



ROUTE and ROUTE CLEARANCE SURVEYS

SHALLOW GEOLOGY, SHIP'S TRACK and SURVEY ROUTES

- Proposed cable route showing After Course (AC) position
- BAS route (R.P.L. post route survey - Issue 7)
- Route survey vessel track showing its number and position
- Depth to base of surficial sediments in metres below seabed
- Gradiational sediment or feature boundary

BATHYMETRIC and GEOLOGICAL PROFILE (Profile refers to original survey route only)

- Seabed
- Interface (inferred if dashed)
- Significant interface (inferred if dashed)

BATHYMETRY, SEABED FEATURES and AS-LAID CABLE

- Bathymetric contours in metres below Lowest Astronomical Tide (LAT)
- Rock/valley outcrops
- Rock/valley exposures
- Telecommunications cable in service (position from France Telecom except where noted)
- Telecommunications cable out of service (position from France Telecom except where noted)
- Telecommunications cable. Cleared for TAT-14 with dump weight (DW) position indicated where deployed
- Telecommunications cable. Cleared for TAT-14 attempted but no cable recovered
- Telecommunications cable. Cleared for previous operations
- Orientation of sediment ribbon (with megapplies if available)
- Orientation of seabed crest (tick indicates direction of sediment transport). H=height in metres, W=width in metres
- Approximate limit of side scan sonar coverage
- Seabed gradient in degrees
- Seabed scour (with description)
- Regional orientation of rock ridges
- Wreck with reference number, dimensions in metres where shown, H=height in metres where measurable
- Sonar contact with reference number, H=height in metres where measurable
- Seabed depression with diameter or dimensions in metres, D=depth in metres where measurable
- Magnetometer contact
- Exposed cable, position as found
- Buried cable, position as found
- Pipeline
- Power cable in service
- Route clearance track

BURIAL ASSESSMENT SURVEY

BAS Report km - based on post route survey position list issue 10 (14/12/98) supplied by RWS

SPF Shear pin failure with shear tension in tonnes where measurable

TOW TENSION - measured in tonnes and displayed at 10m intervals

GRAPNEL PENETRATION - Measured in metres below seabed. Shading indicates grapnel penetration range. Grade of shading indicates proportion of penetration within the penetration range.

BURIAL AND RISK CATEGORIES

BURIAL

- A Full depth burial to plough trench setting of 0.7m recommended. Grappling with 0.8m fluke possible.
- B(i) Plough trench setting 0.5m recommended. Seabed too strong for 0.8m grapnel, but possible with 0.8m.
- B(ii) Continuous and consistent burial expected.
- B(iii) Plough trench setting of 0.7m recommended but continuous full depth burial not expected. No cable exposure expected.
- B(iv) Plough trench setting of 0.5m recommended where variable seabed or thin sediment will prevent consistent trench depth of 0.5m or greater. Sufficient sediment for continuous burial. Areas of high strength seabed are indicated.
- C Plough trench setting of 0.5m to 0.7m recommended but areas of cable exposure likely.
- Z Ploughing not recommended as burial impossible with standard plough due to exposed rock seabed or steep gradients.
- X No plough burial due to coarsening of in service cable or pipeline.
- U BAS data inadequate. Unable to provide a confident burial classification.

RISK

- 1 No damage to plough due to seabed likely
- 2 Areas where damage to plough due to seabed is possible but is repairable on ship within 24 hours. No need to return to port
- 3 Areas where excessive damage to plough due to seabed is possible and which requires a return to port

CABLE INSTALLATION

AS-LAID CABLE

- As-Laid Cable showing After Course position
- Repeater
- Joint Box - factory splice
- Joint Box - vessel splice
- Equaliser
- Initial / Final Splice
- Ducted cable
- Transition
- Plough Down / Plough Up (Limits of Burial)
- 50 Water Depth
- Kilometre Post - Positions from Installation Vessel data files (direction as R.P.L.)

CABLE BURIAL

- As-Laid Burial Profile
- Burial status of cable following completion of PLIB operations
- Suspension

NOTES

Navigation Control : DGPS

Water Depths: The 'As-Laid' depths may differ from the bathymetry recorded during the route survey due to the use of different data acquisition systems.

Installation Vessel: **ca BOLD ENDEAVOUR** Date: March-July 2000

P.L.I.B. Vessel: **mv TORSA CREST** Date: April-July 2000

GEODETTIC PARAMETERS and POSITIONING

PROJECTION: UTM SPHEROID: International ED50 CENTRAL MERIDIAN 3° West

Route Survey positioning: Multiple Reference Station Solution using: STARFIX Differential GPS

ABERDEEN, H. HEMPSTEAD, HAARLEM, ROGALAND, SHANNON, TORSHAVN

SCALE 1:10,000
(at original drawing size A0 - 1189mm x 841mm)

LOCATION MAP

PURCHASERS

Deutsche Telekom AG
AT & T
British Telecommunications plc
France Telecom

KPN Telecom
Sprint Communications Company Limited partnership
MCI International, Inc.

TAT-14 OPTICAL FIBRE SUBMARINE CABLE SYSTEM

SEGMENT K1

WGS84/ED50 DEMARKATION TO BLAABJERG (DENMARK)

AS-LAID CABLE ROUTE

SHEET K-058

KP 0761 to KP 0767

KDD-SCS

Global Marine

Issue No. 1 Date Sept. 01 Cable as installed Produced by M.D. Ltd

As-Laid Charting by Meridian Datagraphics Ltd

Approved Date Sheet No. K-058