

MANPOWER DEVELOPMENT UNIT

VICTORIABYRON

Is currently the Human Resources and Manpower Senior Supervisor. She holds a B.Sc & M.Sc in Geology & Petroleum respectively from the University of Port-Harcourt. She has over 7 years of experience in Geology, Geophysics, Health and Safety, Quality Management System relating to Oil & Gas Industry. She is the Registrar of Laser Petroleum Geoscience Centre, with the responsibility of coordinating, assessing and budgeting for the smooth running of the school.

The Manpower unit in Laser runs short courses for companies in the oil and gas industry. Laser Geoscience School is an extension of Manpower unit accredited by government (National Board of Technical Education NBTE) as a licensed Vocational Centre to bridge the gap between the University class room learning and the oil and gas industry skills.

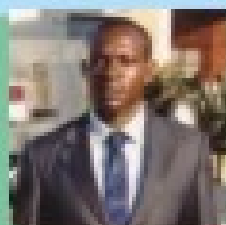
Our responsibility as a unit is to ensure that skills, knowledge and competence is improved and developed by exposing participants to the practical aspects of the oil and gas industry gained by our staff and consultants through years of experience.

This programme is for both workers and graduates of Geosciences, Engineering and related disciplines who are interested in using engineering, geology and geophysics to explore for, and develop oil and gas fields and professionals in the oil and gas industry or those aspiring to be in future. Our programme is offered as a 4-month course for experienced professionals and 6-month programme for fresh graduates. We run these courses in batches.

Our aim is to produce professionals with excellent competence, technical expertise, experience, multi-disciplinary and team skill for optimum productivity in order to enhance Nigeria's global competitiveness in the oil and gas industry.

SLICKLINE UNIT

KECHUKWU OKORO N. is the Senior Slickline Supervisor, at Laser Engineering. He holds a B.Sc in Industrial Chemistry, from Abia State University. He has over 9 years experience in Slickline operations, and has worked with Sego Oil Field Services Limited both as Wireline Operator II and memory Gauge Engineer. He has tremendous professional certifications in diverse



Fields. At Laser, he is in charge of Co-coordinating all Slickline and data gathering activities in compliance with standards and procedures.

Slickline synonymously interchanged with wire line. Slick line is the oldest, most common type of well intervention method deployed for oil recovery in the oil and gas industry.

Well intervention is a process of executing remedial operations on a life well without damage to the formation. This is done by "running" and "pulling" the tools and equipment into and out of the wellbore by use of state of the art double drum unit with a small diameter slickline mounted on a powerful reel at the surface.

Our Major Slickline Operations include:

- **BHP TEST** : Using Electronic Memory Gauges, which records the pressure and temperature of the wellbore.
- **FISHING** : Involves retrieval of lost tool, flow devices or wire down hole.
- **SWABBING** : Fluid lifting using swab cups and mandrels
- **ZONE CHANGE** : Opening and closing of SSD (Sliding Sleeve Door)
- **WAX CUTTING** : Removal of wax deposit in tubing
- **SAND BAILING** : Removal of sand/debris on subsurface control device
- **WELL INTEGRITY TEST** : Involves investigation of leakage in tubing or collapse of tubing and deposits of scales inside tubing.
- **PLUG OFF / UNPLUGGING** : Involves isolation of zone or formation. Installation and retrieval of plugs
- **RETRIEVAL / INSTALLATION** : Involves retrieval and installation of SCSSV & Gaslift valves
- **WELL COMPLETION** : Slickline is used as a support service to install fast down hole accessories.
- **BOTTOM HOLE SAMPLING** : Used for collecting bottom hole samples for PYT analysis.

PERDAM

Petroleum Reserves and Data Management is also one of Laser's specialties. PERDAM specializes in Petroleum Reserves Estimation, Classification, Creating Databases, Data Integration and training.

PERDAM offers the following Services:

- Geoscience Data Validation, Storage and Retrieval
- Inventory and Organization of Corporate Databases
- Conversion of Hard Copy Data into Digital Format
- Data QA/QC
- Database Administration
- Training
- Booking, Auditing, Checking the Monitoring of Petroleum Reserves and Reserves Classification
- Software Sales.

In summary, Laser Engineering is a 100% Indigenous Nigerian Company that has built facilities that enabled projects to be completed. Laser has demonstrated their commitment in its capacity to play a key role in the Nigerian Oil and Gas industry having successfully executed major projects for key industry players including award winning projects. Laser is owners of state of the art equipment which makes the company highly outstanding to its counterpart.

The major strength of Laser is her staff. We have a team of professionals who are dedicated and loyal to the vision of transforming the company into a world class consultancy outfit offering the best services to enhance the productivity and performance of clients in the oil and gas industry. Our motto is "Teamwork and innovation" and we are known for quality service delivery which has won us incentives on jobs executed. At Laser, Nigerian Engineers can compete favourably with other international companies in theory and in practice. Laser is a one stop shop company that renders various services to oil and gas industry by complying with safety standards and procedures. Through your patronage, we intend to reach the zenith of greatness by serving you better. Visit us at laser and you will be glad you did.

OUR CODE OF CONDUCT

We maintain utmost confidentiality in our relationship with our clients. We value people, professionalism, performance and integrity, and these are reflected in the level of services we render to our clients.

OUR CORE VALUES

- **Service Excellence**: Offering world class services and achieving excellence through diligence.
- **Integrity**: Maintain a high degree of honesty and sincerity in relating to others in line with work ethics.
- **Accountability**: Responsibility for our actions to customers, staff, Government & Regulatory Bodies.
- **Respect**: Utmost respect & regards for client, host communities, environment & personal safety.

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UNVEILING THE LASER TECHNICAL NEWS

I am glad that we finally inaugurated the Editorial Board of the Laser Technical News and are now unveiling the first edition. Laser has been around for more than twenty years rendering excellent services and developing human resources for the oil and gas industry. During these twenty years, we have certainly developed procedures and invented concepts which are not documented. We are certain that we have lost opportunities to even patent these procedures.

The Laser Technical News is a welcome addition to our contribution to knowledge. We shall use the medium to discuss our procedures and also give our young engineers and scientists the opportunities to learn how to write and exchange ideas with the oil and gas community. We shall also from time to time showcase our equipment and new additions. Our subsequent publications will be extensively technical.

HISTORY OF LASER

Laser is a Nigerian Indigenous Company that renders services to the oil and gas industry.

DAYS OF HUMBLE BEGINNING



LASER IN THE 1990'S WITH FOUNDERS & COURSE PARTICIPANTS

Registered in 1990, the company started with Manpower Development/Short Courses, which has now metamorphosed into the Geoscience Training and Research centre.

LASER COMPLEX 2013 WITH COURSE PARTICIPANTS.



Laser has grown into an edifice, and has built its "Goodwill" over the years, rendering high quality and cost-effective professional service to our clients. We have also expanded our scope of services to include but not limited to:

- Reservoir Management Services
- PVT Laboratory Services
- Environmental Laboratory Services
- Slickline Services
- Manpower Development
- Data Management Services

Please enjoy reading the News and send us your feedback.

Professor Mike Obi Onyekonwu, PhD Stanford
Managing Consultant.

THE MEN BEHIND THE WHEEL

PROFESSOR MIKE OBI ONYEKONWU

is the Chairman of Oil and Gas Trainers Association of Nigeria (OGTAN). He is likewise the Director of the Institute of Petroleum Studies in the (University of Port Harcourt). He was a former PTDF Gas Chair Professor of Petroleum and Gas Engineering University of Port-Harcourt and presently the Managing Consultant of Laser Engineering and Resources Consultants Limited. He obtained a B.Sc. (First Class Honours) in Petroleum Engineering in

1978 from the University of Ibadan Nigeria with M.Sc., and PhD degrees in Petroleum Engineering from Stanford University California in 1981 and 1985 respectively. He has published two books and more than sixty articles in reputable journals.

Professor Onyekonwu was 2001-2002 Society of Petroleum Engineers Inc Distinguished Lecturer and also a visiting Lecturer to the University of Leeds UK. He was a member of University of Port-Harcourt Council and also a member of the Board of Nigerian Content Development & Monitoring Board. His interest is in Oil and Gas research and mentoring young professionals.

PVT LABORATORY/SLICKLINE UNIT

SIR KINGSLEY I. IKEJI
GENERAL MANAGER (PORT HARCOURT) BSc Hons, Chemistry, UNN, PGD Management from Imo State University. He has worked in Schlumberger as a PVT Expert with 32 years experience in Black Oil, Volatile Oil & Gas Condensate PVT Analysis, Oil field Water Analysis, Formation Fluid Property Simulation.



Laser Engineering and Resources Consultants Limited – The Mirror.

To gain knowledge into any matter made of atoms and molecules (simple or complex) requires investigation and confirmation.

Matter can exist as organic or in-organic matter. The micro view looks at what makes the atom while the macro view looks at the molecules as a bulk. The universities and research institutes try to solve the puzzles of how many electrons are in an atom, and their structure, while industries like the petroleum industry is mostly concerned with the bulk properties like Temperature, Pressure, Mass and Volume etc. What makes up an investigation of an unknown matter is to first, find out what constitutes the bulk matter i.e qualitative analysis and secondly to find out what is the amount of the constituents that makes up that matter i.e Quantitative Analysis. Tests, Investigations, Experiments do not require using very large volumes or large masses, since results could be obtained using small portions as it is more economical and less cumbersome. This makes it mandatory that during sampling, representative samples must be obtained. **This is where Laser stands as the Leader and as an expert.** Laser is proficient in analysis using standard procedures and equipments. **Laser has become the mirror** through which properties of petroleum fluid can be viewed through the acquisition of sophisticated analytical equipments, ICT infrastructures, experienced personnel and abiding by a concrete cooperate quality policy. Below is an insight to one of our services.

PVT LABORATORY SERVICES TO THE OIL AND GAS INDUSTRY

Characterization of Bottomhole and Surface Hydrocarbon Fluids is important in the study of oil & gas reservoirs. Welltest Interpretation, Material Balance Calculations, Reserves Estimates and Separator Design amongst others all require information on either the volumetric, phase behaviour and / or composition of the reservoir fluid at specified conditions of temperature and pressure(s). In respect of the need for Reservoir Fluid characterisation to enhance hydrocarbon recovery, Laser Engineering PVT Laboratory was established to harmonize and

mitigate this lapse.

The (PVT) Laboratory is a Mercury – Free one that employs state of the art equipments in the provision of expert services to various Clients.

The Services rendered include:

- Hydrocarbon Fluids Compositional Analysis using Gas Chromatograph
- Field Sampling and Storage of Oil, Gas and Produced Water
- Bubble Point and Dew Point Determination
- Constant Composition Expansion Analysis
- Differential Liberation Analysis
- Constant Volume Depletion Analysis
- Separator Test and Flash Liberation
- Reservoir Oil Fingerprinting using GCMS
- Crude Assay
- Tracer Sampling and Analysis
- Water and Hydrocarbon Dew Point of Natural Gas
- Analysis of PVT Analysis Data and Formulation of Reports for Clients.
- Flow Assurance and a host of others.

RESERVOIR MANAGEMENT UNIT

EKWOROMADU, GENERAL MANAGER (LAGOS)

His mentorship has brought some great achievements for the esteemed department and Laser at large. He holds a B.Sc. (Hons) degree in Petroleum Engineering, with well over 35 years of Professional experience across several IOC's. He had worked for Exxon-Mobil as a Principal Reservoir Engineer for about 30 years and then as a consultant to several other companies. He heads the Reservoir Management Unit of Laser Engineering.

Basically, Reservoir Management involves the integration of resources- human, financial, technological, tools, and data in a bid to OPTIMIZE the economic recovery of Hydrocarbon throughout the lifecycle of the Asset. Reservoir management also serves as a means of unlocking new potentials which ultimately generates more revenue for the operators.

The department principally has two sub-units, namely Geology/Geophysics (G&G) and Reservoir Engineering. The G&G Team is made up of competent staff with expertise in Production Seismology, Production Geology and Petrophysics, while the Reservoir Engineering Team comprises of expert reservoir engineers and production technologists.

The services being offered by this Unit are:

1. For Geology and Geophysics (G&G) Unit we are engaged in:
 - Seismic Interpretation and Structural Analysis
 - Petrophysical Analysis and Evaluation
 - Geological Study: (Sedimentological and Stratigraphic Analysis, Environment of Deposition Analysis)
 - Earth Modelling: (3D Static Modelling, Petrophysical Modelling, Uncertainty Analysis, and Volume Estimation)

Grid Optimization and Upscaling.

2) While the Reservoir Engineering Unit are involved in

- Well Test Analysis and Interpretation
- 3D- Dynamic Reservoir Modelling
- Material Balance Analysis
- PVT Analysis/Modelling
- Decline Curve Analysis
- Reserve Estimation and Classification
- Design of Experiment and Uncertainty Analysis
- Production Performance Review/Analysis
- Detailed Well Modelling and Completion Design
- Production System Analysis and Optimization
- Production Forecasting and Field development planning



OYEKADE SURAJU BATUNDE, RESERVOIR MANAGER (LAGOS)

Holds a B.Sc in Geology University of Ibadan and also M.Sc., in Petroleum Geology/Exploration Geophysics (2005) University of Port Harcourt. He worked briefly as a Part-Time Lecturer at University of Port Harcourt between 2000 and 2001. He was a Research Assistant in the Office of Shell Professor of Geophysics, Obafemi Awolowo University, Ile-Ife between 2002 and 2003. With over 14 years

experience, he privately consulted for different companies in oil and gas industry between 2004 and 2006. He joined Laser Engineering and Resources Consultants Limited in 2006 and he is presently a Senior Reservoir Geologist and also a Manager in our Lagos Office. More so, he is a member of National Association of Petroleum Explorationists (NAPE) and his areas of specialization include Reservoir Static Modelling, Petrophysics, Seismic Interpretation and Teaching at Laser Petroleum Geoscience School.

He bagged the award of best graduating student in geophysics, 1998, (Ayodele Prize) UI, and was given a letter of commendation by University of Ibadan Student Disciplinary Committee for fighting corruption in Faculty of Science Student Association, 1998. Also in 1999, he was given award for his active roles as the Secretary of Corporates' Welfare Association. He has both National and International Trainings in Nigeria and UK respectively.

BUSINESS DEVELOPMENT UNIT

JOY-UGOCHUKWU-OKORO BUSINESS DEVELOPMENT MANAGER with more than 13 years in oil and gas industry she has the responsibility of managing Business Development Unit of Laser and also doubles as the Management Representative for the Quality Management System. She holds an M.B.A in Business Management, a B.A in English Studies and a Certificate in Industrial Safety and control.



She has worked for Nigerian Institute of Safety Professionals Rivers State Branch before joining Laser Engineering. She has also worked in various units and departments in Laser including Safety, Manpower Development, HR/Administration, Nigerian Content, and Quality Management before she was made a Manager.

In the business development unit, the company's image is made and sold out to clients. We register our services in clients portals, make business contacts and take the company to the shores of other West African Countries. The unit is also charged with the installation & maintenance of the Quality Management System (QMS) and achieving ISO 9001:2008 Certification for all Laser processes. To this end, certification audit has been conducted by Standard Organisation of Nigeria (SON) and certification is been awaited. The unit is the brain box of the of the company and is charged with the responsibility of sourcing for jobs, preparing tenders and arranging presentation to create awareness of the company's services and capabilities and ensure compliance to Nigerian content in line with the Federal Government Directives. These are a few of our major contributions.

ENVIRONMENTAL UNIT



BELLA MMATA LAB MANAGER.

She holds a B.Eng Chemical Engineering (FUTO), M.Eng Petroleum Engineering (UNIPORT) with over 10 years experience in Phase Behavior Fluid Property, Measurement & Flow Assurance. She has also worked as a quality Control Supervisor in West African Glass Industry (WAGI) and a professional member of Nigerian Society of Engineers (NSE), Society of Petroleum Engineers (SPE) and the current Lab Manager of the PVT Unit in Laser Engineering and oversees the affairs of the environmental unit as well. Here is a breakdown on our environmental activities.

Many industrial decisions are mainly supported by laboratory data. In view of this, Laser's complete suite of environmental services and state of the art data collection techniques which provides unique insights into the environmental aspects of our client's activities/projects related to air, water (surface, groundwater & formation), soil and oil. At Laser we can handle your demands and generate reliable result. our objective is to demonstrate the capability of Laser Engineering Environmental Laboratory in handling your environmental and laboratory related issues and also to make Commitment to generating reliable data useful for client's decision-making.

OUR CAPABILITIES

Environmental Baseline Studies

- Establish existing environmental baseline (onshore/offshore) & defining indicator parameters for further monitoring/investigation.

Environmental Impact Assessment -New Facility/Project

- Obtain development permit approval for new project

Evaluation Study – Existing Facility

- Assure sustained operation and maintain permit approval.

Contaminated Site Study:

- Determine level/extent of contamination
- Provide remedial actions
- Analytical support for Site Restoration / Remediation

Air Quality Monitoring

- Noise measurement and monitoring
- Industrial stack emissions testing and monitoring
- Air quality measurement
- Vibration measurement
- Emission characterisation

Water/Effluent Management & Soil Testing

- Development of drinking water sampling and analysis programme
- Industrial effluent testing and monitoring services
- Development of surface and ground water sampling and testing programme
- Process water testing and monitoring services
- Biological analysis of sediment and water
- Rain Water Sampling & Analysis
- Soil Characterisation

Crude Assay/ formation water analysis Cations&Anions

- Resistivity
- Siff Diagram
- Physical properties of formation water
- Crude/Lube oil Characterization
- Crude/Lube oil quality Test