

### 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 fair 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/nh = 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)		IC (Piper 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 POC/MARK 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 (trawl 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 (fluctuates 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)

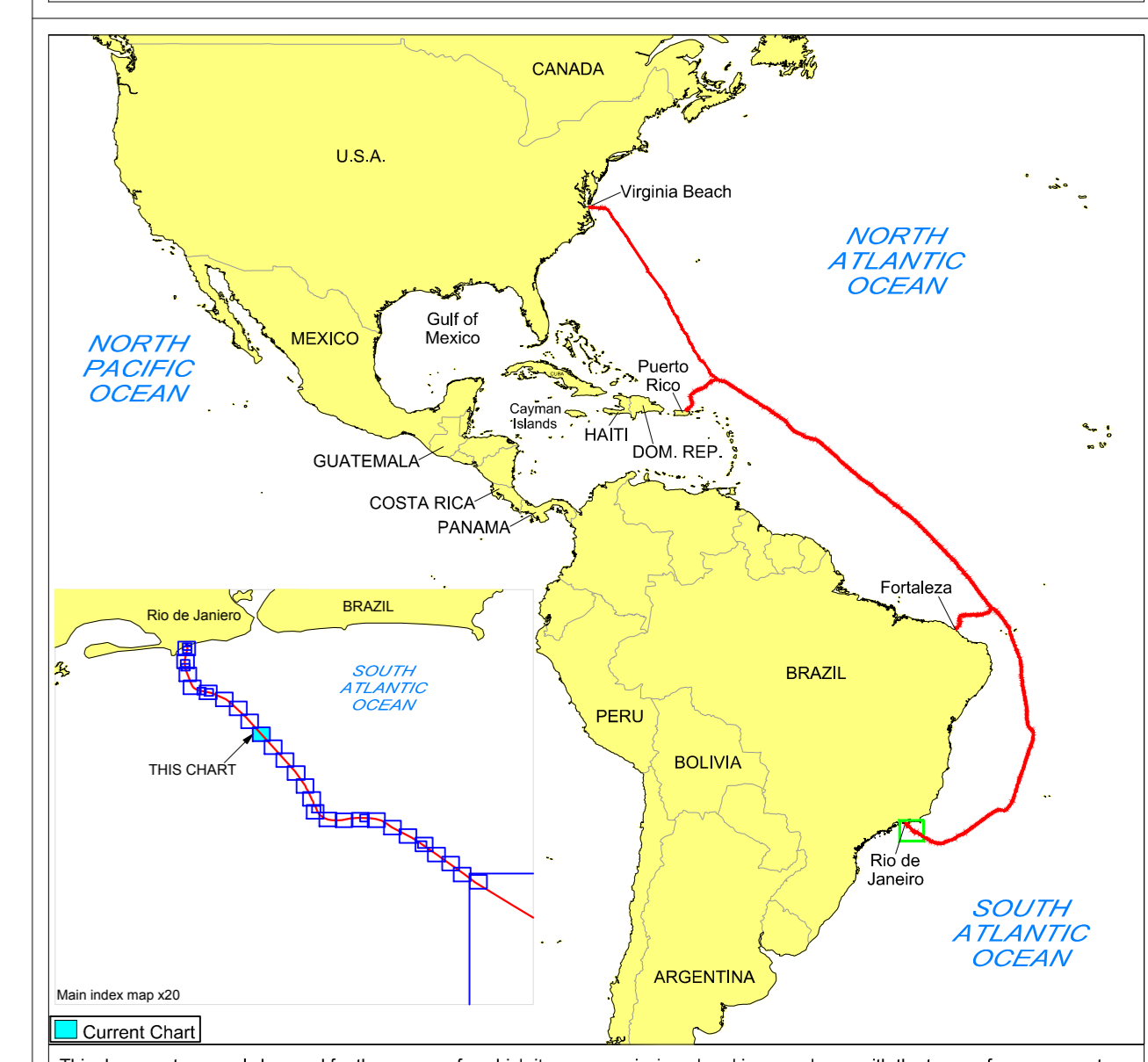
**CHART COMMENT:**

**GENERAL NOTES:**  
 SURVEY VESSEL: M.V. Ocean Endeavour  
 SURFACE POSITIONING SYSTEM: Furgo Star 1HP USNS  
 UNDERWATER POSITIONING SYSTEM: Sonarteck Fingert 1 USBL, Kongsberg EM100, Kongsberg EM300, Kongsberg EM600 Combi  
 MORPHOLOGY AND STRATIGRAPHY: Edgetech 4200 FS, Kongsberg Chirp and pager, SEB Seaglobe SSS/SBP, Geometrics S82  
 MAGNETOMETER SURVEY: Geotechnical  
 M.V. Capito Eng III  
 Applus POSMV Watermaster, Verpos LDS  
 Reson Seabat T-20  
 Edgetech 4200 MP, Kongsberg Geosonics, Geopulse  
 Marine Magnetics Seagry, Van Veen Grab Sampler, Neptune 3000 CPT

**Target burial depth:** 1.0m below seabed

**Descriptive Terms and Definitions:**  
 Precision: METRIC  
 Multibeam Processing Parameters: Depths in metres, reduced to LAT  
 Predictions used from tide stations: Rio de Janeiro, Brazil

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



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Survey Date: MAY to AUGUST 2016

Scale: NATURAL SCALE 1 : 10,000 at 7°N  
 (At Mean Low Water of Chart)  
 TITLE SCALE: 1 : 9046.96 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. 061 OF 071 (KP 3589.399 - KP 3599.141)**

01	16.06.2016	JSRM	PB	CB
02	24.06.2016	JSRM	PB	CB

Revision: **REVISION 01**

ROUTE BASED UPON: BRUSA PSR02 File Name: BRUSA.S7.NU061