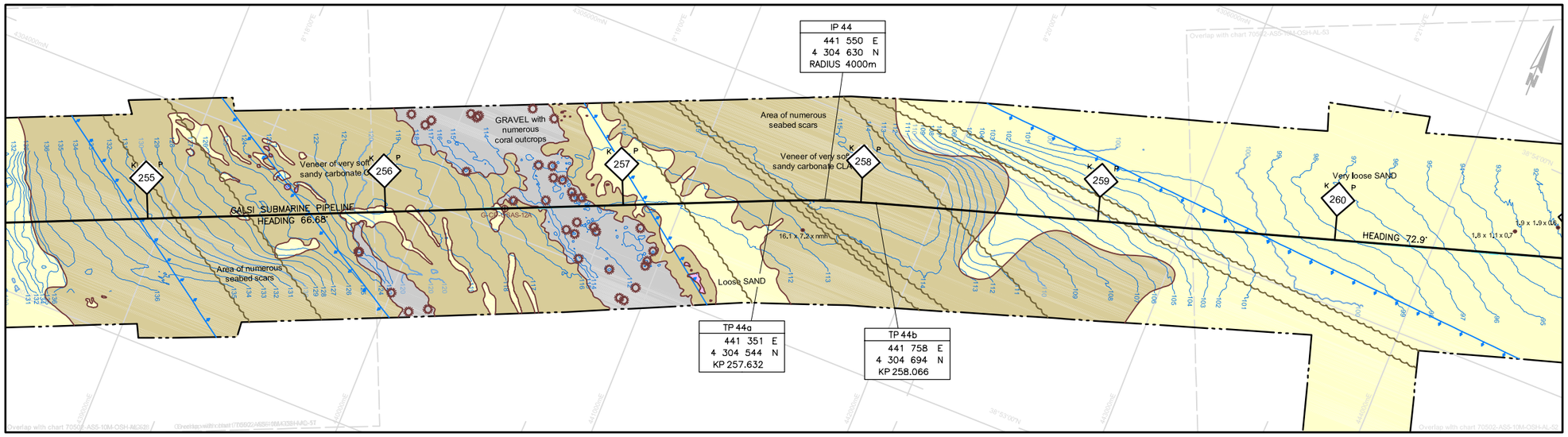
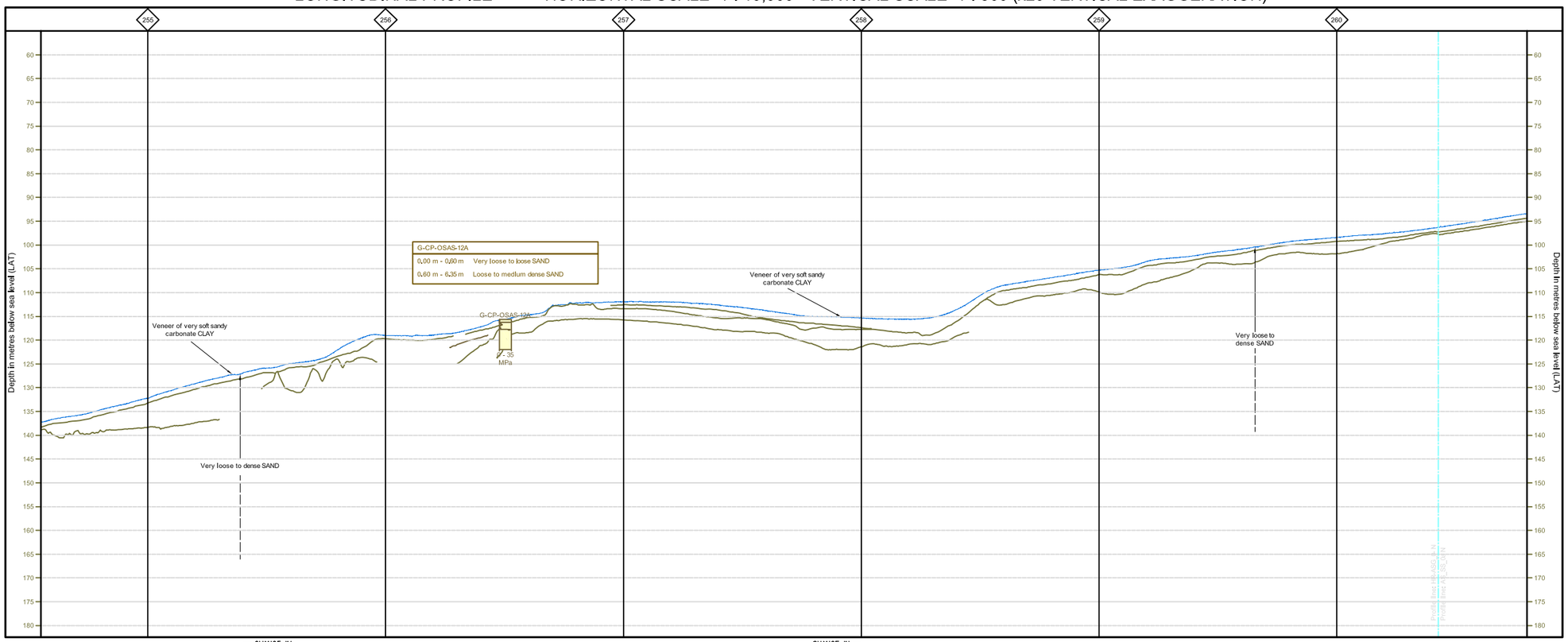
BATHYMETRY AND SEABED FEATURES



LONGITUDINAL PROFILE HORIZONTAL SCALE 1 : 10,000 VERTICAL SCALE 1 : 500 (x20 VERTICAL EXAGGERATION)



KILOMETRE POST	KP 255.0	CHANGE IN BUCKLE ARRESTOR SPACING 255.400	KP 256.0	KP 257.0	TP44A 257.632	CHANGE IN ALLOWABLE SPAN LENGTH KP 258.0	TP44B 258.066 KP 259.0 KP 260.0
PIPE SECTION DETAILS	585.8 mm ID x 17.5 mm WT– SAWL DNV 485 IFDU						
EXTERNAL COATINGS	3.8mm Thk 3 LAYER POLYPROPYLENE (PP) @ 900 kg/m3 + 75 mm Thk @ 3040 Kg/m3 CONCRETE WEIGHT COATING						
BUCKLE ARRESTOR	BUCKLE ARRESTOR TYPE A – 1 IN EVERY 251 JOINTS				NO BUCKLE ARRESTOR		
ANODES	ANODE TYPE: AS1 1 in 21 JOINTS						
LAY TOLERANCE	+/–10m						
INTERVENTION DETAILS	SURFACE LAID						
MINIMUM BEND RADIUS	305m						
ALLOWABLE SPAN LENGTHS	41m INSTALLATION,33.5m FLOODED, 30m OPERATION					41m INSTALLATION,33.5m FLOODED, 19.5m OPERATION	

PIPELINE ENGINEERING

LEGEND:

- International boundary / 12 nm limit
- Limit of side scan sonar coverage
- Line of longitudinal profile
- G-VC-OSAS-80 Geotechnical sample / test location
- In service cable (from data base)
- Out of service cable
- Planned cable
- Chart overlap

PIPELINE ROUTE

- K 1 P — Kilometre Post indicating distance from landfall
- AS5_REV10M FEED pipeline route

BATHYMETRY / TOPOGRAPHY

- 800 — Major bathymetric contour at a 10 m Interval relative to LAT
- LAT — LAT
- 801 — Minor bathymetric contour at a 1 m Interval relative to LAT
- 20 — Major topographic contour at a 5 m Interval relative to LAT
- 1.0 — Minor topographic contour at a 1 m Interval relative to LAT

All survey depths are reduced to Lowest Astronomical Tide (LAT).

SEDIMENT TYPES

- SILT
- Undisturbed seabed
- Undulating seabed due to buried mass movement deposits
- Surface mass movement deposits
- Exposed failure plane
- SAND
- CLAY
- GRAVEL
- CORAL
- CARBONATE
- MESSINIAN EVAPORITES
- ROCK
- SEA GRASS (POSIDONIA)

SEABED FEATURES

- Sediment boundary (dashed where inferred)
- Scarp / significant break of slope
- Ridge axis
- Localised ridge
- Break of slope
- Fault outcrop / subcrop
- Gully
- Trench
- Ripple mark orientation
- Limit of area of numerous sonar contacts
- Limit of area of numerous small seabed depressions
- Limit of area of numerous seabed scars
- Seabed scar
- Wire / cable
- As found cable (by SSS)
- As found cable (by ROV)
- Linear debris with dimensions (length x width x height) in metres
- Linear debris from ROV with dimensions (length x width x height) in metres
- Sonar contact with dimensions (length x width x height) in metres
- Carbonate deposit with dimensions (length x width x height) in metres
- Depression less than 12 m in diameter
- Depression 12 m or greater in diameter
- Coral mound
- Rock outcrop with dimensions (length x width x height) in metres
- Wreck with dimensions (length x width x height) in metres

LONGITUDINAL PROFILE

- Seabed profile (along proposed pipeline route)
- Seabed devoid of undisturbed recently deposited sediment
- Major sub-seabed reflector
- Minor sub-seabed reflector
- Fault with direction of throw (dashed where unclear)
- Mapped acoustically structureless package

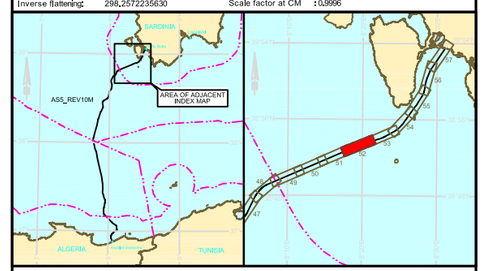
NOTES:

1. SEE GALSI DETAILED MARINE SURVEY FINAL REPORT (FUGRO JOB NO. 70502) FOR ALL DMS DATA.
2. EPOXY INTERNAL COATING NOMINAL 0.08MM THICK APPLIED TO ALL PIPE JOINTS.
3. FOR ANODE AND BUCKLE ARRESTOR DETAILS SEE FEED OFFSHORE FINAL DESIGN REPORT (DOC. NO. 030–G–3–0477).

GEODETIC PARAMETERS:

GEODETIC DATUM: WGS 84 (ETRF 1989)
ELLIPSOID: WGS 84
Semi major axis: 6378137.000
Inverse flattening: 298.2572235630

PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
Zone 32, 9° East Latitude of Origin : 0° North
False Easting : 500,000 m False Northing : 0 m
Scale factor at CM : 0.9996



SCALE: 0 500 1,000 metres; 0 1,000 2,000 3,000 feet; 1:10,000

REV	DATE	DESCRIPTION	BY	CHK	ENG	PM	CLIENT
03	30.01.09	RE–ISSUED FOR APPROVAL	RO	TK	SL	AFB	
02	20.01.09	ISSUED FOR APPROVAL	RO	TK	SL	AFB	
01	25.11.08	ISSUED FOR COMMENT	SJS	SL	SL	AFB	

CLIENT: Galsi

J P KENNY SOPREGAZ

PROJECT
GAS PIPELINE
ALGERIA TO ITALY VIA SARDINIA

TITLE
ALGERIA TO SARDINIA
FEED ALIGNMENT SHEET 52 OF 57
FROM KP 255 TO 260

DRG. No. 05–300–P–0–3081

REV 03