



Substrata[®]

Best Service Delivery in Oil & Gas Exploration and P roduction

Company profile

Corporate Profile

Substrata Oil and Gas Limited (RC 663293) was incorporated in 2006 to carry out oil field services to the Oil and Gas industry in Nigeria.

The need to reduce costs by introducing new, effective and efficient technology, coupled with the recent introduction of new Government policies aimed at encouraging and ensuring more participation by competent Nigerians in the upstream Oil & Gas Industry has played an important role in the development of Substrata Oil and Gas Limited.

Substrata Oil and Gas Limited is wholly Nigerian owned with local and international affiliations and partnerships. Our operations are knowledge driven, backed by technology.

Strengthened by a board of directors with vast experience in the oil and gas industry, and staff driven by the zeal to deliver qualitative, on-time and cost effective services to our esteemed clients, we are poised to ensure quality and reliability in all the services we render.



Our Values

*Integrity *Excellence*Team Spirit*Corporate Social Responsibility

Our Mission

To provide the best value in services for the oil and gas industry in Nigeria and Africa at large.

Best value means providing fit-for-purpose solutions that best meet our client's criteria and resources through the following:

- Best-in-class technology
- Maintenance of a keen competitive edge through efficiency, superior service quality and good safety record.
- Training, motivation and empowerment of our personnel to maintain top-quality service at all times.



Our Vision

To become the point of reference in the Africa Oil and Gas industry, known for superior service delivery with utmost professionalism.



Management Team

- **Kayode Thomas PhD** **Managing Director**
- **Iyke Mgbemena** **Chief Operating Officer**
- **Analiefo Nzegwu** **Chief Financial Officer**
- **Ugo Biedimabo** **Head, Business Development**
- **Sebastine Ihuoma** **Head QHSE & Training**
- **Chinwendu Oputa** **Head Administration & NCD.**

Dr Kayode Thomas, MD/CEO



Kayode Thomas, the Managing Director and Chief Executive Officer, is an experienced technical professional, a visionary leader and the founder of Substrata Oil and Gas Limited. He started his Oil and Gas industry career in Schlumberger, Nigeria in 1990. His service in Schlumberger took him to the United Kingdom, Europe, United States of America, Mexico, Australia and Asia. In 2011, he joined Moni Pulo Petroleum Development as the General Manager Operations and Engineering, a position he held until August of 2015 when he left to manage Substrata.

His expertise includes Seismic Design, Acquisition, Processing and Interpretation. Reservoir Production Operations, Surveillance and Optimization. Early Production Facility Design & Installation and Process Design. Gas Utilization Planning & Monetization. Production of heavy hydrocarbon Fields. Brown Fields Production Optimization. Field Development Studies and Planning. Integrated Project Planning and Scheduling. Corporate Budgeting, Performance Analysis and Reporting. New venture upstream Exploration and Production operations. Field Development Planning from Seismic Acquisition to First Oil. Crude Oil Lifting operations and offtake negotiations.

A member of the Society of Petroleum Engineers (SPE) and the Society of Exploration Geophysicist (SEG). He is a fellow of the Institute of Credit Administrator (FICA), a fellow of Institute of Management Consultants (FIMC), a Chartered Management Consultant (CMC), and a fellow of the Institute of Professional Managers and Administrators (FIPMA). He graduated from the University of Benin in 1986 with a degree in Applied Physics and an MBA from same institution. He holds a MSc in International Economic and Finance from the Rivers State University and a PhD in same course from same University. He has a DBA (H.C.) from the Commonwealth University, London, UK. He is a philanthropist and has won awards too numerous to mention.

Ikechukwu Mgbemena, COO



Ike Mgbemena has over 33 year industry experience in Oil and Gas. He started his oilfield career with the Shell Group in Nigeria as a subsurface Application Systems manager , pioneering/managing the various subsurface software applications and hardware in the early 90's . Within the course of a career that spanned more than 29 years, he served in various oilfield services companies including Schlumberger as Quality Manager, Consulting Services Manager, Software Manager, Geophysicist amongst other oilfield activities. In these positions, he was responsible for the development and optimization of a number of major oil and gas reserves within and outside Nigeria.

A successful sub-surface evaluator who has held senior management positions in Schlumberger Nigeria, made significant contributions to the Group's growth and development. Prior to retirement from Schlumberger, he served as the Integrations Manager with responsibility for bringing the various exploration, development and optimization of hydrocarbon

services/offerings of Schlumberger Nigeria together to offer one stop shop using the various Schlumberger superior services. He retired from Schlumberger in Sept, 2011 and went into private consultancy services. He joined the Substrata Oil and Gas team as the Director responsible for sub-surface Services before his appointment as the Chief Operating Officer (COO).

He is a well-known industry expert on the geology/geophysics and reservoir software applications and studies of the Niger-Delta and Anambra basins. Ike, as he's called in the industry, graduated from the Anambra State University with a degree in Geological Sciences.

Anali Nzegwu,

Chief Financial Officer



Analiefu Nzegwu, the Finance Director, is a multidisciplinary, result-driven, quality-focused, problem solver, and systematic professional with comprehensive experience in local and international finance, business development, product development, health analytics, management and administration.

Skilled in developing strategies, knowledge transfer, project management with execution experience, interphase management and providing innovative solutions to meet and exceed organizational goals. Adept in evaluating system processes, schemes, or technology changes, with keen focus on maintaining productivity, optimizing efficiencies, and reducing cost while working across different cultures.

He holds a Master's Degree (M.Sc. 1990) from University of Ibadan, Ibadan, Nigeria, and a Member of several professional bodies including PMI, CIBN, CIEN, ACIS, ISTT, MNES etc. With over 19 years' experience in commercial and investment banking. He held several top managements positions in banking before leaving to join a directional drilling company as the Executive Director Planning, Budget and control where he worked for 4 years before leaving to join Substrata Oil and Gas limited.

He is a motivational speaker and Guest Lecturer for post graduate students on entrepreneurship development, Institute of Natural Resources, Environment and Sustainable Development (INRES), University of Port Harcourt, Nigeria.

Ugo Biedimabo, Director, Business Development



Ugo is a seasoned marketer, mentor and trainer. She is very attentive to details and has an experienced coach.

She bagged a B.Tech in Project Management Technology from the Federal University of Technology, Owerri in 2008. She has attended numerous trainings within and outside Nigeria.

Chinwendu Oputa, Head Admin & HR



Chinwendu Oputa, the Head of Administration and Nigeria Content Development, is a seasoned administrator and an experienced Human Resources Manager. Before joining Substrata she had worked in several establishments in the admin and HR function. Her management techniques are sometimes unique, effective and efficient.

Chinwendu is an astute coordinator with a penchant for excellence in service delivery.

She is an excellent communicator. She has a BSc in Mass Communication from Madonna University, Okija in Anambra State. She has attended so many trainings including the “Train the Trainer” trainings.

Sebastine Ihuoma, Head QHSE



Sebastine Ihuoma, Head of Quality, Health, Safety, Security, and Environment, has over 30 years experience in the Oil and Gas industry. He started his career with Schlumberger Geco-Prakla as field seismologist on various seismic crews. Thereafter he worked with several geophysical/seismic data acquisition companies as a Geophysical QA/QC consultant.

Prior to joining Substrata, he had worked with China National Petroleum Company (CNPC) as a Seismologist and later with Geo-marine Systems Limited as a Project Manager overseeing the deployment of crews for seismic data acquisition. He later became the Technical Manager and Assets/Project Support Manager.

His expertise are in Quality Assurance/ Quality Control, geophysics/geology, Project Management and Security management.

He is a members of Nigeria Mining and Geophysical Society (NMGS) and a member of the Institute of Safety Professionals (ISP). He holds a BSc in Geology and Mining from the University of Jos and he has attended numerous Oil and Gas trainings in Nigeria and abroad.

Products and Services

Subsurface Services

- ❖ Seismic Data Acquisition, Processing/Reprocessing and Interpretation
- ❖ Reservoir Prospectivity, Geomechanics and Geochemistry Studies
- ❖ Full Field Development Studies/Planning.
- ❖ Economic Evaluation of Assets and Petroleum Economics

Drilling Support Services

- ❖ Oil Well Cementing
- ❖ Drilling Support and Fishing Services
- ❖ Slickline and E-line Services
- ❖ Downhole Camera
- ❖ Descalers

Well Services

- ❖ Surface Well Testing
- ❖ Well Head Inspection and Maintenance
- ❖ Data Acquisition Services
- ❖ Well Productivity Analysis
- ❖ Sand Management Services
- ❖ Well Integrity Management

Engineering Design

- ❖ Conceptual Design
- ❖ Front End Engineering Design
- ❖ Completion Design
- ❖ Process Design – Early Production Facility.
- ❖ Engineering Procurement and Construction

Training

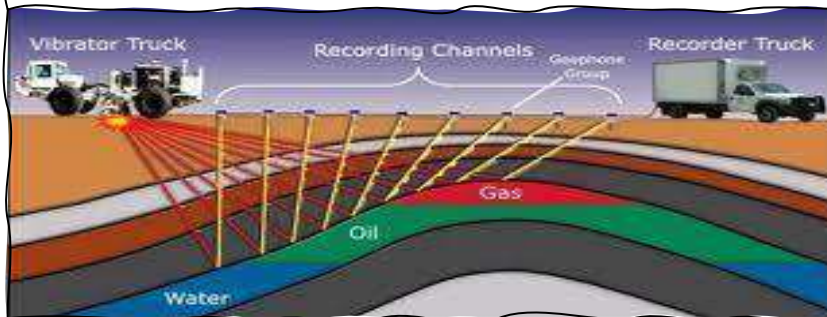
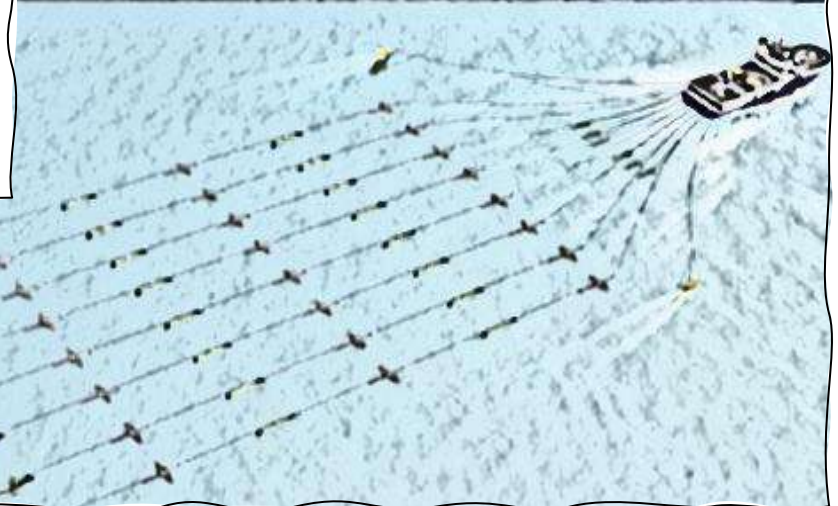
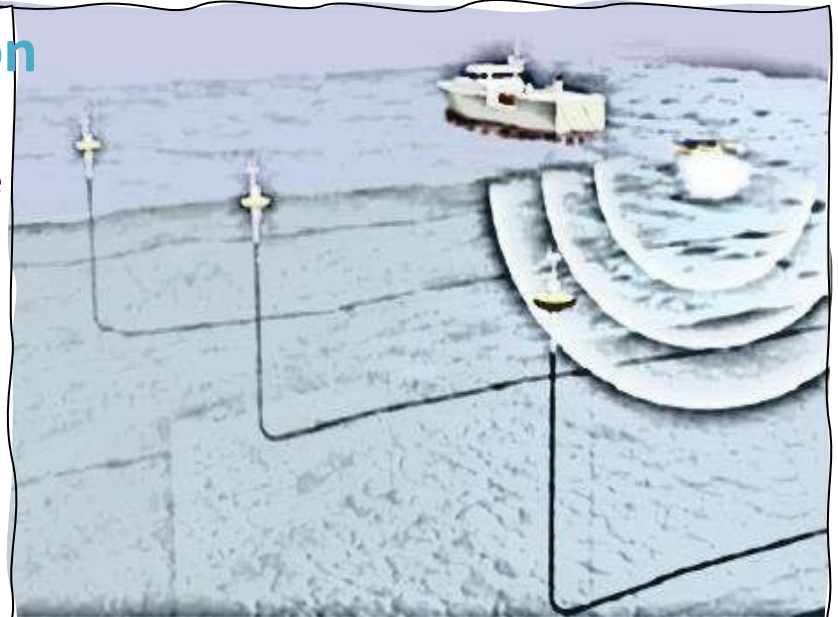
- ❖ Management Trainings
- ❖ Bespoke Trainings
- ❖ QHSE Trainings.
- ❖ Petroleum Geology
- ❖ Process Design

Seismic Acquisition & Supervision

Our team of seismic experts have a combined experience of over 100 years of seismic design, acquisition and supervision.

Combined, our team has seismic experience spanning all the continents. Of the world. Our expertise includes;

- Land and Swamp seismic
- Transition Zone seismic
- Towed streamer Seismic
- 4D Seismic
- 4C - Four Component Ocean bottom Seismic
- Ocean Bottom Cable (OBC) seismic



Subsurface Services

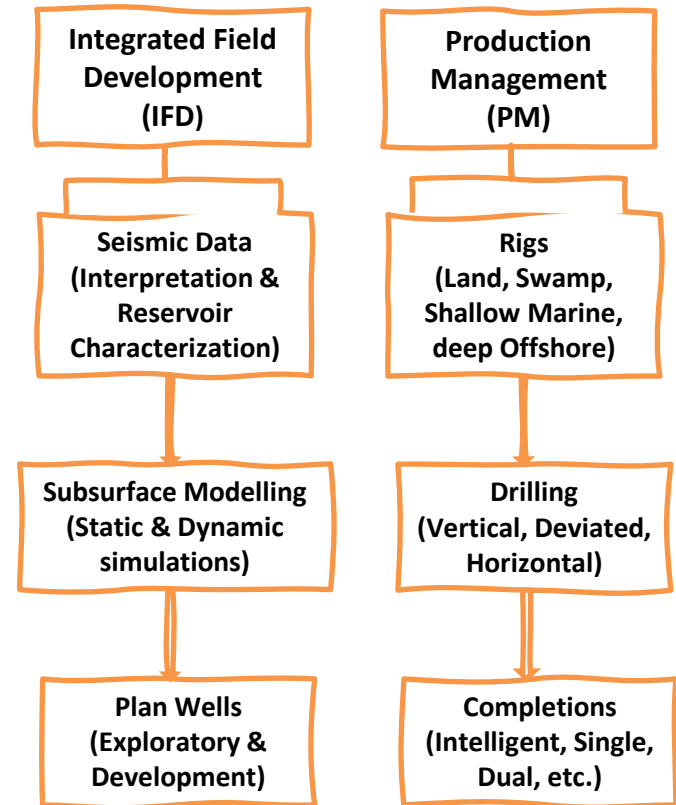
Field Development & Prospectivity Studies

Oil and gas exploration and exploitation require a large amount of economic resources in onshore and offshore environments, albeit offshore environment requires more resources than onshore. Field Development and Prospectivity Studies have the main objective of maximizing the revenue from a given investment.

Scenarios with the greatest median (P50), Net Present Value(NPV) and lowest spread between P10 and P90 NPV are usually selected. Economical evaluation is complicated because there are so many variables to be considered in the study and decision making process.

We understand that in the exploitation of a hydrocarbon field, the process of identifying the concepts technically feasible and associated to the best economical performance is a critical success factor.

In today's Exploration and Production identifying viable assets has become very challenging hence the need for very experienced teams and advanced technologies available in the industry to make informed economically viable decisions. Our team in conjunction with our technical partners, provides this service efficiently and cost effectively to our esteemed clients.



Field Optimization Services

Whether bringing your first well online or managing a mature field, an operator face certain challenges. Getting to first production is expensive and time-consuming, and when you do start producing, high operating, maintenance and compliance costs are commonly experienced. And in some cases the wells are not producing at their optimum levels, but you can't easily pinpoint why.

Optimization of the production from an oil or gas field requires taking a systematic, comprehensive look at your production systems from the outside in.

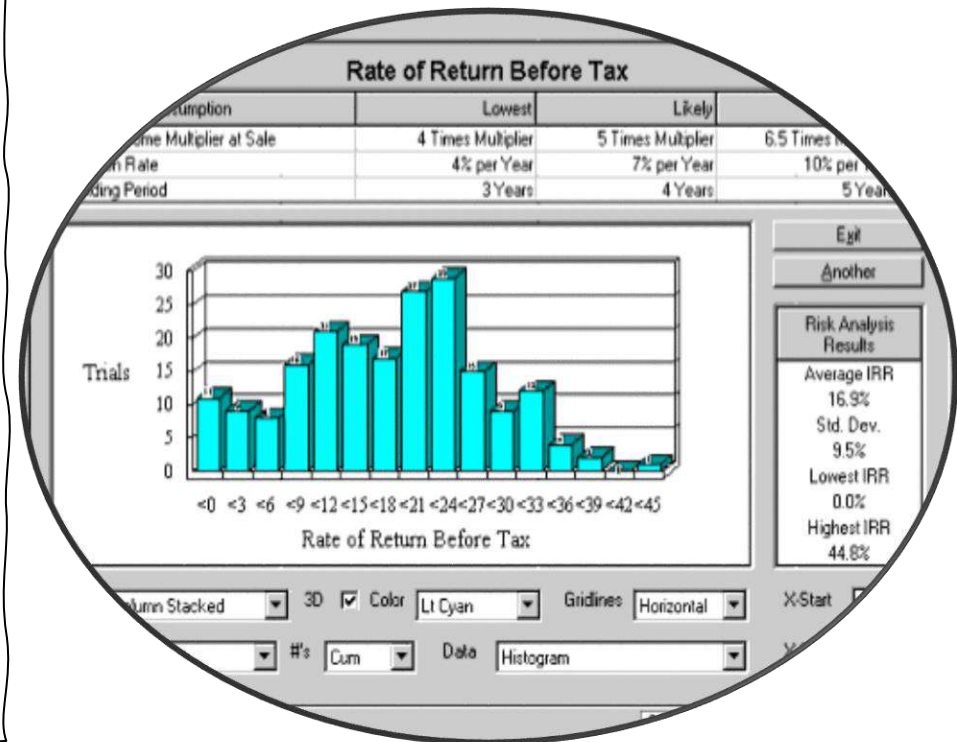
Our Team can provide a complete, objective and independent analysis of your production environment along with recommendations for maximizing production, reliability and cost efficiency – field wide. Our multi-discipline team of experts will help you improve production rates, equipment life and lift efficiency while reducing maintenance costs.



Economic Evaluation of Assets & Petroleum Economics

Economic evaluation of assets is a fundamentally important aspect of the whole petroleum cycle. Results from economic evaluation forms an integral tool used by oil and gas executives to make investment decisions.

At Substrata Oil and Gas, we have a team of experts to guide our clients in this all-important aspect which basically form the last step in a long and sometimes tedious process of technical and financial evaluation that must be done before any investment decision is made.



SEISMIC DATA PROCESSING and RE-PROCESSING

At substrata Oil and Gas, our goal is to deliver high quality seismic data to our clients ready for quantitative interpretation. To achieve this goal, we are in partnership with Geomage, a leading provider of innovative and cutting-edge solutions to the Oil and Gas industry.

Our robust algorithms are tailored to meet the most subtle challenges in 2D/3D/4D seismic data processing. The Geomage MultiFocusing imaging is a very efficient and robust tool in tackling wide range of geophysical/geological conditions listed below.

- ❖ Data Pre-conditioning
- ❖ Noise Attenuation
- ❖ Deghosting and Designature
- ❖ Multiple Suppression
- ❖ Data Interpolation and Regularisation
- ❖ Structural Seismic Imaging

SEISMIC DATA INTERPRETATION

Our state-of-the-art interpretation tools offer a new way to detect and characterize fractures and other small reservoir heterogeneities.

The Geomage MultiFocusing Diffraction Imaging comprehensively describes these diffractions. We use calibrated borehole data to identify and interpret the geological horizons that are of significance to the hydrocarbon system. The major faulting system are also interpreted.

SURVEY DESIGN/SEISMIC DATA ACQUISITION

In collaboration with our partner, we provide survey design and high-resolution 2D/3D/4D acquisition services on land, marine and TZ/shallow water environment with our modern equipment and advanced technologies.

We have extensive experience having provided seismic acquisition services for international oil companies on several projects. The concept of geometry planning is fully developed. Our array of seismic telemetric equipment like Sercel 428XL have been deployed for TZ and shallow water operations.

Subsurface Services

MultiFocusing 3D diffraction imaging for detection of fractured zones in mudstone reservoirs

Unconventional reservoirs have a unique set of problems. Most production wells are drilled horizontally through the reservoir rock and hydraulic fracturing is applied to increase permeability in the reservoir. The pre-drilling knowledge of natural fracture corridors and small offset faults is very important in this case. Seismic resolution from conventional reflection imaging is generally not sufficient to resolve such small scale rock properties. Diffracted waves are events generated by small scale subsurface heterogeneities and discontinuities (including fractures). Detection and imaging the diffractive component of the total wavefield opens a new perspective to find and characterize fracture zones in carbonate environment.

Application of MultiFocusing method for subsurface imaging

The MultiFocusing method consists in stacking seismic data with arbitrary source–receiver distribution according to a new MultiFocusing moveout correction. This method can produce a zero offset section superior to the NMO/DMO stacked section in an automatic manner. The method is particularly useful in situations of low fold and/or low signal-to-noise ratio

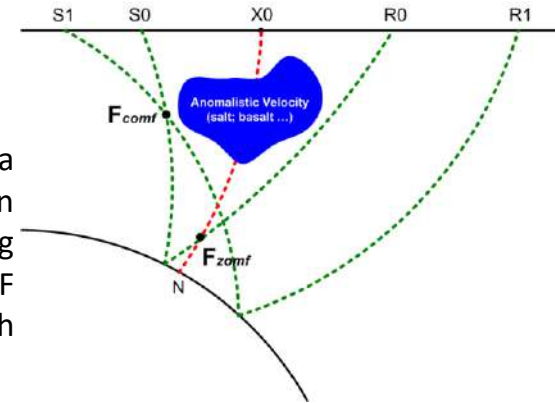
MultiFocusing Data Analysis

Geomege developed a highly effective Common Offset MultiFocusing (COMF) Drawing_MF Diagram With Anomaly_common

technology for addressing many of today's drilling

challenges, regardless of data type, geology or type of acquisition. It enhanced existing zero-offset approximation solution (ZOMF or CRS stack / CRS seismic processing) by more accurate description of time arrival and allows a complete preservation of amplitude, non-hyperbolic and azimuthal information. The method is successfully deployed for land and marine seismic and provides accurate 3D seismic imaging which is critical for successful well positioning.

Geomege Multifocusing© can be applied without prior knowledge of the subsurface model. The data describes itself and does not require the construction of user defined models that carry a high probability of error. In place of that MultiFocusing technology simultaneously scans numerous wavefront parameters and provide most accurate kinematic approximation of seismic wavefield which results in high quality results, even in areas with very poor seismic data quality.



PETROPHYSICAL ANALYSIS

Substrata Oil and Gas have pioneered integrated petrophysics for reservoir description in support of field, pool, and basin studies, and in productivity analysis from logs and cores in support of reservoir simulations.

Most recently, we have developed unique solutions for conventional reservoirs and for calculation of rock mechanical properties for stimulation design and seismic attribute interpretation.

- Physical Property Analysis
- Well Log Analysis
- Rock Property Modeling
- Seismic Petrophysics

GEOPHYSICAL STUDIES

Substrata offer a comprehensive, robust suite of Geophysical interpretation services designed to use all of the geophysical, sedimentological and structural information to provide the client with a superior interpretive products and accurate prospect maps.

- 2D/3D Structural Analysis
- Attribute Analysis
- Integrated Asset Evaluation
- AVO/AVA Analysis
- Inversion Studies
- Fault Seal Analysis

FULL FIELD DEVELOPMENT STUDIES/PLANNING

Our team of professionals are well experienced in planning and field development studies. Our experts will help evaluate and choose the best option for the development of the field based on several factors including though not limited to paucity of funds and operational cost, net present value, oil and gas recovery etc.

RESERVOIR PROSPECTIVITY STUDIES

Our expertise in Reservoir studies has grown over the years with notable success stories from our clients.

A clear understanding of the reservoir is critical to successful field development. Our models are designed to include all scales of reservoir heterogeneities, internal baffles and barriers, anisotropy studies.

At Substrata Oil and Gas, we offer the highest quality of services in prospectivity and evaluation of reservoirs. These services include: -

- Source Rock and Maturation Analysis
- Reservoir Rock Analysis
- Structural Interpretation
- Region Stratigraphy studies
- Petroleum system and Prospects evaluation

GEOMECHANICS

Substrata Oil and Gas engages seasoned and well-trained professionals in exploration and field development activities to identify potential issues in planning for and managing these issues to save time and improve safety at the well site. Drilling prediction risk and maximizing recovery from mature assets. Our expertise covers but not limited to the following: -

- Pore Pressure Prediction
- Well Placement and Trajectory
- Wellbore Stability

GEOCHEMICAL STUDIES

We are also equipped with personnel and resources to carry out geochemical studies. Our team of experts are actively engaged in the following aspects of geochemical analysis and studies.

- Sedimentary Petrological Analysis
- Maturation Analysis
- Petro-graphic Studies

Drilling Support Services

Oil Well Cementing

Substrata Cementing is an industry leader in delivering effective zonal isolation in oil, gas and geothermal wells. We engineer cement slurry designs for specific well needs utilizing global standards.

Substrata in partnership with our technical partners offers iCem[®] n Service, the industry's most robust engineering design tool for assessing and monitoring specific well variables before, during, and after a cement job. The simulations allow operators to make more informed decisions and achieve operational efficiencies.

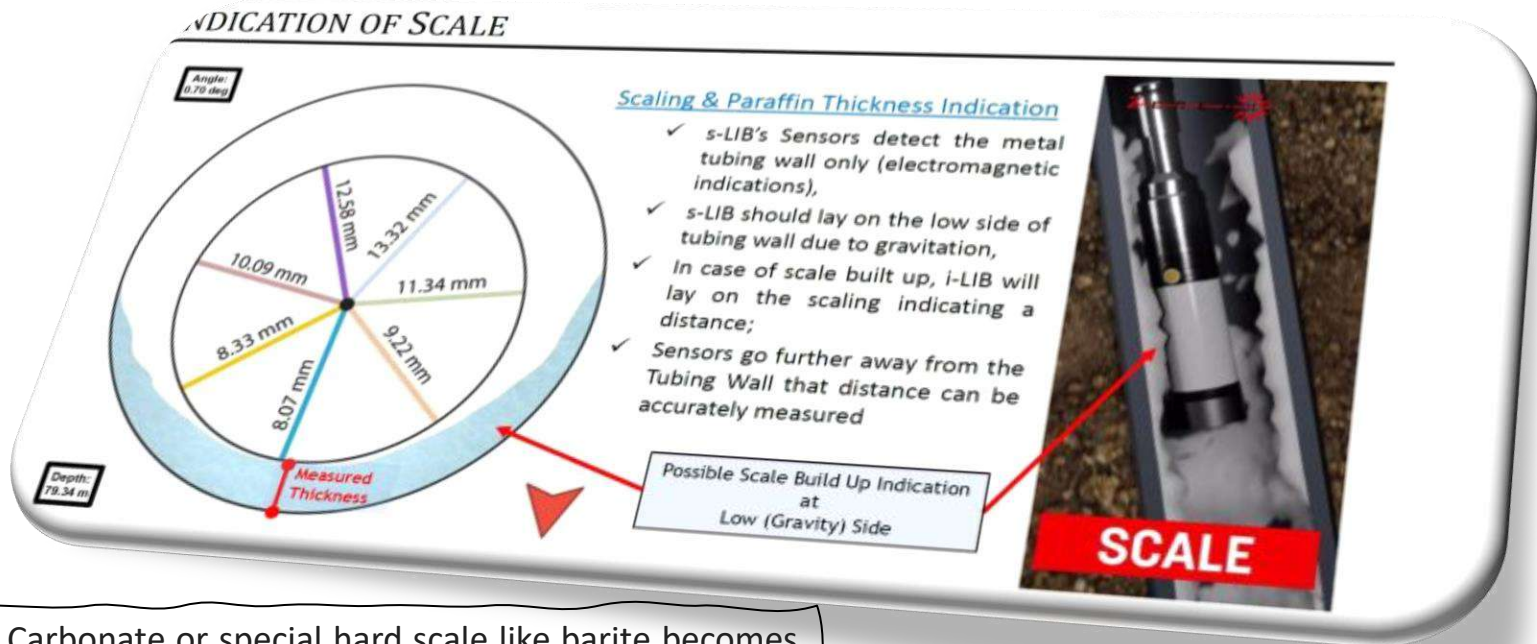
We provide an array of remedial cementing services, plug, squeeze, coiled tubing and cement packer solutions.

We lead the industry in offering casing equipment, casing accessories, pumping and mixing services supported by state-of-the-art land and offshore cementing equipment, designed to industry standards.



Drilling Support Services

Downhole Camera



Carbonate or special hard scale like barite becomes the second leading operational issue globally that causes production decline and immediate termination of production. Downhole jewellery and perforation have been totally covered by barium hard scale while extreme downhole mineral precipitations are or could be observed. Considering the actual conditions, Operators could decide action plan to make the well scale free again.

Using our Downhole Cameras, precise identification of nature, size and location of hard scaling can be achieved to choose a cost-effective, most proper solution to apply,

Drilling Support Services

Drilling Support Services

We have a team that support our esteemed clients in ensuring efficient, on-time and succesful delivery of their drilling campaigns. Services supported are;

- Supply of drilling bits (We supply Baker Hughes drilling bits. Our frame agreement with BHI makes it cheaper to procure through us.)
- Supply of tubing and casings (OCTGs)
- Fishing and fishing tool rental services
- Casing running & Liner hanger services
- Waste management services
- Well Engineering solutions. (In partnership with Halliburton Energy Services – HES)
- Supply of Baker Hughes/Improchem drilling fluids
- Foreign procurement of drilling and Well completion equipment.
- Supply of drilling support vessels.



O'Bannon Style Fishing Tools
Overshot Socket



Drilling Support Services

Downhole Camera

We understand the difficulties faced by well operators and will help solve even the most complex wellbore issues. Combinations of high definition video, new downhole camera technologies and expert operational experience, deliver, visual inspection and information, enabling accurate diagnosis downhole failures. Operators can take immediate action to rectify the problems, helping to improve well integrity, maximize production, and reduce operating costs.

MAIN APPLICATION AREAS

- Wellbore Inspection (Well jewellery, Wellhead equipment, Safety valves, Borehole nipples, etc.)
- Corrosion Inspection and Monitoring
- Wellbore Fishing Support with exact imaging of dropped object
- Inflows and Fluid Flow visualization and monitoring
- Identification of Deposits (Scale, Salt, Hydrate, etc.)
- Well assemblies for gas Storage
- Inspection of Downhole Completions (Uppers Completion, Lower Completion, Gravel Packs)
- Open Hole Imaging of Formations
- Many More...



Well Services

- Surface Well Testing
- Well Head Inspection and maintenance
- Data Acquisition Services
- Well Productivity Analysis
- Sand Management Services
- Well Integrity Management Solutions
- Produced Water Management Solution



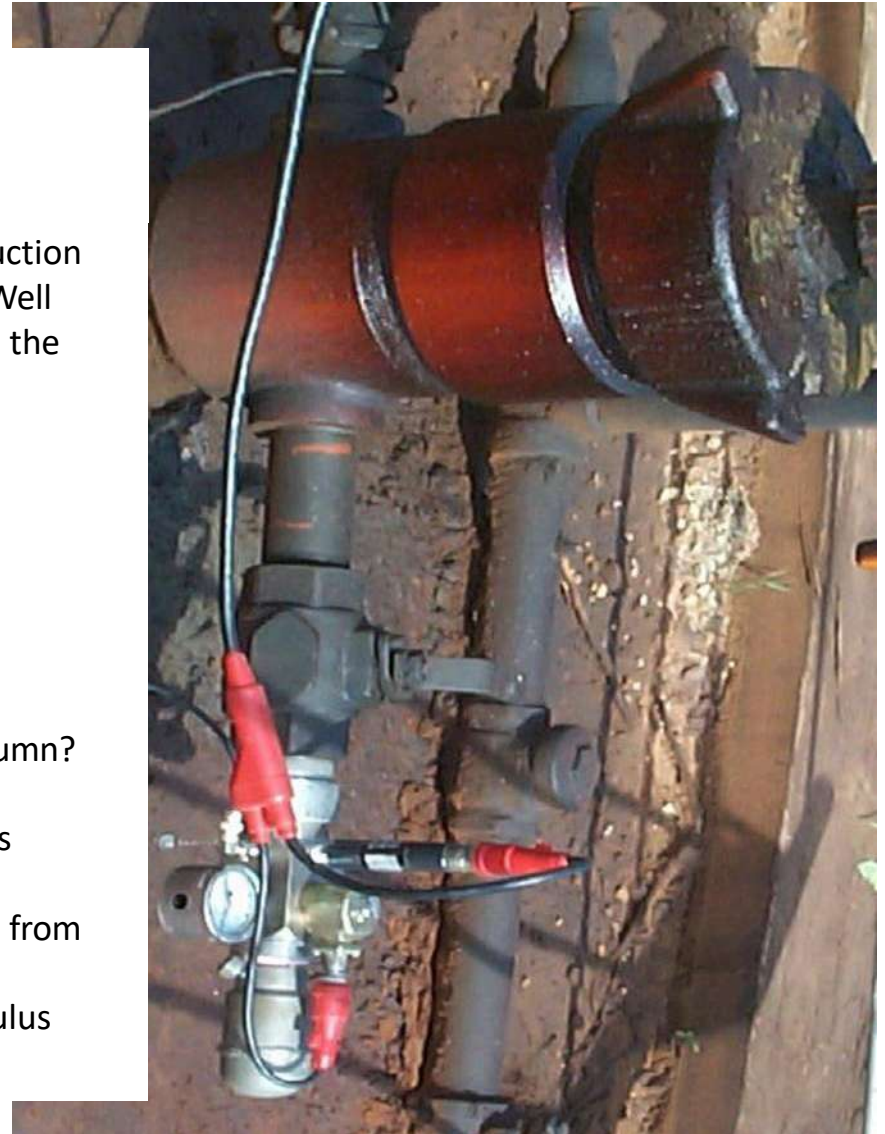
Well Services

Well Productivity Analysis

The Echometer Well analyzer is used to optimize production from Oil and Gas wells. The principal objective of the Well Analyzer is to provide all the necessary data to analyze the performance of an Oil or Gas well.

Typical Questions answered

- What is the depth to the liquid level?
- Is there liquid above the ESP?
- At what depth is the liquid column?
- What is the casing-head pressure?
- What is the percent liquid in the annular fluid column?
- What is the pressure at the perforations?
- What is the percent of the maximum oil rate that is currently being produced?
- What is the maximum rate that could be produced from the well?
- Are there any restrictions or anomalies in the annulus above the liquid level?



Well Services

Surface Well Test/Early Production Facility (EPF)

We offer a vast range of measurement and testing solutions, through the lifecycle of wells. We have what it takes to undertake surface testing and information gathering services; we guarantee reliable answers about your well's productivity, fluid properties, composition, etc.

Our goal is to provide high-quality, safe and affordable services that give you the information and data you need to maximise the productivity of your wells.

Our services includes:

- Extended Well Testing & Reservoir Fluid Analysis
- Well site Testing, Control, Monitoring & Clean-up
- Multiphase Well Testing , Monitoring & Profiling
- Real-Time Well Testing



Well Services

Data Acquisition Services

Our reservoir data acquisition services is second to none in the Oil and Gas industry. This is achieved by using advance data loggers from SPARTEK.

Applications

- Well Testing
- Well Performance Monitoring
- Permanent Sensors (Monitoring)
- Completion Diagnostics
- Well Stimulation
- Reservoir Characterization
- Gradient Survey
- Monitor Well Efficiency
- Production diagnostics
- Analyze production profile by zone
- Monitor well stimulations
- Well mechanical integrity analysis
- Time lapse logging
- Well treatment verification



Well Services

Sand Management Services

Sand detection and Sand rate determination using advance non-intrusive sand detector equipment.

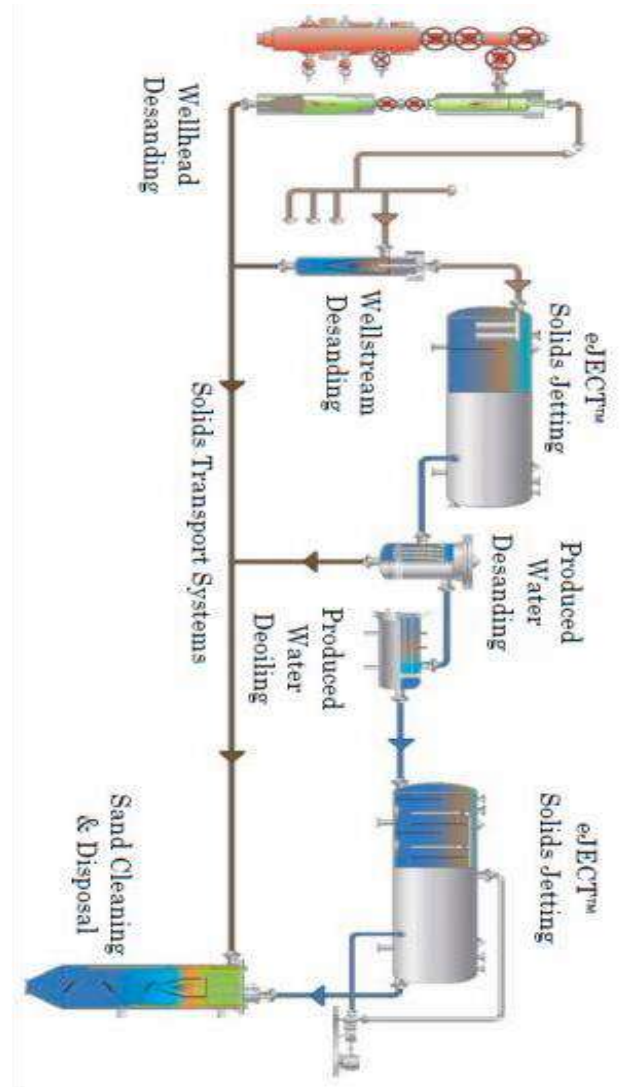
Sand sample collection for sieve analysis .

Grain size determination.

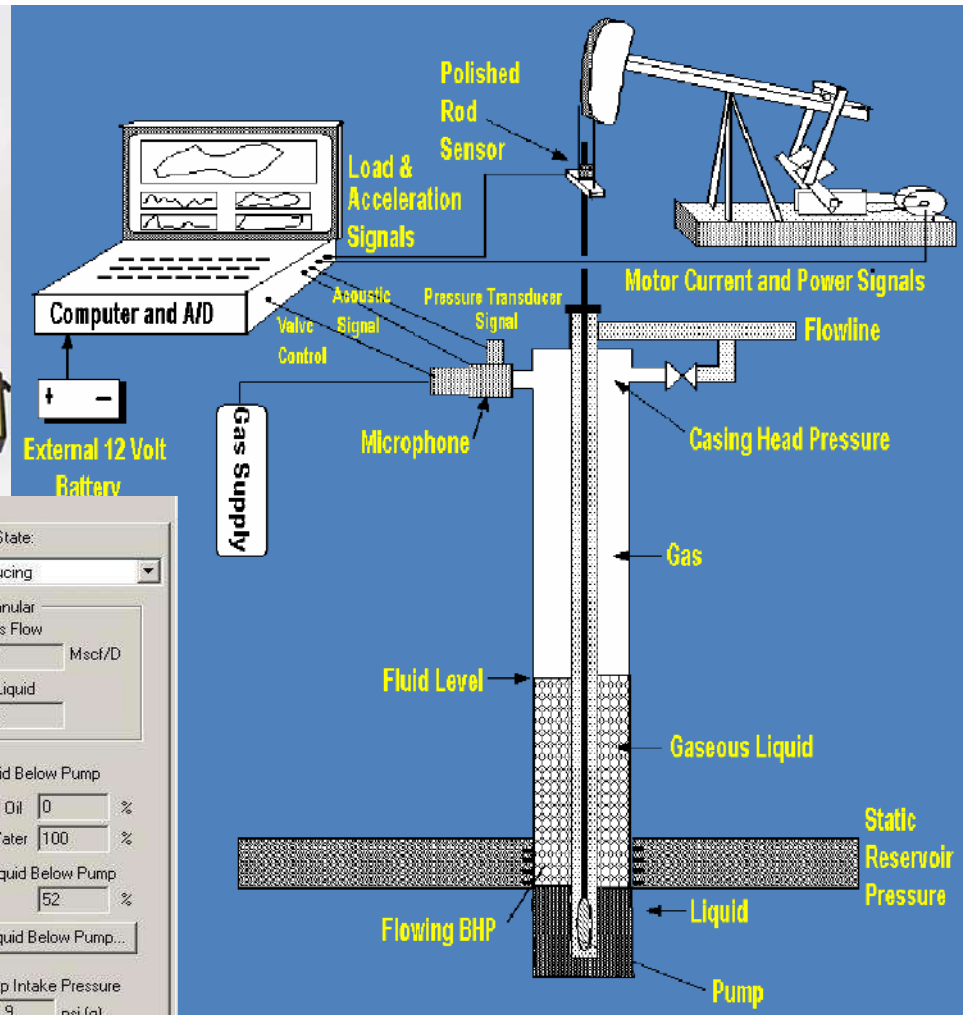
Design of wellhead desander and Hydrocyclones to remove identified solids from the multiphase flow.

Remove sand and abrasive solids from the flow.
For example, crude oil production, drilling fluids, and other multiphase flows.

Controlled disposal of removed solids.



Well Services



Select Liquid Level	Depth Determination	Casing Pressure	<input checked="" type="checkbox"/> BHP	Collars
Production				
Oil	Current: 50	Potential: 64.4	BBL/D	
Water	60	77.2	BBL/D	
Gas	40.0	51.5	Mscf/D	
IPR Method: Vogel				
PBHP/SBHP: 0.42				
Producing Efficiency: 77.7 %				
Fluid Densities				
Oil	30	deg.API		
Water	1.05	Sp.Gr.H2O		
Gas Gravity	0.79	Air = 1		
Acoustic Velocity: 1175.04 ft/s				
Well State: Producing				
Casing Pressure: 127.9 psi (g)				
Casing Pressure Buildup: 1.3 psi				
Gas/Liquid Interface Pres.: 140.9 psi (g)				
Liquid Level Depth: MD 3130.90 ft				
Pump Intake Depth: MD 5115.00 ft				
Formation Depth: MD 5221.00 ft				
Annular Gas Flow: 27 Mscf/D				
% Liquid: 38				
Liquid Below Pump				
Oil: 0 %				
Water: 100 %				
% Liquid Below Pump: 52 %				
Pump Intake Pressure: 411.9 psi (g)				
PBHP: 431.6 psi (g)				
Reservoir Pressure (SBHP): 1053.8 psi (g)				
Pump Submergence				
Total Gaseous Liquid Column HT (TVD): 1084 ft				
Equivalent Gas Free Liquid HT (TVD): 749 ft				
Comment: V11FEB24.D1				

Well Productivity Analysis

Descaling Solutions



The Worlds #1 Descaling Solution

Dynamic Descaler has the lowest corrosive rate on the market. It does not pit, erode or have any other harmful effects on; STEEL, IRON, COPPER, PLASTIC, PVC, TITANIUM and many other metals and materials. In addition it does not damage metals or materials found in water-cooled systems or equipment.

Dynamic Descaler is used on Heat Exchangers, Condensers, Boiler, Furnaces, Cooling Tower Fills, Piping, and other Water-Cooled Equipment. You can clean your equipment in-situ (and sometimes without even shutting down the machine).

We represent a USA Company Precision Dynamics Inc



Well Integrity Management

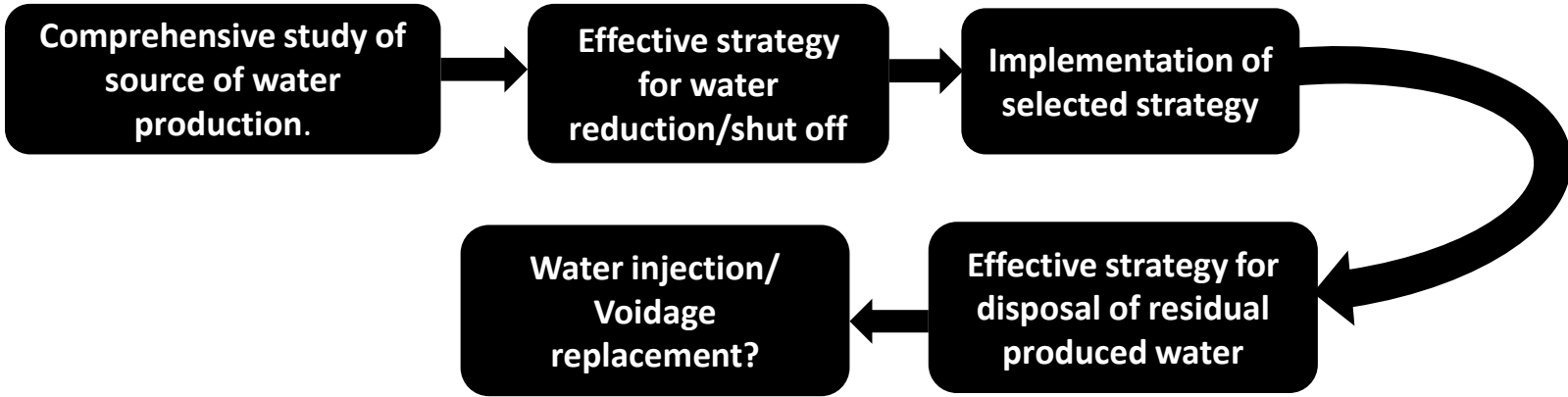
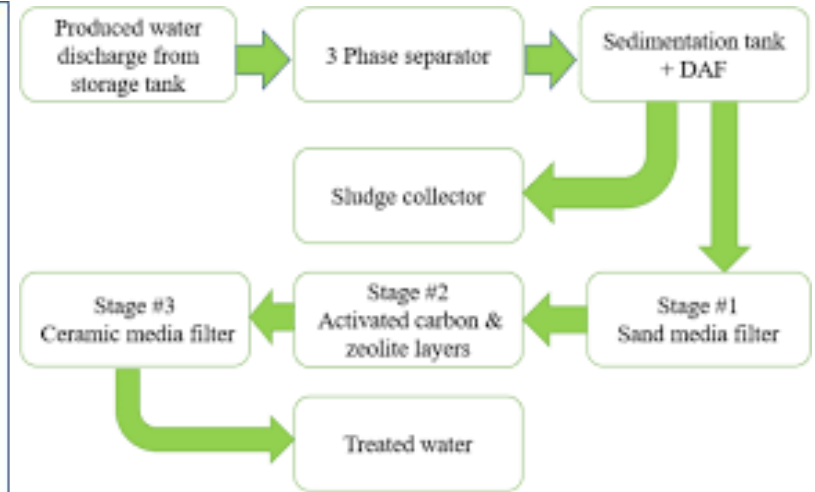
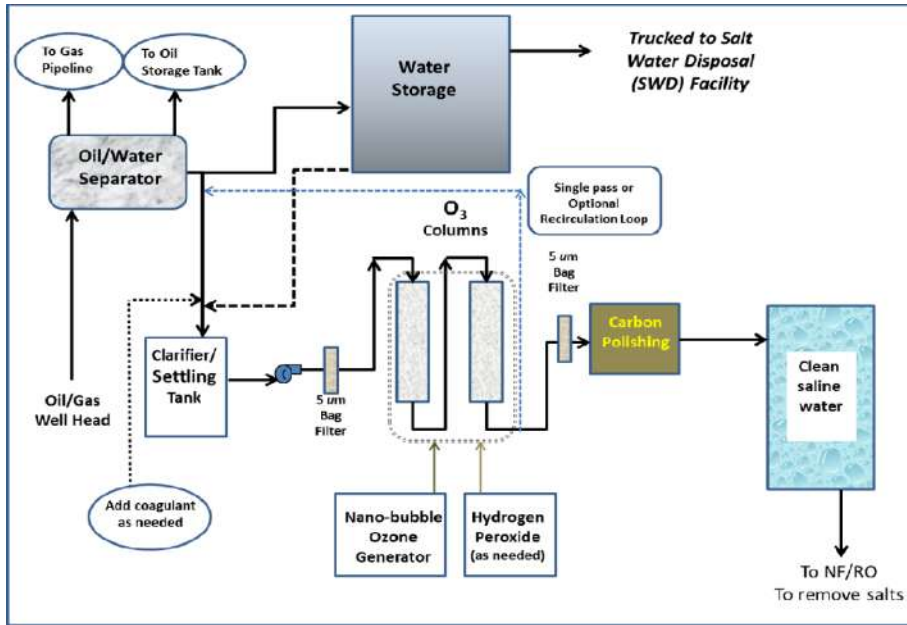
Well integrity has always been a concern in the E&P industry but until the Macondo incident it did not attract the same level of attention as asset integrity for process units. Since then, well integrity has topped the worry-list of management, and with good reason. Well integrity failure can have a major adverse impact on Asset revenue, cashflow and profitability, as well as liabilities from safety and environmental damage, Withdrawal of a company's "license to operate" Shareholder value; partly due to reputational damage.

Industry research indicates that a large number of wells are affected by integrity problems. The severity and frequency of well integrity problems strongly depends on the region, the fluids handled and the age of the wells. Globally it is estimated that 38% of oil and gas wells are affected by integrity issues. Well integrity deteriorates with age and as long as wells are operated in harsher environments. This may not necessarily affect the integrity of the Well but the operator has to monitor the well's condition very closely and act quickly if a further fault is detected.

Excessive pressure in the annulus can lead to Casing/Tubing collapse. This eventually results in poor production performance, damages to installation equipment and personnel as the case may be. The safety of your crew, equipment, and the environment depends on well integrity. Tubular are the backbone of well integrity. However total well integrity goes far beyond well construction. We assist our clients to safely and sustainably find, drill, complete and produce oil and gas fields efficiently and cost effectively. We depressurize and monitor the well casing/tubing pressure leakage test. The monitoring and pressure control process is one of the investigative measures to check and balance pressure build-up (PBU) from the tubing and casing.

Well Services

Produced Water Management Strategy



Well Services

Produced Water Management Solution

Water production is one of the major technical, environmental, and economic problems associated with oil and gas production. Water production can limit the productive life of the oil and gas wells and can cause severe problems including corrosion of tubular, fines migration, and hydrostatic loading. Produced water represents the largest waste stream associated with oil and gas production. In Nigeria, it is estimated that on average 8 barrels of water are produced for each barrel of oil. The environmental impact of handling, treating and disposing of the produced water can seriously affect the profitability of oil and gas production. The annual cost of disposing the produced water in Nigeria is in excess of 1 billion dollars.

Produced water represents the largest volume of polluted effluent. The effect of effluent discharged offshore may be diluted and dissipated by currents, reducing the hazards to the environment. Effluents discharged on land or into brackish waters may undergo comparatively little dilution, especially during the dry season, and may pose a hazard to aquatic organisms

The threat to human population may occur through consumption of contaminated organisms and through drinking of water from contaminated rivers or wells.

By regulation, Produced formation/oily waters should not be discharged into inland and nearshore areas. The disposal options are injection into disposal wells or re-injection to reservoir (sub-surface stratum or strata) approved for the purpose. Produced formation/oily waters may be discharged into offshore and deepwater areas provided the following conditions are satisfied;

- (i) An Oily water treatment system, designed to maintain the treatment efficiency during load variations and to operate with minimum chemical addition, shall be installed;
- (ii) The oil shall be separated from the produced/oily water;
- (iii) As a minimum, the concentration of the dispersed oil in the water to be discharged, shall not exceed 40mg/l (monthly average, otherwise the produced formation/oily waters shall be re-injected.

Engineering Design

Engineering, Procurement & Construction (EPC)

Engineering Functions

Basic Engineering
Planning
Detail Engineering
Estimating request for Quote
Construction Engineering

Procurement Functions

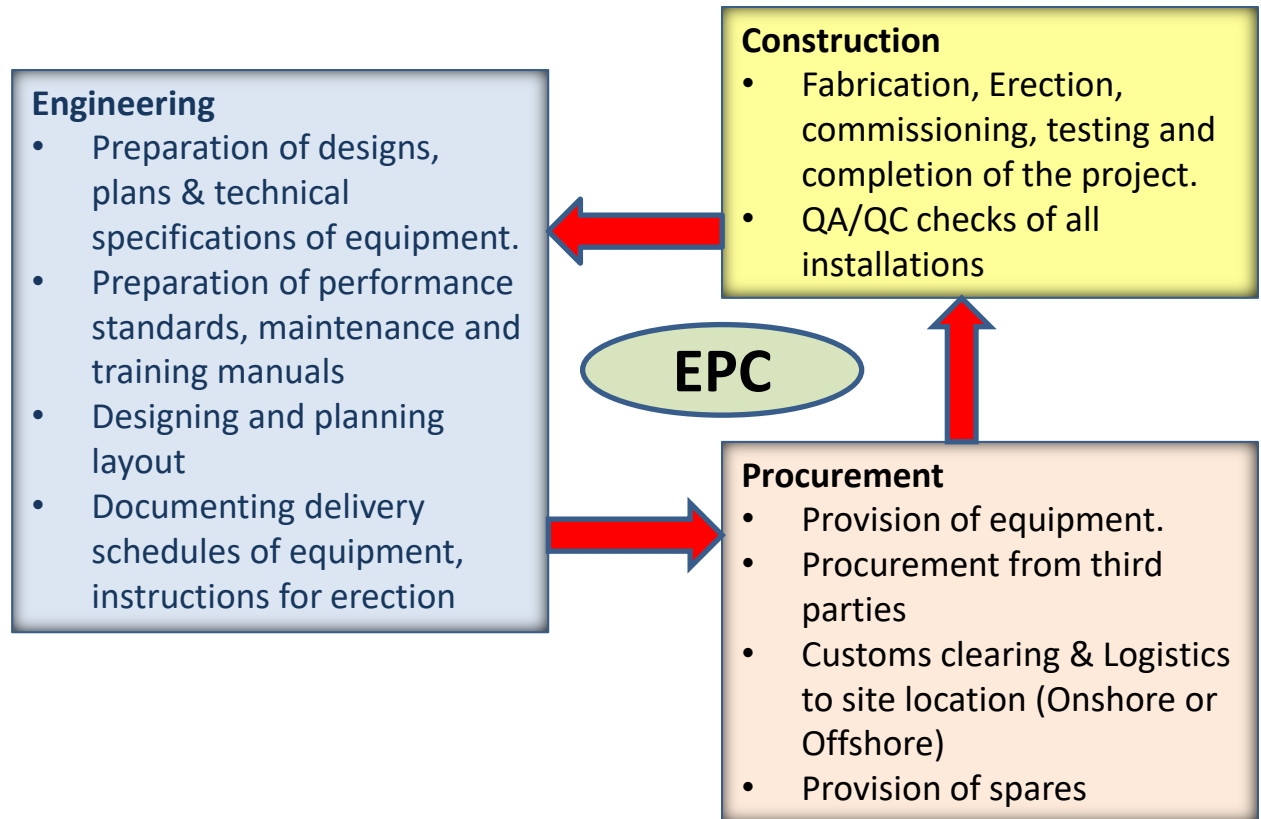
Customised manufacturing
Procurement
Purchasing
Expediting
Receiving
Invoicing
Logistics & Transport

Construction Functions

Civil & structural construction
Mechanical erection
Electrical installation
Instrumentation

Commissioning Functions

Testing & Commissioning
After-sales-service
Modernisation of Plants



Engineering Design

Our Services

We offer complete Engineering, Procurement and Construction Management services. We have handled projects from the initial feasibility phase right through to design, implementation and commissioning. Our areas of competence includes;

Project Management Consultancy Services

- ❖ Contractor and Interphase management
- ❖ Project Risk Management
- ❖ Construction and Installation Management
- ❖ Cost and schedule control
- ❖ Supplier and supply chain management
- ❖ Improved quality management
- ❖ Flexibility in staffing to suit project needs

We ensure on-time, qualitative delivery of projects without compromising the impact on the environment and employee's health. Our approach is to work closely with our esteemed clients which ensures that projects are executed in accordance with business objectives and stakeholder commitments.

Our Services encompass Engineering, Procurement and Construction installation. We have a "state of the art" certified Fabrication yard in Port Harcourt, Rivers State Nigeria which compliments our ability to deliver projects on-time, qualitatively, efficiently and effectively.

Engineering Design

Instrumentation

With the ever-increasing modernization of industry, there is increased need for Instrumentation and Control Engineering. Our team has hands-on experience with the required technical know-how to manage your critical process control projects seamlessly.

With a broad background in industrial process automation, we help our clients with their control processes, and more for any scale of business operations. As an instrumentation and control engineering company, we offer our customers a well-conceived, specified, engineered, and programmed instrumentation and control system. We also design bespoke systems to meet our client's requirements.

Today's increasing competition and stringent budgets are making it imperative for the Oil & Gas companies to maintain their project costs while delivering optimum quality within the stipulated time frame. They are expected not just to meet market demands but also reap the benefits of potential commercial opportunities.



We create a unique project execution methodology to reduce overall project execution cost and time by managing documentation for interdependent deliverables across different disciplines.

Our team effectively utilizes the tool interoperability to create practical designs that help to solve complex client problems.

Our in-depth understanding of software usage with its optimum features helps reduce the rework and saves time to stay on budget.

Our Aim

Substrata's aim is to provide cost effective solutions and services to clients in the oil and gas production, gas processing and oil refining industries.

We undertake a wide range of Engineering, Procurement and Project management tasks for oil exploration and production facilities, gas production and processing facilities, separation, liquefaction and oil refining. Our professional approach places us first on the list when considering new tasks or technologies.

Projects we have executed include engineering analysis, procurement assistance and project management services. Our approach is always flexible, ensuring our esteemed clients satisfaction.

Our Core Competences

- ❖ Conceptual Engineering Drawings
- ❖ Front End Engineering Drawings
- ❖ Detailed Engineering Drawing
- ❖ Completion/As Built Engineering Drawing

Training

Business Focus

Services Offered

- Facilitation
- assessments
- Moderation

Scope Covered

- learnerships
- Skills Programs
- Short courses



Substrata is an ISO 9001:2015 certified organisation and a registered member of Oil and Gas Trainers Association of Nigeria (OGTAN).

Training

Our Strategic Objectives

- We will provide inspiring training that motivates individuals to achieve their full potential thereby helping our Clients achieve their corporate goals.
- We will work in partnership with our Clients ensuring that courses we offer are specifically designed and thoughtfully adapted to suit their learning and workplace outcomes
- Referral business is the best type of business to have - therefore we will treat our Client's with the highest levels of care and respect at all times.
- Provide timely and structured learning experiences, operational training, and career development programs to all Client employees to improve and maintain job performance to support the stated corporate business goals.



Our alliances and partners

HALLIBURTON

gemage

Hermes Energy

IMP_aC

(((ECHOMETER)))

GeoTomo
Earth Modeling and Imaging Solutions



REINFIELD ENERGY SERVICES

AOS Orwell™



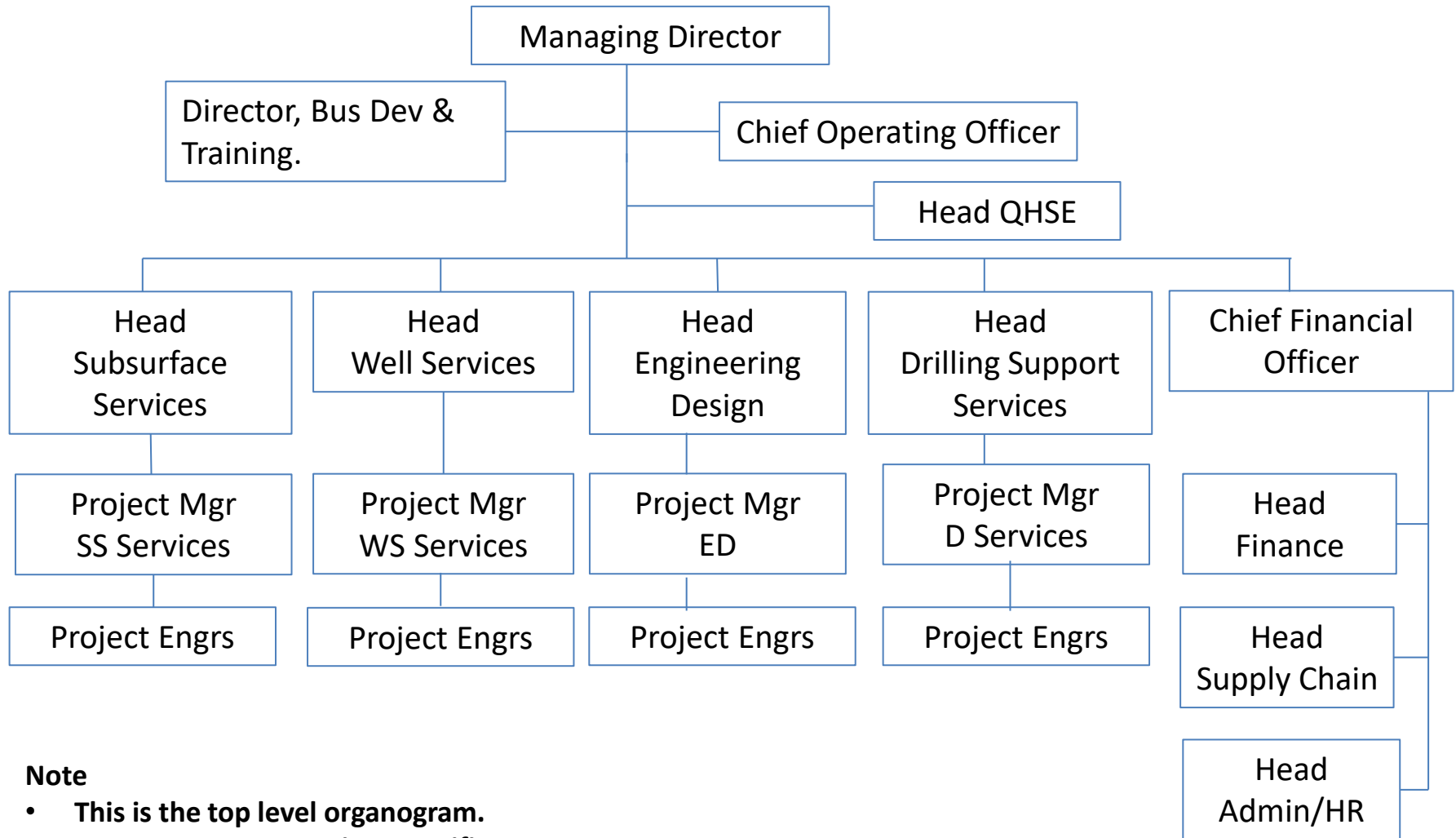
DTOSL
...delivering excellence

 **Frandrick**
International Limited

**DE-GRILLS INTEGRATED
SERVICES LIMITED**

**BAKER
HUGHES**
a GE company 

Corporate structure



Note

- **This is the top level organogram.**
- **Organograms are project specific.**



Contact Us

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