

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)		Approximate limit of swath bathymetry coverage (shown only in areas of flat seabed)
	Downslope gradient in degrees (°) as measured over the shortest significant distance		

SEABED FEATURES AND SHALLOW GEOLOGY

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

CHART COMMENT:

GENERAL NOTES:

SURVEY VESSEL	M.V. Ocean Endeavour	M.V. Capibó Eng III
Surface positioning system	Furgo Starlink HP 15048S	Applan POSMV Watermaster, Verpos LDS
Underwater positioning System	Sonartech Ranger 1 USBL	Reson Seabat T-20
Bathymetry	Kongsberg EM1202, Kongsberg EM1002, Kongsberg EM60 Combi	
Morphology and stratigraphy	Edgetech 4200-FS, Kongsberg Chirp and prager, SEB Seaprobe SSS/SBP	Edgetech 4200 MP, Kongsberg Geosoundics, Geopulse
Geomagnetic survey	Geomatrix 882	Marine Magnetics Seateq
Geotechnical	Kullenberg Piston Core, Neptune 3000 CPT	Van Veen Grab Sampler

Target burial depth: 1.0m below seabed

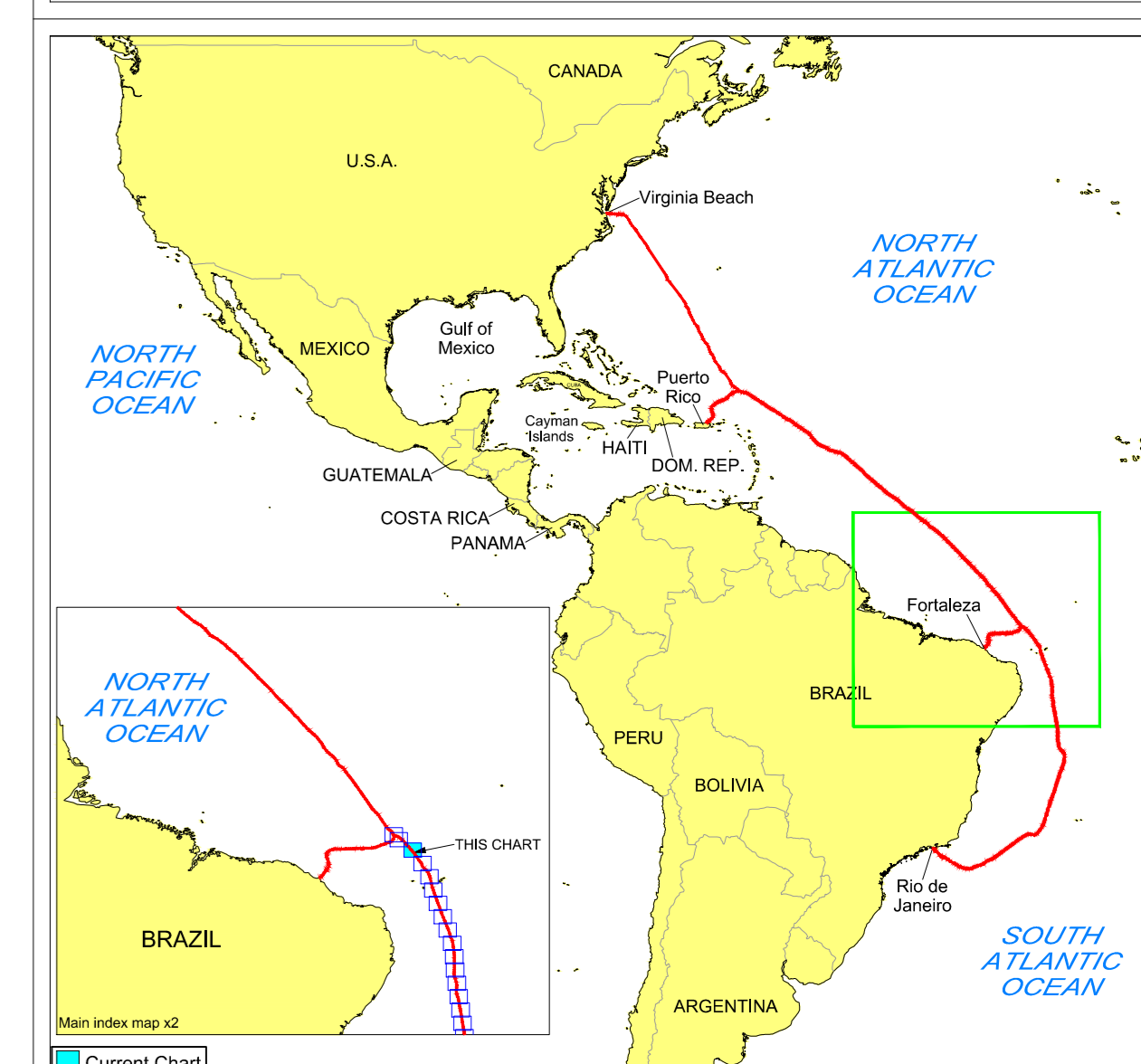
Descriptive Terms and Definitions: The criteria used for interpretation and descriptions are presented in the Survey Results

Multi-beam 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		



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Survey Date: MAY to AUGUST 2016

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

(At Mean Low Water of Chart)
TRUE SCALE 1 : 100681.59 km

Purchase: **TELXIUS** (Enabling Connectivity)

Contractor: **Alcatel-Lucent**

Surveyor: **Gardline**

Project Name: **BRUSA CABLE ROUTE SURVEY**

Document Title: **SEGMENT 7 NORTH-UP CHART CHART NO. 002 OF 071 (KP 81.044 - KP 182.669)**

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.NU002

REVISION 01