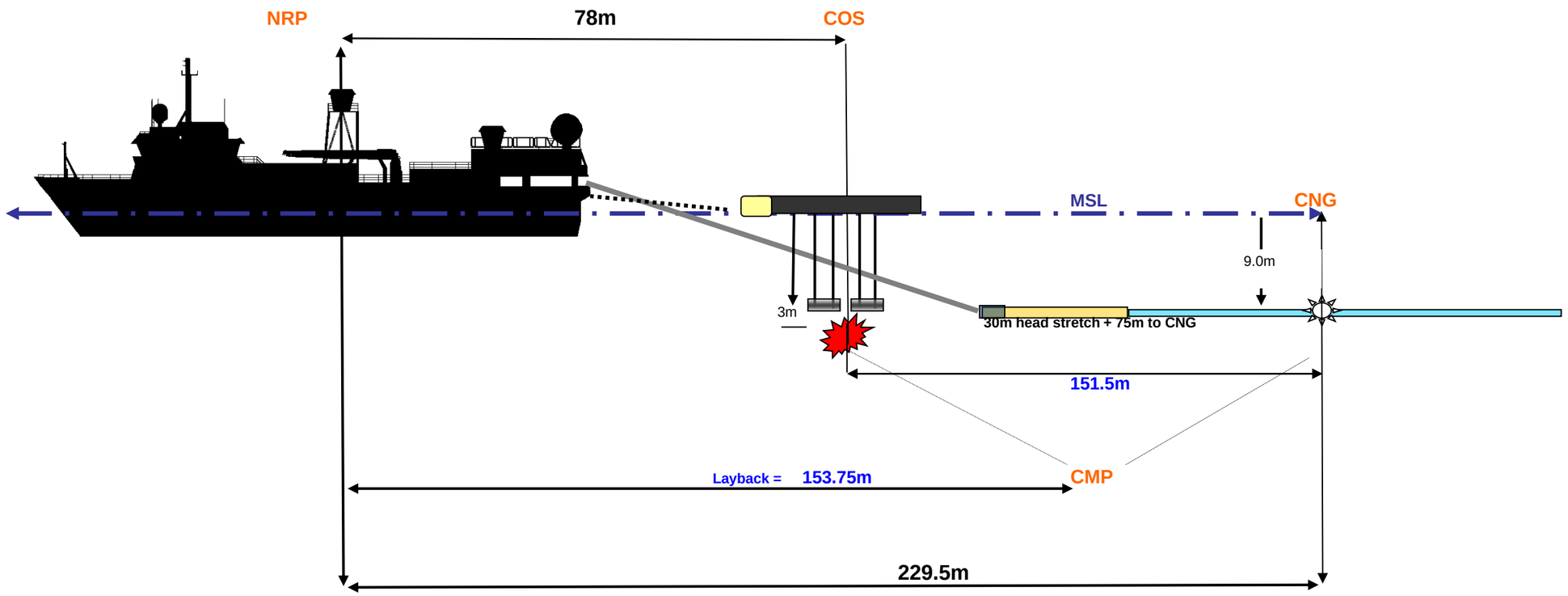
Company	:	LDEO
Vessel	:	Marcus G.Langseth
Client	:	NSF
Project	:	MGL1208
Area	:	Line Islands Coring Cruise
Start Date	:	01 May 2012

LAMONT-DOHERTY EARTH OBSERVATORY
THE EARTH INSTITUTE AT COLUMBIA UNIVERSITY

R/V Marcus G. Langseth - Towing Offsets - Gun String 4 at 9m



**** Offsets used for acquisition of Source String 4 ****

NRP-Stern	29.50	m	
NRP-COS	78.00	m	
NRP-CNG	229.50	m	
COS-CNG	151.50	m	
NRP-CMP	153.75	m	

NRP	**N**av **R**eference **P**oint
COS	**C**entre of **S**ource
CNG	**C**entre of **N**ear **G**roup (Trace # 468)
CMP	**C**ommon **M**id-**P**oint
MSL	**Mean Sea Level**

All measurements in meters

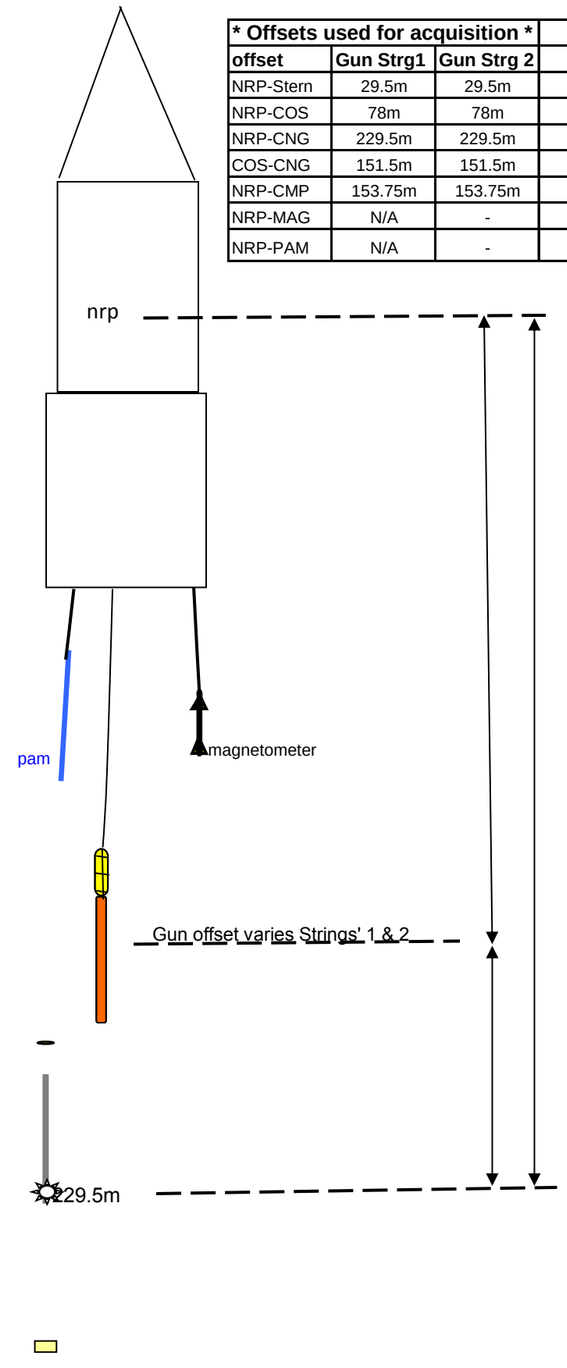
R/V Marcus G. Langseth "tow" configuratiion

R/V Marcus Langseth
1 x 8000
4 Gunstrings

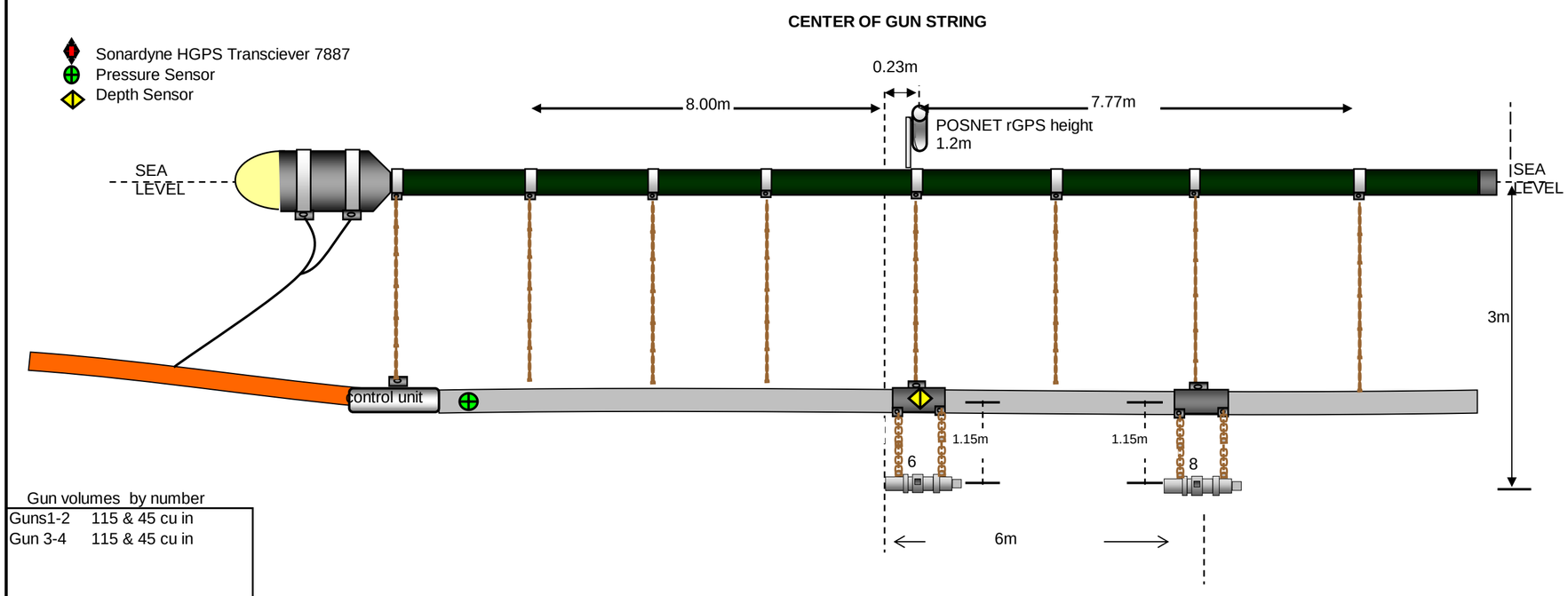
NOT to Scale

*** Offsets used for acquisition ***			
offset	**Gun Strg1**	**Gun Strg 2**	
NRP-Stern	29.5m	29.5m	
NRP-COS	78m	78m	
NRP-CNG	229.5m	229.5m	
COS-CNG	151.5m	151.5m	
NRP-CMP	153.75m	153.75m	
NRP-MAG	N/A	-	
NRP-PAM	N/A	-	

NRP	**N**av **R**eference **P**oint
COS	**C**entre of **S**ource
CNG	**C**entre of **N**ear **G**roup (Trace # 60)
CMP	**C**ommon **M**id-**P**oint
MSL	**Mean Sea Level**



R/V Marcus G. Langseth - Gun Array Offsets



Gun volumes by number

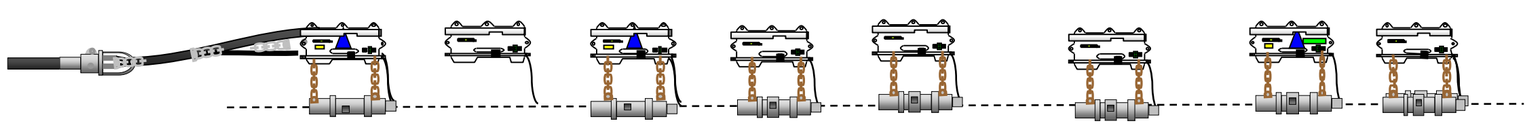
Guns1-2	115 & 45 cu in
Gun 3-4	115 & 45 cu in

Array total volume is 1830 cubic inches.
Gun clusters have 0.75m between guns and hang 0.95m from center of hanger
Cluster Guns are 1m apart. Single guns hang from hanger 1.15m

NOTE: Depth Offset's used 9meter and 6meter
Use "Seismic Configuration per Sequence form for descrimination"
NOTE: drawing not to scale

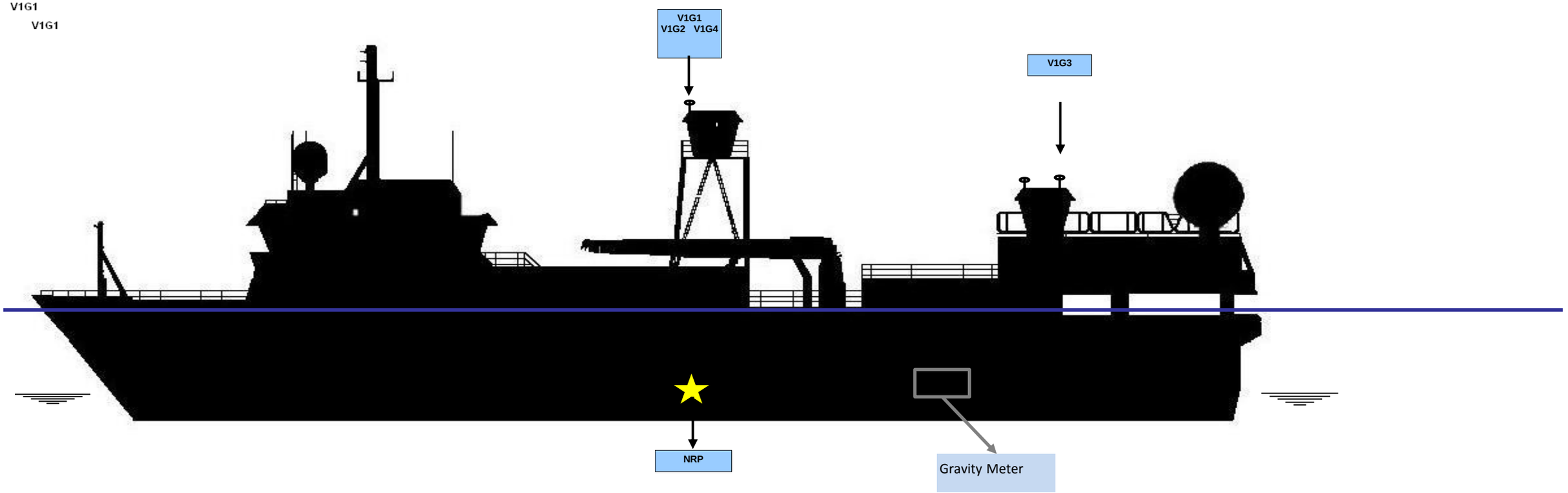
All measurements in meters

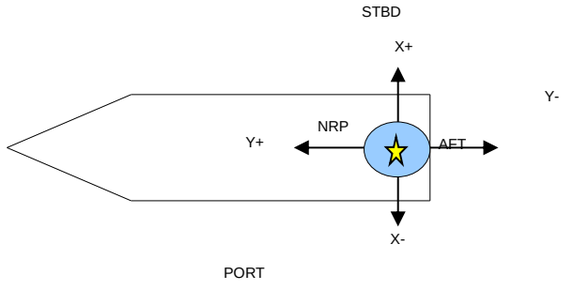
All gun volumes, numbering, locations, and offsets were inspected and verified by Chief Source Mechanic.



V1G1

V1G1





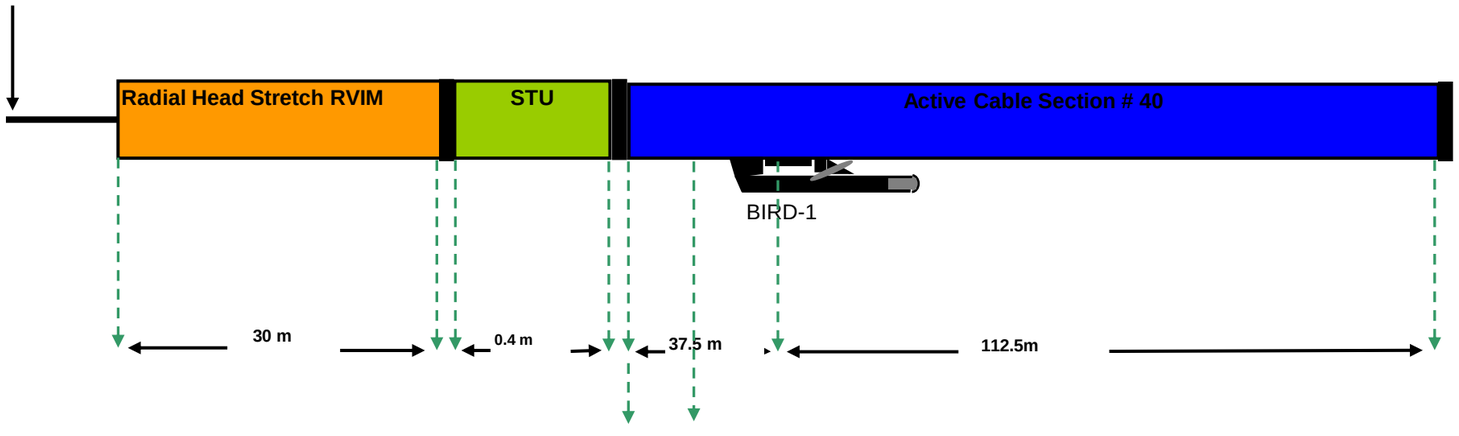
Note: All Echosounders are used in Spectra with 6.6m ship's draft correction applied.

All measurements in meters

		STBD/PORT (X)	FORE/AFT (Y)	UP/DOWN (Z)
NRP	NAVIGATION REFERENCE POINT	0.00	0.00	0.00
V1G1	C-Nav 3050	0.00	0.00	-16.90
V1G2	SeaPath 200	0.00	1.50	-16.90
V1G3	C-Nav 2000	4.87	-15.27	-14.50
V1G4	Pos MV (N/A)	0.00	1.20	-16.90
V1R1	PosNet	-1.30	0.00	-16.90
EM122	Multibeam Transducer Array	0.00	20.20	7.49
MRU	Seapath MRU	2.30	-14.16	-4.30
BGM	Bell Gravity Meter	4.40	-13.10	-3.49

R/V Marcus G. Langseth - Streamer Front End

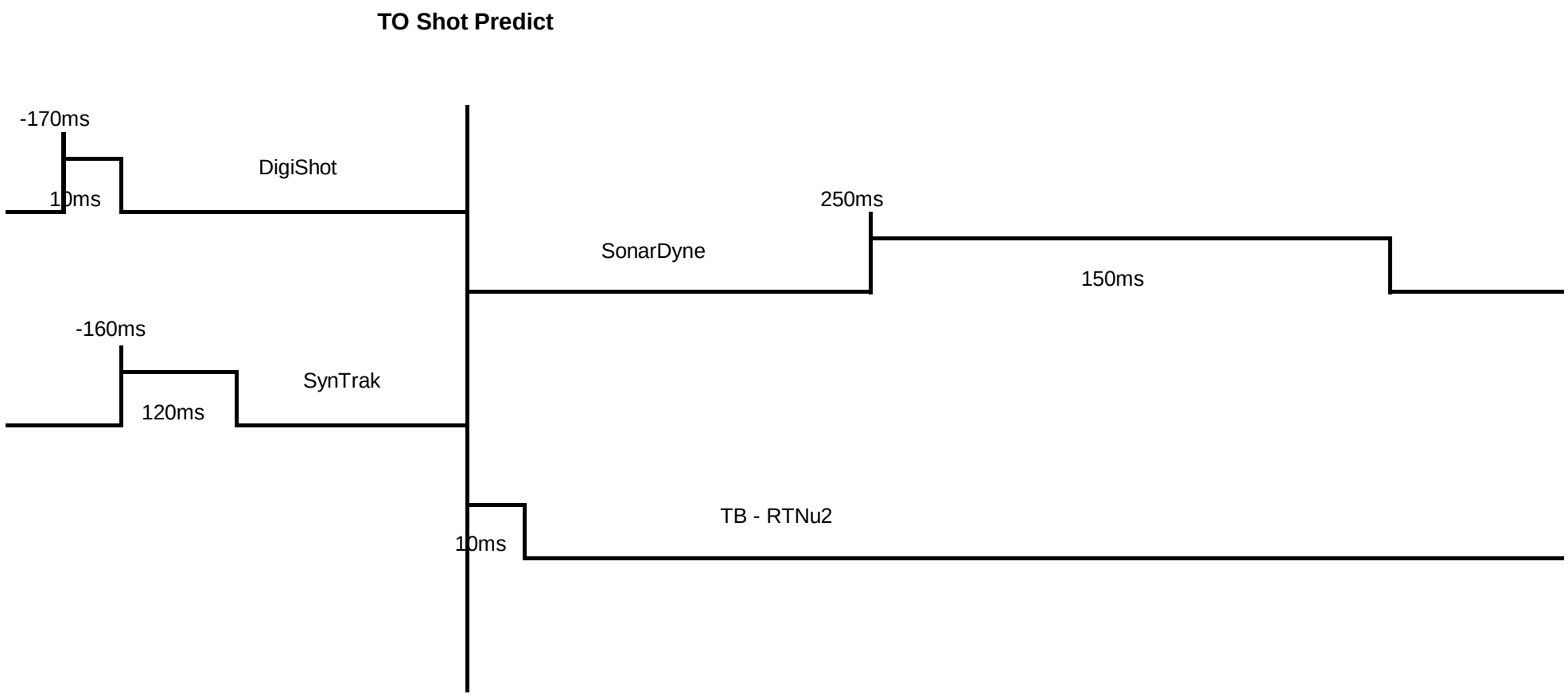
Lead-in:
Outer = 505m
Inner = 465m



CNG is
75m from head of section

R/V Marcus G. Langseth

SPECTRA TIMING



Spectra timing for r/v Marcus G. Langseth