

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/Alter Course		Pipeline position, in Service/Out of Service (As found in magenta)
	Survey Route		Power cable position, in Service/Out of Service (As found in magenta)
	Coastline (from Admiralty Charts)		Chart Matchline
			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/m = no measurable height)
	Gas seepage area with predominant sediment classification		Linear sonar contact, dashed where partially buried
	Boulder 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: GC (Grab Core), GS (Grab Sample), DS (Diver Sample), DP (Diver Probe), SP (Beach Probed)
	Very coarse sediment (COBBLES and BOULDERS)		MUDPT (CP) Location with reference number
	Submerged ROCK with predominant sediment classification (sediment thickness = target burial depth)		Small outcrop of rock with height in metres if discernible
	ROCK outcrop		Seabed DEPRESSION or POCKMARK with diameter (d) and depth (D) in metres, where discernible
	HARDGROUND (Very dense/silicified/consolidated sediment)		Orientation of SANDWAVE crest (with wavelength and height in metres)
	Sediment or feature boundary		Orientation of MEGARIPPLE crest (with wavelength and height in metres)
	Inferred Sediment or Feature Boundary		Orientation of sediment ribbon
	Seabed scar (trail or anchor)		Fault with depth below seafloor (fractures on down side)
	Charted or reported wreck		Isobath Contours shown at 1m interval with labels every 1m
	Dumping ground database position		Located wreck with reference no. (length x width x height in metres where measurable)
	Well / Platform		Anchorage Area / Fishing Area (Admiralty chart position)
	Oil Concession Block		Anchorage / Fishing Prohibited (Admiralty chart position)

CHART COMMENT:

GENERAL NOTES:

SURVEY VESSEL:	M.V. Ocean Endeavour	M.V. Capibó Eng III
Surface positioning system:	Furuno Starfix HP 10000S	Applan POSMV Watermaster, Verpos LDS
Underwater positioning system:	Sonarteq Ranger 1 USBL	Reson Seabat T-20
Bathymetry:	Kongsberg EM100, Kongsberg EM120, Kongsberg EM300, Kongsberg EM60 Combi	Edgetech 4200 MP, Edgetech 4200 MP, Kongsberg Geoacoustics, Edgetech 4200 MP, Edgetech 4200 MP
Morphology and stratigraphy:	Kongsberg Chirp and pager, SEB Seaprobe SSS/SBP, Geometrics S12	Marine Magnetics Seabeq, Van Veen Grab Sampler
Magnetometer survey:	Kullenberg Proton Core, Neptune 3000 CPT	
Geotechnical:		

Target burial depth: 1.0m below seabed

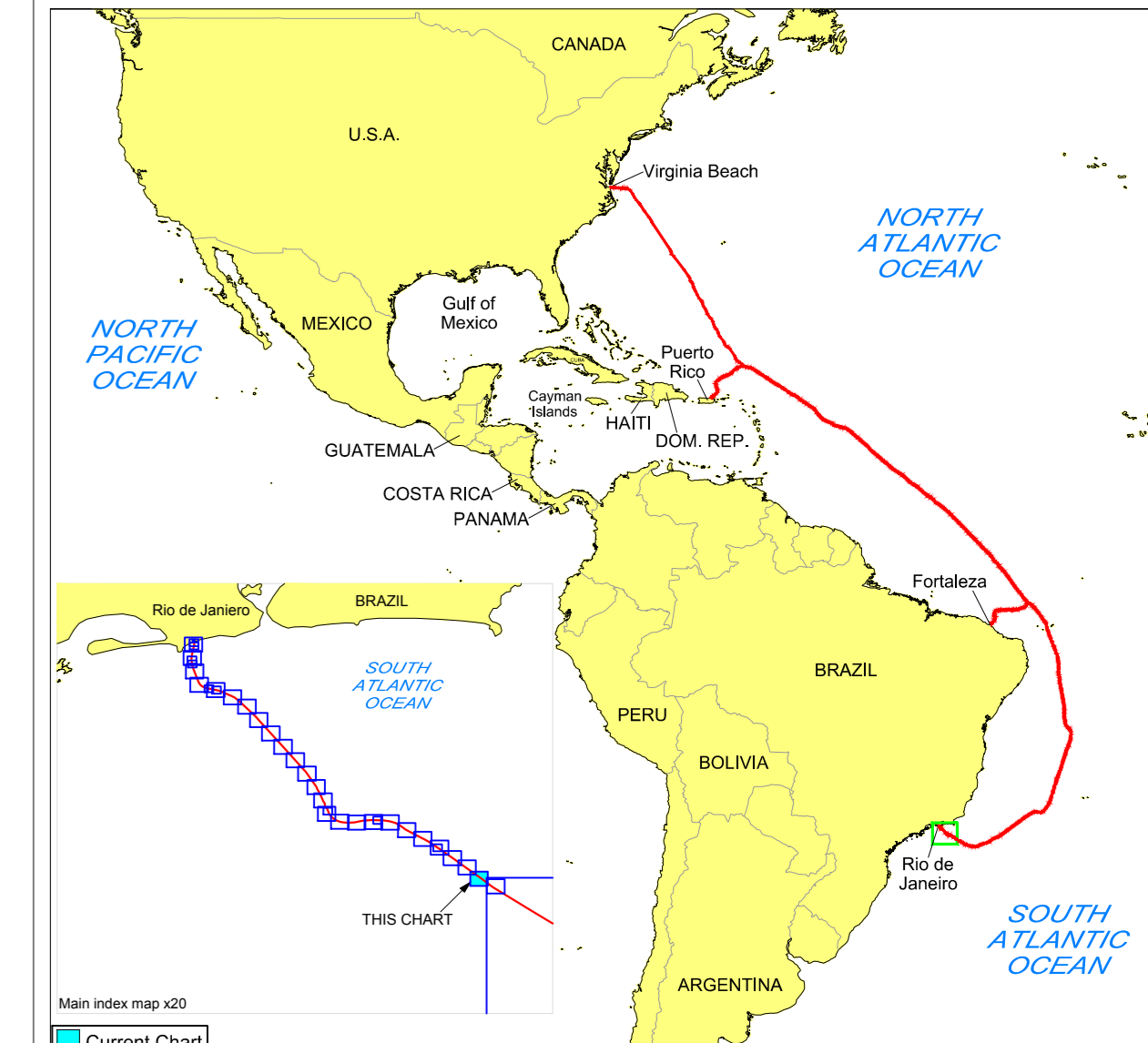
Disruptive Terms and Definitions:
 The criteria used for interpretation and descriptions are presented in the Survey Results

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 : 10,000 at 7°N

(At Mid-Latitude of Chart)

TRAIL SCALE 1 : 1000 x 1 km

Purchaser: **TELXIOUS** Enabling Connectivity

Contractor: **Alcatel-Lucent**

Surveyor: **Gardline**

Project Name: **BRUSA CABLE ROUTE SURVEY**

Document Title: **SEGMENT 7 NORTH-UP CHART CHART NO. 045 OF 071 (KP 3453.147 - KP 3463.158)**

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REVISION 01