ANNEX “A” to TimeCharterParty

M/V SANCO ATLANTIC with G Gun II

YOUR PARTNER IN MARINE SEISMIC OPERATIONS

SHIP DESIGN	Vik & Sandvik Seismic, Source / 2-D Seismic Survey Vessel
CLASSIFICATION	BV
BUILDER	TH. Hellesøy Skipsbyggeri AS, Norway , build no. 114,
BUILT / REBUILT	Year 1987 / 1993
PORT OF REGISTRY	Nassau
FLAG	Bahamas
IMO NUMBER	8610667
CALL SIGN	C6TU2

OWNER:	**Sanco Holding AS** Moljevegen 32 N-6083 Gjerdsvika NORWAY	**MANAGER:**	**Sanco Shipping AS** Moljevegen 32 N-6083 Gjerdsvika NORWAY

MAIN DIMENSIONS		**CLASS NOTATIONS**
Length O.A	91,3 m	BV: +HULL, +MACH, +AUT-UMS, HEL. Unrestricted navigation BV ID Number: 34703 X
Length P.P	81,0 m	
Breadth	17,40 m	
Draft , summer / winter	7.0 m / 6,8 m	
Deadweigth, 6,8 m	1876 MT	
Gross / Net Tonnage	4639 / 1392	

Updated: May 2020
All specification given without guarantee, and subject to changes

OUTLINE SPECIFICATION M/V SANCO ATLANTIC

MACHINERY AND PROPELLER PLANTS	
Main propulsion:	Single screw + Twin azimuths,
Main engines:	1 x 4440 kW, Wartsila Vasa, 12V32D
Main gear:	Scana Volda, Type ACG 850 w/PF 600
Shaft Generator:	LeroySomer, LSA 52,2 L70/4p–1600kW
Propeller:	1 x Wartsila CPP, type 3PRA-1300A
Auxiliary engines:	1 x Caterpillar 3516 B – 1825 kW 2 x caterpillar 3516 DITA – 1448kW
Emergency Aux.	1 x Caterpillar – 198 kW
Bow thruster:	1 x Brunvoll, FU-45-TC-1375 430 KW
Bow retractable Azimuth thr.:	1 x Brunvoll AR-63-LNC 1650 850 kW
Stern retractable Azimuth thr.:	1 x Brunvoll AR-63-LNC 1650 850 kW
Rudder:	1 x Barkemeyer, type BRB 28-40-16
Steering Gear:	1 x Tenfjord, Type 18M 260
Working air Compressors:	1 x Atlas Copco GA 22+FF
ELECTRIC POWER	
440 V, 230 V all 60Hz	
DECK MACHINERY	
Crane, 02-deck:	1 x Abas knuckle boom, SWL 8T@16m 1 x Abas knuckle boom, SWL 4 T@8m
Crane, provision, 01 deck:	1 x TTS knuckle boom, GPK 40-1-12, SWL 1,0 T@2.5-12m
Seismic Cable Winches:	4 x 9000 m each, 60 mm diameter
Seismic Gun winches:	8 x 330 m each, 67 mm diameter
Auxiliary winches:	11 pcs on gun & streamer deck
Hydraulic Power Pack:	4 x 280 bar
NAVIGATION EQUIPMENT	
Auto Pilot:	Anschutz PilotStar D
GPS:	2 x Furuno GP-150
Radar 1:	1 x 10 cm Furuno FR 2117, Arpa
Radar 2 + 3:	2 x 3 cm Furuno FR 2137, Arpa
Radar 4:	Sea Hawk, Arpa
Gyro 1 & 2:	1 Meridian Survey + 1 Meridian Stand.
EPIRB:	Jotron
Electronic Chart navigation:	2 x Furuno TECDIS , Telco
AIS:	Furuno FA-150 AIS
C-Joy with track steering:	Kongsberg with dedicated software
Seismic steering system:	K-Pos
Survey Echo sounder:	Kongsberg EA 640, 12, 38 & 200 kHz Max depth working about 10.000 m
Speed log / Current meter:	Skipper EML 224
Voyage Data Recorder:	Konsberg MBB(S)
SEISMIC	
On-line Nav. system:	ION Gator II
GPS Receivers:	Fugro StarPack
Primary Navigation:	Fugro Starfix.XP2/G4
Gun array tracking:	Fugro StarTrack RGNSS, 2 per subarray
Gyro 2:	1 x Meridian Surveyor
Nav Processing:	FGPS SeisPos
ENERGY SOURCE	
Type:	G-Gun II dual source
Number of Sub. Arrays:	6 pcs sub. arrays in use
Configuration:	Single / Dual source, max array separation 10 m, 6 positions, 3 m dist.
Tow width:	Dual source, 50 - 60 m max COS
Firing control:	Gun link 2000
QC:	Gunlink
NFH:	All position
PT:	Pressure Transducer front Position
Depth transducer:	2 per sub-array
Tow system:	2 SW rope winch , Odim, Not in use
Deflectors:	3 pcs Barovane type 3
Seismic Compressor with frequency drive:	3 x LMF, 42/138 (38/207) – E 60 3 x 1483 cfm = 4449 cfm in total (3 x (42 / 38) m3/min)
Working pressure:	138 / 207 Bar (2000 Psi)

SPEED AND FUEL CONSUMPTION	
Max. speed:	14 knots – 22,5 m3
Service speed:	13 knots – 16 m3
Economic speed:	10 knots – 11,5 m3
Seismic source shooting:	4,5 knots – 14.0 m3
Bollard pull:	
Endurance shooting:	80 days
Endurance economic speed:	82 days
CAPASITIES	
Fuel oil, MDO:	1500 m3
Drinking water:	118 m3
Ballast water:	734 m3
Hydraulic oil:	8,8 m3
Sewage:	39 m3
Dirty oil / Sludge oil:	5 m3 + 6 m3
Fresh water generator:	Alfa Laval, Type JWP-26-C80 – (15 m3/day)
Sewage treatment plant:	Jowa AB, Type Jowa BIO-STP 4
Black water & Grey water:	Jowa AB, Type Jowa BIO-STP 4 and EVAC, type AHM-1122/2,5 m3
Waste compactor:	Delitek, type DT-504s
Incinerator:	Teamtec Golar OG 400
Ballast treatment plant:	MMC Green Technology 100 m3
Helideck, Dayligth:	D-value 18,95 meter, 8,6 tonnes
LIFE SAVING EQUIPMENT	
Safety manning level:	9 persons
Rescue / FRC / MOB:	Norsafe 750 M, water jet
Workboat:	SeisWorker 950 & Nordpower 22'
Inflatable life rafts:	6 x 20 + 2 x 25 person Viking DK+
Life Jackets:	112 pcs
Life buoy:	12 pcs
Survival suits:	122 pcs
Emergency radios:	3 x Sailor SP 3520
Radar transponders:	2 x Sailor Sart II
Fire detection system:	Autronica DYFI BS100
Fire pumps:	2 x Allweiler 36 m3/h + 1 x 31 m3/h
Co2 system:	Heien Larsen
Lifesaving capacity max.:	54 persons
COMMUNICATION	
M/F & H/F:	Sailor 6301
VHF Stationary:	1 x Sailor 6222 + 1 x Sailor 5022 1 Sailor RT 2048
Handheld VHF radios:	3 x Jotron Tron TR 20
UHF stationary:	5 x Motorola GN 380
UHF portable:	4 x Motorola UHF GP 340
Internal communication:	Vingtor VMP-430
Satellite – Inmarsat Type C:	2 x Sailor 6006
Nav. Tex.:	Furuno NX-700
Satellite com. Equipment:	Sailor 500 Fleet Broadband
Vessel E-mail:	
ACCOMMODATION	
Instrument room:	1 pcs sep. aircon. with redundancy
Gun Shack:	1 pcs with air-condition
Work Shop:	2 pcs with air-condition
Seismic store:	2 pcs
Mess room:	Seating for 34 persons
Day rooms:	3 x dayrooms 1 conference room
Gymnasium:	Yes
Cabins:	44 x 1 bed with bathroom 5 x 2 bed with bathroom Hospital with bathroom
Air condition:	Techno Term HVAC system

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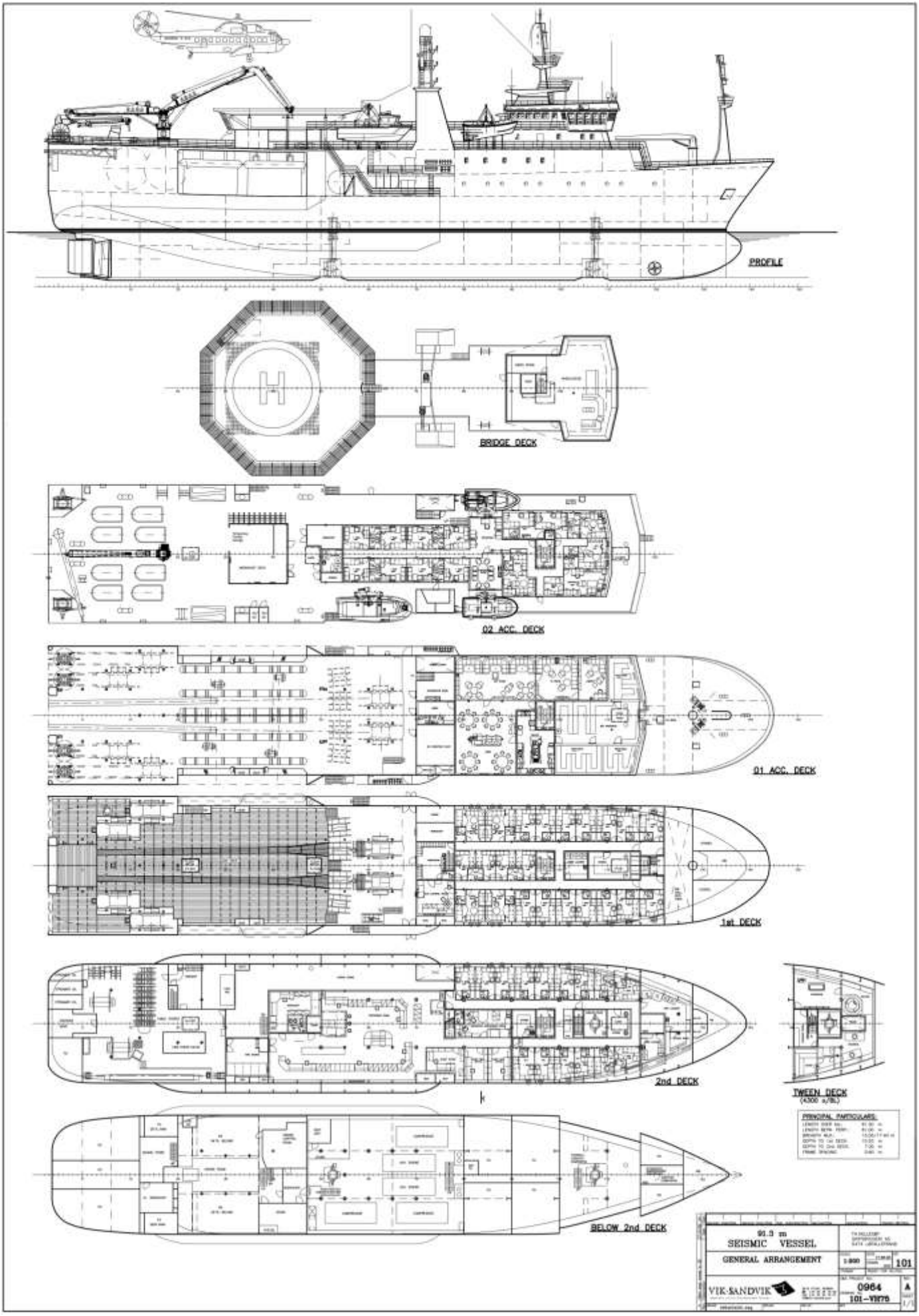

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Sanco Atlantic has the following G-guns II & fillers/chambers onboard:

19 pcs **250 cu.in gunbody**

73 pcs **150 cu.in gunbody**

87 pcs **G-gun II sleeves**

Fillers for 150 cu.in body/ Quantity on board

Cu.in	45	60	70	80	90	100	120		
pcs	23	24	33	24	18	53	16		

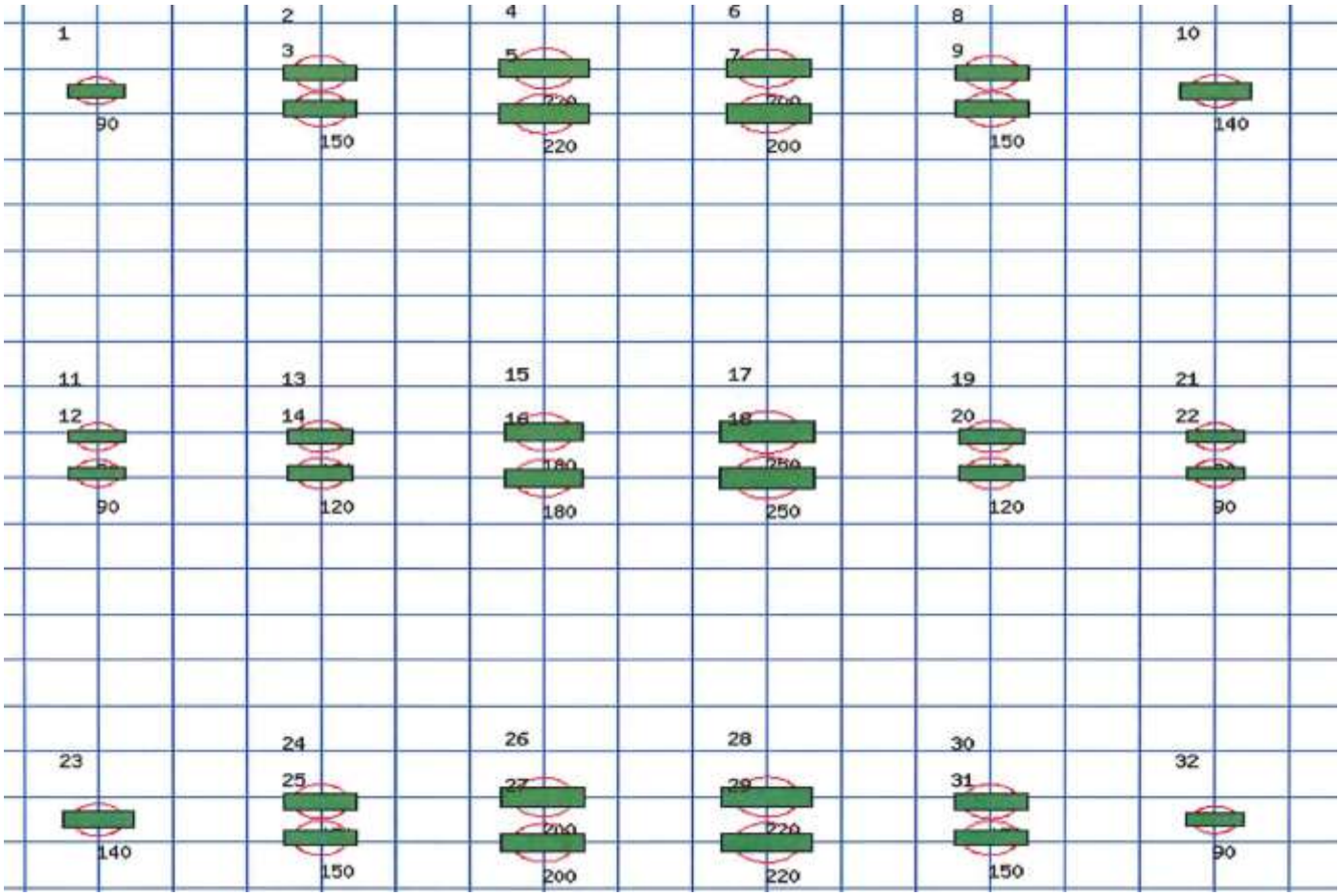
For the 250 cu.in body we have none fillers/chambers

Spreader bars for G Guns

1000 mm bar upper = **12 pcs**
1000 mm bar lower only- **=** **12 pcs**
800mm bar upper **=** **80 pcs**
800mm bar lower **=** **79 pcs**
(This gives a total of 35 assembled Cluster)+ spares

SBGS to support necessary guns and equipment to build this requested

5040 Cu.in Source



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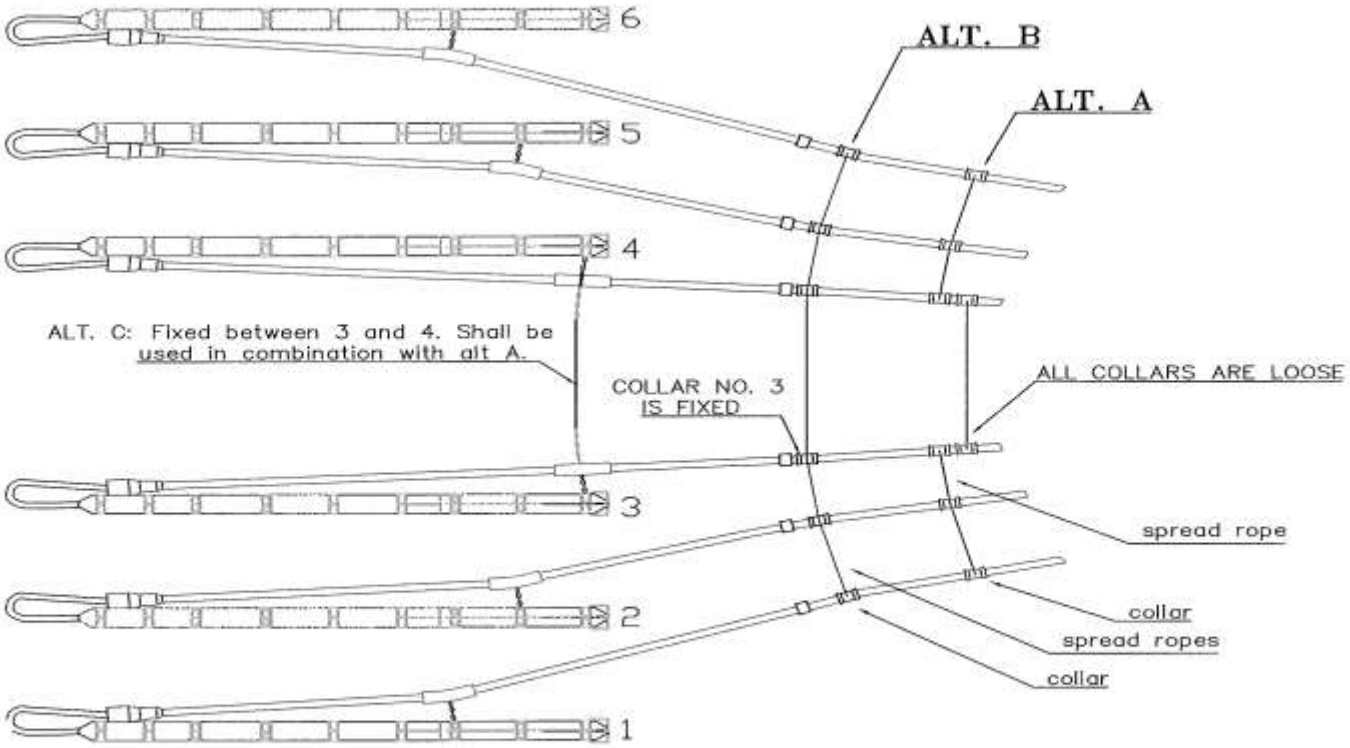
TOWING GUN ARRAY, DUAL SOURCE
USING SPREAD ROPES AND SLIDING COLLARS

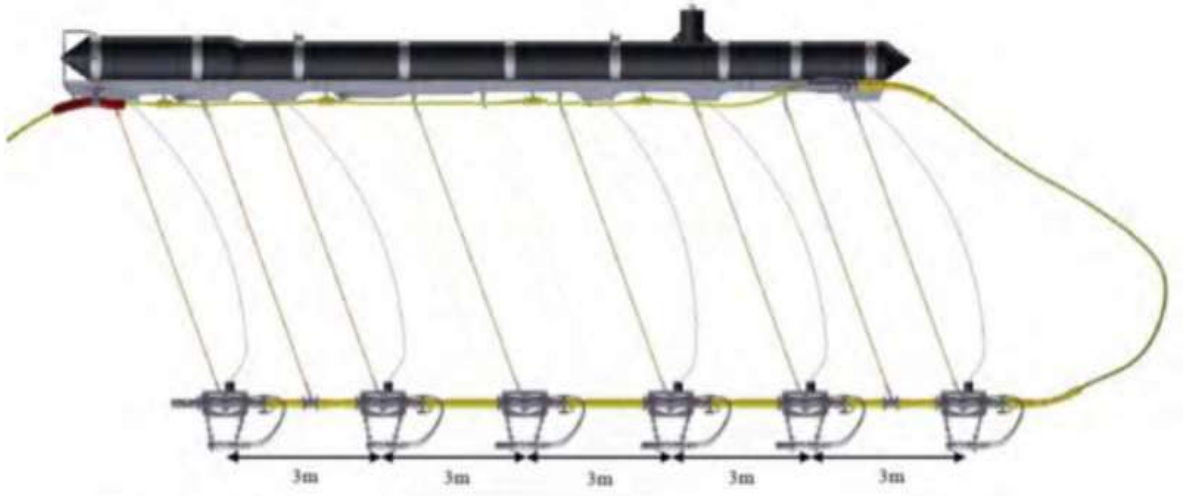


ALT. A: +Flexible in array recovery
−No possible "brake"

ALT. B: +Can use Array 3 as brake when recovering A1&A6
−Always have to bring in Array 3

ALT. C: +Flexible recovery on outher Arrays
−Have to bring in Array 3 and Array 4 together
−No possible " brake" for A1 & A6

Gun string layout



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