One of the leading Land and Offshore Surveyor Companies in Nigeria.



# **Executive Summary**



Barchlunn Services Limited (BSL) is a renowned Swamp, Land and Offshore Survey company providing reliable and effective services in Offshore Survey and Positioning, terrestrial survey, geomatics, geotechnical construction industries.

From project conception, design, construction through to commissioning and operation, we provide our expertise to ensure safe, cost-effective, timely delivery and efficient operation of every project utilizing experienced staff.

Our end products are usually data acquired through the deployment of various types of survey equipment. The data so acquired helps in the design and planning of pipe lays, foundation designs, site hazard clearance for drill sites, offshore platform installation and flood control measures.

Our clients are mainly operators in the upstream oil operations, Government and private concerns.







To provide high quality surveying and consultancy services to the oil and gas sector.

We are determined to be efficient and reliable.

- Our cooperate mission is to ensure that our service strategy of achieving the set vision is based on efficiency and reliability.
   Understanding the volatile nature of the oil and gas industry and its effects.
- Deliver Survey services through fit for purpose equipment materials and human resources, and in doing so impact sustainable development through value creation within the host communities that we operate.





## Hydrographic Surveys

BSL undertakes hydrographic surveys utilizing our vast offshore experience to ensure the quality of hydrographic survey data acquisition, processing and presentation in accordance with International Hydrographic Organization (IHO) standards. We carry out multi-beam and single-beam bathymetric surveys to provide high quality data in support of our clients.

Our hydrographic survey services include:

- Single-Beam and Multi-Beam Bathymetry Surveys;
- Pre- and Post-Dredge Surveys;
- Harbor Surveys;
- · Side Scan and Magnetometer Surveys;
- · Tide Data, Sound Velocity and Conductivity and Temperature Data; and
- Beach Profiling and Coastal Topographic Surveys



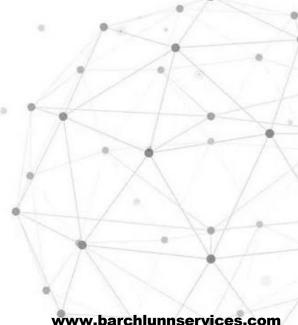


## **Geophysical Surveys**

From coastline to full ocean depth, we undertake geophysical surveys to investigate and provide assessment of sites and routes for hydrocarbon exploration and production. BSL, together with our partners, has the capability to undertake digital and analogue surveys to meet the geophysical requirements of our clients.

Our geophysical survey capabilities are as follows:

- · Site and Debris Clearance Surveys;
- Post Drilling Surveys;
- 2D Seismic Drilling Hazards Surveys;
- · Cable Route Pre-Lay Surveys;
- · Near shore Approach and Landfall Surveys; and
- Pipeline Route Pre- and Post-Lay Surveys





## Offshore Positioning

For rig moves, ROV positioning, jacket installation, barge and anchor handling operations, we have vast experience in offshore positioning, having been involved in several oil/gas exploration, production and related construction projects offshore. Our advanced surface and subsurface positioning and tracking systems and experienced personnel are capable of providing the needed support for a wide range of projects including the following:

- Barge and Tug management system
- Jacket and Template Installation Survey Support;
- Jack-Up and Semi-Submersible Rig Moves;
- · Inspection, Repair and Maintenance Positioning Support;
- · Offshore Geotechnical Borehole and Seabed Sampling Vessel Positioning;
- Dive and General Construction support
- Coastal Construction Positioning.





## Geotechnical Investigation

For both greenfield and brownfield sites, BSL provides site investigation services to a wide range of clients. Our geotechnical service span from initial desk studies, site selection, ground investigations to complex assessment of soil/structure interaction and use of soils and rocks in the construction process. We offer a wide range of geotechnical services to our clients to effectively manage challenges and reduce risk whether it is for a deep basement excavation, managing potentially unstable slopes, re–use of old foundations or design of new foundations, controlling earthworks or predicting ground movements. We support our clients during each stage of the construction process, providing advice and guidance from feasibility and planning through to design and construction.

Our geotechnical capabilities include:

- Basement Impact Assessments;
- Construction Monitoring and Supervision;
- · Desk Studies;





- Foundation and Substructure Designs;
- Hydrogeological Assessments;
- Mining, Cavity Investigations and Remediation;
- Numerical Modelling of Ground Movements;
- · Retaining Structure Analyses;
- · Slope Stability Analyses; and
- Site Investigations

For site investigations, field techniques ranging from simple trial excavations and exploratory borings to sophisticated in-situ testing are used to obtain the data required for design and our knowledge of the capabilities and characteristics of a wide range of techniques and of the logistics of the investigation process is available to help formulate investigation designs. Whatever technique is employed, it is always under the direction and supervision of our qualified and experienced geotechnical engineers.

Geotechnical laboratory testing is undertaken in the laboratory. Contamination testing is undertaken in accredited, approved laboratories. For rig moves, ROV positioning, jacket installation, barge and anchor handling operations, we have vast experience in offshore positioning, having been involved in several oil/gas





#### Geo-environmental Services

As an extension of our geotechnical services, we offer investigation, assessment and regeneration of brownfield and contaminated sites ranging from single development plots to very large redevelopment schemes.

We support our clients in the following areas:

- · Environmental due diligence;
- Phase 1 desk studies;
- · Ground investigation including complex sites;
- · Ground and groundwater risk assessment;
- Remediation options appraisal and strategies;
- Remediation design, contract specification and management;
- · Site supervision and verification monitoring;
- · Regulatory consultation to support with the planning process; and
- Verification reporting





### Terrestrial Survey

BSL offers tailor-made survey and measurement solutions, providing intelligent and sustainable data particular to each project, specification and client.

Our surveyors have extensive experience and proven track record in delivering high quality survey data in diverse challenging conditions utilizing leading-edge equipment, state-of-the-art software applications and standardized procedures.

From simple points setting-out to site surveys, transportation infrastructure surveys, 3D laser scanning surveys, measured building surveys to survey support during construction, our surveyors have successfully completed numerous projects for a wide range of clients.

Our terrestrial survey services include:

- · Desk studies:
- Topographical Surveys;
- Infrastructure Surveys;
- Boundary Surveys;
- As-Built Surveys;



- · Water Course Sections;
- Underground Utilities Detection Surveys;
- · Engineering Surveys and Control Networks;
- Measured Building Surveys;
- Verticality and Deformation Monitoring Surveys;
- · Mine Quarry and Waste Management;
- · Specialist Solutions; and
- · 3D Laser Scanning

As an extension of our geotechnical services, we offer investigation, assessment and regeneration of brownfield and contaminated sites ranging from single development plots to very large redevelopment schemes.

We support our clients in the following areas:

- · Environmental due diligence;
- · Phase 1 desk studies:
- Ground investigation including complex sites;
- Ground and groundwater risk assessment;
- · Remediation options appraisal and strategies;
- · Remediation design, contract specification and management;
- Site supervision and verification monitoring;
- · Regulatory consultation to support with the planning process; and
- Verification reporting







### Hydrogeology

BSL offers a wide range of groundwater engineering and hydrogeological services to landowners and developers. Our hydrogeological engineers have extensive experience in groundwater quantity and quality testing, along with completing groundwater impact assessments related to proposed lot severances or land development.

Our groundwater and hydrogeological services include:

- · Soil and groundwater sampling;
- · Groundwater depth, quality and flow assessment;
- · Groundwater impact assessment for a proposed development;
- · Well water quality and quantity investigation;
- Drinking water system evaluations in compliance with regulatory and WHO regulations; and
- · Wellhead protection and aquifer management



# **Projects**



We have successfully executed several contracts and projects for operators in the industry. These include;

- 1. Pipeline route survey for Gas Supply.
- 2. Topographical/Route survey works (Umuahia-Obibi) 116km for AGIP in 2017
- 3. Topographical survey for Road Construction of Umueze I ring road in Ehime Mbano Imo State in 2017
- 4. GIS data acquisition of NDDC facilities in the nine Niger Delta State using differential GPS.
- 5. Topographic Survey of Federal University of Technology Owerri.
- 6. Rig Positioning in Meren location of Chevron field offshore.
- 7. Full spread seabed survey of Okan 30 location, Chevron Field offshore.
- **8.** Pre and post dredging sounding at Otameri River in Owerri, Imo State Government.
- 9. Bathymetric Survey over two large area totaling 6,000 line offshore for clearance prior to 3D Seismic Survey for Chevron producing Nig. limited .Opolo Field.
- 10. Database Management in preparation for CAD utilization set-up for Ministry of lands and survey, Imo State.





#### Offshore Positioning (surface):

C-Nav 3050 DGPS Receivers

Trimble SPS855 GNSS Modular Receivers

Trimble SPS356 L1 Beacon Receivers

Trimble 5700 GPS Receivers

Trimble SPS361/SPS461 Heading & Positioning Receivers

Trimble 4000SSE GPS Receivers

Trimble 4000DS GPS Receivers

Trimble 4000SE GPS Receivers

Trimble TDL 450H Telemetry Radios

Trimble TDL 450 Telemetry Radios

Trimble HPD450 Telemetry Radios

Satel Satelline-3AS 469 Telemetry Radios

Satel 3ASD Telemetry Radios

TSS Meridian Surveyor Gyrocompasses

**KVH Gyrotrac Heading Sensors** 

KVH Azimuth 1000 Heading Sensors

**KVH Autocom Heading Sensors** 

#### Software System:

Eiva/Hypack (Construction, Navigation, Remote)

### **Underwater Tracking System:**

Sonardyne Scout USBL

#### Offshore Geophysical Survey:

SyqWest Bathy 500 HD Echo Sounder

EdgeTech 4600 Swath Bathymetry and Sonar

Odom Hydrotrac echo Sounder

Odom Echotrac MKII DF Echo Sounder

Odom MB1 Multi-Beam Echo Sounder

SygWest Aguascan HD Side Scan Sonar

SygWest Bathy 2010-P Chirp Sub Bottom Profiler

Geometrics G882 Magnetometer

Marine Magnetics SeaSpy Magnetometer

JW Fisher Scan 650 Sector Scanning Sonar

TSS DMS-H Motion Sensors

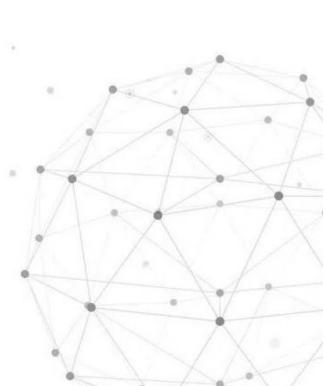
EdgeTech 4125 Side Scan Sonar

Valeport Model 106 Current Meter

Valeport SVS Sound Velocity Profiler

Data Processing/Reporting System





#### Geotechnical Investigation:

Pagani TG 63–150 CPTU System (CPT/CPTU/SCPTU/DPH/DPM/DPSH/SPT)

Dando 1500 Percussion Drilling Rigs

Dando 4000 Percussion Drilling Rigs

Sany SR205C10 Rotary Drilling Rig

Hukseflux FTN01 Thermal Conductivity System

Chauvin Arnoux Terca 3 Soil Resistivity Meters

AX01-A Plate Load Test System

ABEM Terraloc Pro Seismograph

Magna Trac Underground Utility Detector

DCM2-250C Asphalt Coring System

Geonor H-70 Vane Test System

Field Density Tests System

Apageo Menard Pressuremeter System

**Durham Geo Hand Augers** 

Solinst Model101 Water Level Meters

Geometrics Geode Seismograph

George E Failing Statastar SS-5 Water Well Drilling Rig

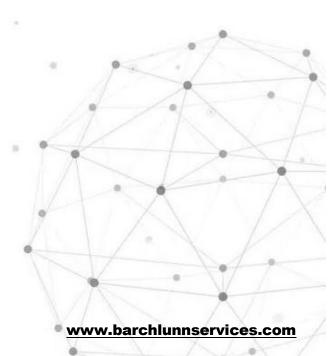
ABEM SAS 1000 Terrameter

**KC Gravity Corer** 

Poner Grab Sampler

Honda Water Pumps





#### **Geotechnical Laboratory:**

Port Harcourt, Nigeria

### Contamination, Rock, Other Test Laboratory:

Abuja, Nigeria (affiliate)

#### Terrestrial Survey:

Leica GPS System 500 + Rover Units + Ski-Pro Software

Leica TCR705 Total Stations

Leica TCR407 Total Stations

**Topcon Total Stations** 

Leica TS 02 Total Stations

Kolida KTS-442 Total Stations

Fisher TW-8800 Underground Line Tracers

Wild NA2 Automatic Levels

Leica ML180 Laser Level

Leica ScanStation C10 3D Laser Scanner + HDS Software

Leica Distance Meters

Garmin (handheld) GPS Receivers

Leica Zeno 20 GIS Data Collectors

DigiCat 550i Utility Service Locator

Data Processing/Reporting System





# Contact



You can also contact us with the contact information below. Our offices are located in Lagos, (Headquarters), Port Harcourt (Administrative/Field Operational Bases)

LAGOS OFFICE: House 9/10, Road 24, VGC, Lekki, Lagos State

barchlunnserices@gmail.com chupon121@yahoo.com

+23408038166952

PORT HARCOURT OFFICE: 1-6 Act Street, Km PH/Aba-Expressway, Rivers State

barchlunnserices@gmail.com chupon121@yahoo.com

+2340803816695