

CARTOGRAPHIC SYMBOLS

	Post Survey Route with kilometre post and reverse kilometre post		Telecommunications cable position, in Service/Out of Service/Planned (As found in magenta)
	Beach Mark		Pipeline position, in Service/Out of Service/Planned (As found in magenta)
	Alter Course		Power cable position, in Service/Out of Service (As found in magenta)
	Survey Route		Chart Matchline
	Coastline (from Admiralty Charts)		Territorial Sea / EEZ limit

BATHYMETRY

Bathymetric contours in metres. Contour interval may be reduced to aid in clarity. All bathymetry reduced to Lowest Astronomical Tide (LAT)

Downslope gradient in degrees (°) as measured over the shortest significant distance

Approximate limit of swath bathymetry coverage (shown only in areas of flat seabed)

SEABED FEATURES AND SHALLOW GEOLOGY

	Coral		Linear sonar contact, dished where partially buried
	Gas seepage area with predominant sediment classification		Unidentified magnetic anomaly with reference number and amplitude
	Boulders with predominant sediment classification		Cable/Pipeline position, as determined by magnetometer, with reference number and amplitude
	Fine sediment (predominantly CLAY/SILT)		Seabed sample location with reference number
	Coarse sediment (SAND and GRAVEL)		Magnetometer symbol with reference number
	Very coarse sediment (COBBLES and BOULDERS)		Small outcrop of rock with height in metres if discernible
	Submerged ROCK with predominant sediment classification (sediment thickness = target burial depth)		Seabed DEPRESSION or ROCKMARK with diameter (d) and depth (D) in metres, where discernible
	ROCK outcrop		Orientation of SANDWAVE crest (with wavelength and height in metres)
	HARDGROUND (Very dense/consolidated sediment)		Orientation of MEGARIPPLE crest (with wavelength and height in metres)
	Sediment or feature boundary		Orientation of sediment ribbon (with wavelength and height in metres)
	Inferred Sediment or Feature Boundary		Fault with depth below seafloor (fluctuates on down side)
	Approximate limit of side scan sonar coverage and survey swath		Isobath Contours shown at 1m interval with labels every 1m
	Seabed scar (trail or anchor)		Located wreck with reference no. (length x width x height in metres where measurable)
	Charted or reported wreck		Anchorage Area / Fishing Area (Admiralty chart position)
	Dumping ground database position		Anchorage / Fishing Prohibited (Admiralty chart position)
	Well / Platform		
	Oil Concession Block		

CHART COMMENT:

Isolated sonar contact with reference number (length x width x height in metres where measurable; n/nh = no measurable height)

GENERAL NOTES:

SURVEY VESSEL	M.V. Ocean Endeavour	M.V. Capibó Eng III
Surface positioning system	Furgo Starlink HP US948S	Aplicare POSMV WaveMaster, Verpos LDS
Underwater positioning system	Sonartechn Ranger 1 USBL	Reson Seabat T-20
Bathymetry	Kongsberg EM120, Kongsberg EM60 Combi	
Morphology and stratigraphy	Edgetech 4200-F3, Kongsberg Chirp and prager, SEB Seaprobe SSS/SBP	Edgetech 4200 MP, Kongsberg Geosonics, Geopulse
Magnetometer survey	Geomatrix M82	Marine Magnetics Seateq
Geotechnical	Kullenberg Piston Core, Neptune 3000 CPT	Van Veen Grab Sampler

Target burial depth: 1.0m below seabed

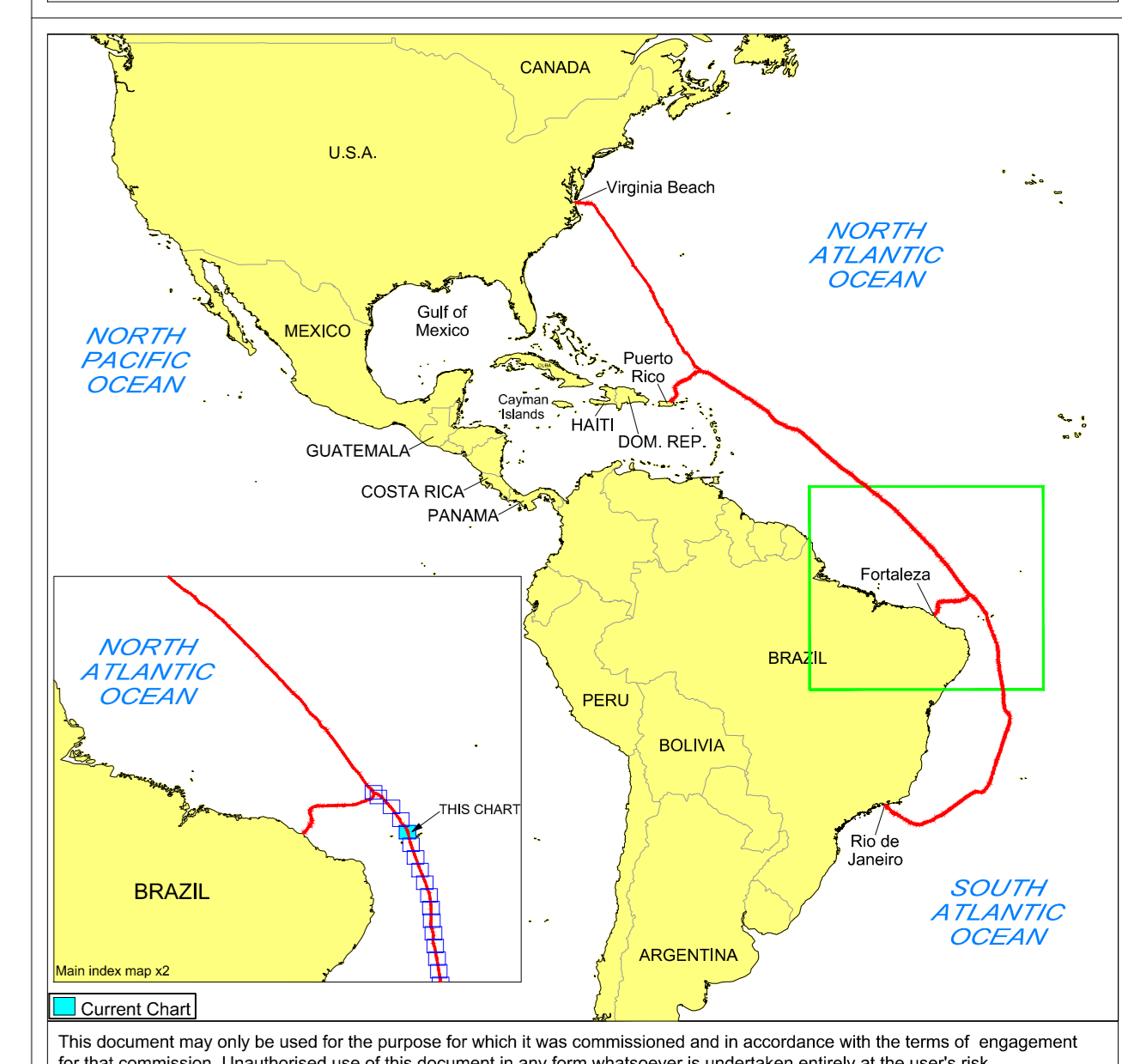
Descriptive Terms and Definitions: The criteria used for interpretation and descriptions are presented in the Survey Results

Multibeam Processing Parameters: Depths in metres, reduced to LAT

Predictions used from tide stations: Rio de Janeiro, Brazil

GEODETIC PARAMETERS:

Projection	MERCATOR	Scale Factor	1
Longitude of Origin	53°W	Datum	WGS84
Standard Parallel	7°N	False Easting	3 000 000
Semi-Major Axis (a) (metres)	6378137.000	False Northing	5 000 000
Reciprocal Flattening (1/f)	298.257223563		



This document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for that commission. Unauthorised use of this document in any form whatsoever is under the entirety of the user's risk.

Survey Date: MAY to AUGUST 2016

Scale: NATURAL SCALE 1 : 100,000 at 7°N

(At Mid-Latitude of Chart)
TRUE SCALE 1 : 100038.40

Purchaser: **TELXIUS** (Enabling Connectivity)

Contractor: **Alcatel-Lucent**

Surveyor: **Gardline**

Project Name: **BRUSA CABLE ROUTE SURVEY**

Document Title: **SEGMENT 7 NORTH-UP CHART CHART NO. 004 OF 071 (KP 266.877 - KP 353.413)**

01	16.06.2016	JSRM	PB	CB
00	24.06.2016	JSRM	PB	CB
Rev	Date	Prepared by	Checked by	Approved by

ROUTE BASED UPON: BRUSA PSR02 File Name: BRUSA.S7.NU004

REVISION 01