

1. 調查範圍

本公司預定執行「抽換台金二號海纜 55 公里建設工程」，調查範圍位於金門縣東方海域，最近離岸約 4.5 公里、最遠離岸約 46 公里，調查範圍如圖 1-1 所示、範圍邊界點位如表 1-1 所示。

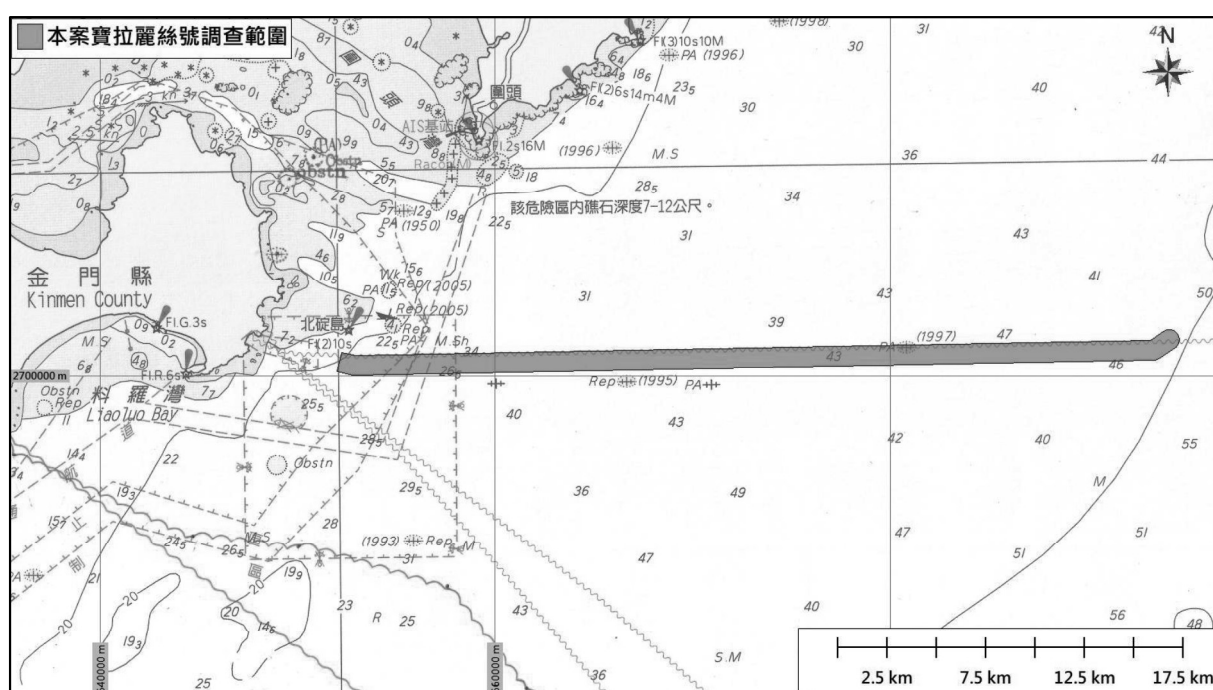


圖 1-1 本案寶拉麗絲號調查範圍

表 1-1 寶拉麗絲號調查範圍邊界點位

經度(WGS84)	緯度(WGS84)	點位	經度(WGS84)	緯度(WGS84)	點位
118° 30.24777' E	24° 24.41174' N	01	118° 55.17575' E	24° 25.14340' N	24
118° 30.24996' E	24° 24.41057' N	02	118° 55.16167' E	24° 25.17892' N	25
118° 30.28728' E	24° 24.39444' N	03	118° 55.14233' E	24° 25.21231' N	26
118° 30.32668' E	24° 24.38323' N	04	118° 55.11811' E	24° 25.24290' N	27
118° 30.36741' E	24° 24.37715' N	05	118° 55.08947' E	24° 25.27010' N	28
118° 30.39967' E	24° 24.37443' N	06	118° 55.05697' E	24° 25.29340' N	29
118° 30.42901' E	24° 24.37330' N	07	118° 55.02125' E	24° 25.31232' N	30
118° 54.40923' E	24° 24.50750' N	08	118° 54.98301' E	24° 25.32651' N	31
118° 54.44766' E	24° 24.50996' N	09	118° 54.94297' E	24° 25.33569' N	32
118° 54.48807' E	24° 24.51765' N	10	118° 54.90193' E	24° 25.33967' N	33
118° 54.52691' E	24° 24.53041' N	11	118° 54.86069' E	24° 25.33839' N	34
118° 54.56343' E	24° 24.54799' N	12	118° 54.82004' E	24° 25.33186' N	35
118° 54.71040' E	24° 24.63123' N	13	118° 54.78078' E	24° 25.32022' N	36
118° 54.71999' E	24° 24.63690' N	14	118° 54.74367' E	24° 25.30369' N	37
118° 55.05650' E	24° 24.84431' N	15	118° 54.72615' E	24° 25.29368' N	38
118° 55.08904' E	24° 24.86755' N	16	118° 54.39437' E	24° 25.08918' N	39
118° 55.11774' E	24° 24.89470' N	17	118° 54.32313' E	24° 25.04883' N	40
118° 55.14203' E	24° 24.92525' N	18	118° 30.47347' E	24° 24.91532' N	41
118° 55.16144' E	24° 24.95860' N	19	118° 30.45981' E	24° 24.92073' N	42
118° 55.17559' E	24° 24.99409' N	20	118° 30.43076' E	24° 24.92858' N	43
118° 55.18421' E	24° 25.03105' N	21	118° 30.08662' E	24° 25.00433' N	44
118° 55.18713' E	24° 25.06874' N	22	118° 29.94838' E	24° 24.47763' N	45
118° 55.18429' E	24° 25.10644' N	23			

2. 作業時間

本計畫作業期間為 2021/4/14~2021/04/20，調查單位將依作業時間表（如表 2-1）進行相關作業內容。

表 2-1 作業時間表

項次	開始時間	結束時間	作業內容
1	2021/04/14	2021/04/15	海域地形水深調查
2	2021/04/15	2021/04/16	海域地貌調查
3	2021/04/16	2021/04/18	海域磁力調查
4	2021/04/18	2021/04/20	海域地層剖面儀調查

備註：上列作業時間及作業內容供參考（實際勘測作業期間將隨勘測作業進度及海象而調整）

3. 作業船舶



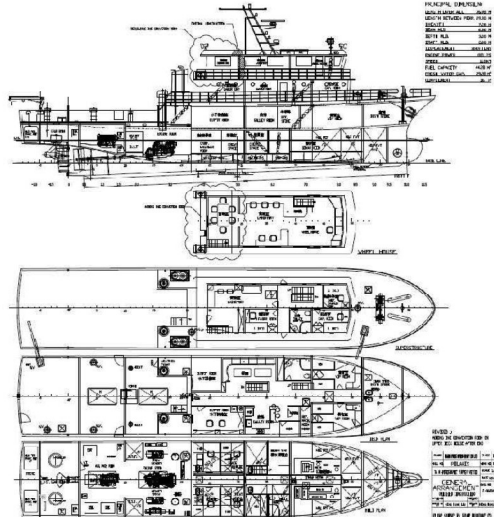
R/V POLARIS

Highly Advanced DP1 Survey Vessel
275T Gross Tonnage



Capability :

- ROV Operation
- Geological Investigations
- Geophysical Survey
- Investigation for Pipeline Routes
- Cone Penetration Test
- Vibro-Core Sampling



Dragon Prince Hydro-Survey Enterprise Co.
 TEL : 886-7-5717056
 E-Mail : survey@de-hydro.com.tw
 Address : No.482, Chun Chou 3rd. Road,
 Cijin Dist, Kaohsiung, Taiwan

圖 3-1 寶拉麗絲號規格圖 (1/2)



TECHNICAL SPECIFICATIONS R/V POLARIS

Principle Particulars

Owner	Dragon Prince Hydro-Survey Enterprise Co.
Length Overall.....	32.58 m
Beam.....	6.80 m
Depth.....	3.00 m
Draft Designed.....	2.0 m
Draft Maximum.....	2.092 m
Deadweight	70 Tonnes
Gross Tonnage.....	275 Tonnes
Net Tonnage.....	82 Tonnes
IMO Number.....	9571727
MMSI.....	416435000
Official Number.....	014915
Port of Registry.....	KOAHSIUNG
Flag.....	TAIWAN
Call sign.....	BHFG
Classification.....	CR,BV
Class Notation.....	Bureau Veritas
Construction Year.....	2009

Machinery

Main-Engines	CATERPILLAR ENO RNYOO-89 C32 1000HP
Propellers.....	1 x FIXED PITCH Props
Rudders.....	1 x MAROL, JAPAN
Bow Thruster.....	30TT200/200 HP
Stern Thruster.....	2 x TH300N /600 HP
Generators.....	2 x 99KW Caterpillar C4.4

Capability

Clear Deck.....	29.8 M ²
Type of Oil.....	MGO
Fuel Oil.....	41,610 TONS
Potable Water.....	29.28 TONS
Max. Speed.....	11.1 KNOT
Economical Speed	10.35 KNOT
Range.....	9 Days

Deck Machinery & Equipment

Deck Crane.....	Palfinger 5.5T/9.4 m
Frame.....	5T/8.6 m
Winch.....	5HP,2,000 m
Boom Arm.....	5 m

Accommodation Superstructure

Total.....	20 men
01 x Bunk Cabins.....	2 x Cabins (2 person)
02 x Bunk Cabins.....	7 x Cabins (14 person)
04 x Bunk Cabins.....	1 x Cabins (4 person)
Mess/ Dayroom.....	for 15 persons
<i>Air Conditioning for entire accommodation spaces</i>	

Navigation and Communication

DP System.....	Kongsberg CPOS DP+ CJOY
Radars.....	1 x FURUNO FAR-2127 96NM X-band 1 x Simrad NSO 4G
GPS.....	1 x Applanix POS MV320 DGPS 1 X Thales Z-Max.com DGPS
AIS.....	1 x JRC JHS182
Echo Sounder.....	1 x Kongsberg HIPAP 350
Gyro Compass.....	1 x IXSea OCTANS III
Auto Pilot.....	1 x Simrad AP50
Speed log.....	1 x GB40 Speed Log
NAVTEX	1 x JMC NAVTEX NT-900
ECDIS System.....	1 X 40S MKII
GMDSS.....	1 x Sailor 5000 system A1+A2+A3
SSB Radio.....	1 X Sailor CU 5100
VHF/DSC.....	2 X Sailor RT5022
VSAT.....	1 x Sailor 900 KA-band
FBB.....	1 x Sailor FBB500
EPIRB.....	1 x Jotron 40S
SART.....	2 x Simrad SART

Survey Equipment

DGPS.....	Fugro Seastar 9205
Motion Compensation.....	Kongsberg Seapath 330 plus MRU 5
Acoustic Positioning.....	Kongsberg HiPAP 350 USBL Sonardyne Ranger 2 USBL
Subsea Inertial Navigation System.....	iXblue PHINS 6000
Multi Beam Echo Sounder.....	Kongsberg EM2040 Kongsberg EM710 Kongsberg EM302
Side Scan Sonar.....	EdgeTech DT1 EdgeTech 2000DSS EdgeTech 4200
Seismic Source.....	Geo-Source 200 Light Weight
Seismic Receiver.....	Geo-Sense Multi Channel Streamer
Seismic Acquisition.....	Multi-Trace 24
Magnetometer.....	GEOMETRICS G-882(TVG mode) MM Sea SPY
ROV.....	SAAB Seaeye Panther XT(1500m)
Cable Tracker.....	Teledyne TSS 350
Geotechnical Capability.....	Datum Neptune 3000/5000 CPT Geo-Vibro Corer 3000
Sound Velocity Profiler.....	AML minos SVP AML XBT
Data Processing Software.....	CARIS SonarWiz RadExPro Triton Perspective GeoSuite AllWorks

Life Saving and Fire Fighting

Rescue Boat.....	2 Unit x 10 person
<i>ALL LSA and FFA installed are in compliance to SOLAS</i>	

圖 3-2 寶拉麗絲號規格圖 (2/2)



圖 3-3 寶拉麗絲號右舷照片



圖 3-4 寶拉麗絲號左舷照片

4. 儀器清單

以下勘測儀器將用於地球物理調查項目，詳見表 4-1。

表 4-1 勘測儀器一覽表

項目	勘測設備
定位	Fugro SeaStar 9200、Kongsberg Hipap 350p
羅經計算機	Applanix POS MV
動態補償儀	Applanix POS MV
多音束測深系統	Kongsberg EM2040 and EM2040C
聲速剖面儀	AML Minos CTD
側掃聲納系統	EdgeTech 2000DSS、EdgeTech 4200-FS
地層剖面儀	Innomar SES-2000 Medium 100-SBP / Innomar SES-2000 Compact
磁力儀	G-882 Marine Magnetometer