



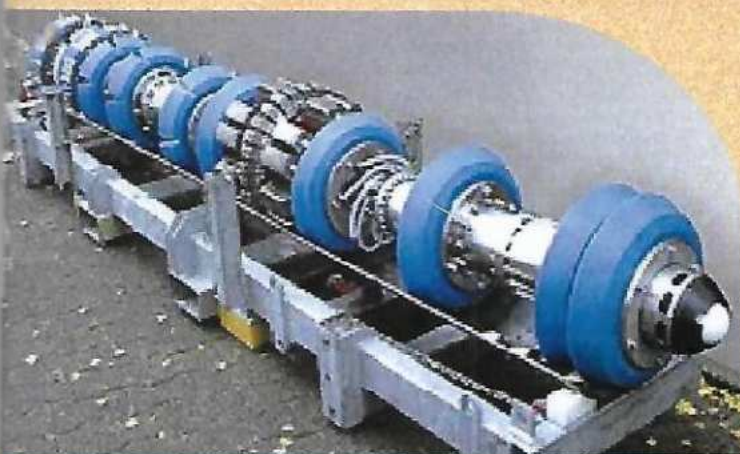
RC 644254

BETHEL ENGINEERING SERVICES LIMITED

PIPELINE AND PROCESS SERVICES COMPANY



CORPORATE PROFILE



- Pumping Services (Crude Transfer, Sludge Evacuation, Auxiliary Pumping)
- Manifold Maintenance
- Pipeline Pigging & Chemical Enhanced Cleaning
- Hydroblasting
- Tank Cleaning, Calibration & Leak Testing
- Grit Blasting & Painting
- Hot Bolting & Bolt Tensioning
- Valves Installation & Maintenance
- Wellhead maintenance
- Flowline Construction
- CHILLER & HAVAC Unit Cleaning
- Procurement Services
- Equipment Leasing Services

DELIVERING EXCELLENT SERVICES THROUGH PEOPLE AND EQUIPMENT

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WHO WE ARE

BETHEL ENGINEERING SERVICES LIMITED was established as a practical demonstration of the long – held belief by its founders that Nigerian entrepreneurs could raise to the challenge of creating an indigenous company that would employ the best available technologies to give its clients in the offshore, onshore and petrochemical industries, international standards of service and maximum satisfaction.

BESL is registered with Corporate Affairs of Nigerian and our CAC registration number is **[RC: 644254](#)**

Since the inception in 2006, the company has successfully executed various projects and procurement services to petrochemical industry, oil and gas producing and service companies. BESL range of services encompasses pipeline/flowline constructions and repairs, manifold maintenance, design of pigging facilities and pressure vessels, pipeline pre-commissioning, commissioning and decommissioning, hydro-testing services, pipeline pigging and enhanced chemical cleaning, pipeline desanding and descaling, pipeline integrity assessment, tank cleaning, calibration and hydrotesting services, Pipeline and Tank crude oil Flow metering and measurement, Flowline and Wellhead valve services, procurement services, Pumping services, hot bolting and bolt tensioning, grit blasting and painting, corrosion control and equipment leasing.

BESL operation covers the upstream and downstream sector of the Oil, Gas and petrochemical industries. We are also ISO certified in QA/QC and HSE.

OUR PIGGING TOOLS



BESL parades certified personnels who are highly experienced in pipeline flow assurance services.

Our vision:

To deliver excellent services, and be a top class pipeline and process services company that renders quality services which compare favorably with the best anywhere in the world through the use of high Technological equipment and people who are highly skilled in all our areas of operation.

OUR MISSION

Bethel Engineering Services Limited in her quest to provide excellent pipelines and facilities maintenance services to the oil, Gas and chemical industries,

we strive to:

- **Provide safe and reliable services** by ensuring the safety of people, assets, and the environment, while maintaining reliable operations.
- **Exceed customer expectations** in delivering high-quality services that meet or exceed customer expectations.
- **Bring innovative solutions** by embracing new technologies, methods, and ideas to drive growth, efficiency, and sustainability.
- **Incorporate teamwork and collaboration** to foster a culture of teamwork, open communication, and collaboration with customers, partners, and stakeholders.
- **Ensure commitment to excellence** through continuous improvement, learning, and growth.
- **Promote sustainability and minimize environmental impact** by adopting environmentally responsible practices, reduce waste, and minimize ecological footprint.

QUALITY POLICY STATEMENT

Bethel Engineering Services Limited as a provider of Pipeline Services to the onshore, swamp and offshore sectors of the Nigerian oil and gas industry.

It is the policy of BESL to offer services which conform to requirements, meet client needs, exceed client expectations and delivered on schedule time at low cost.

We shall endeavour by legitimate means at our disposal to deliver to our client's projects, goods, services and processes that meet the standards as set by International Standard Organization (ISO) and any other body as required.

All our quality Control shall be based on the ISO 9001 series, International Standards for Quality Management.

The Management shall take all necessary measures to ensure that its corporate quality is understood, implemented and maintained.

The management shall define all objectives pertaining to key elements of quality, such as fitness for use, performance, HSE and reliability as well as the calculations and evaluation of costs associated with all quality elements and objectives with the aim of minimizing quality losses.

This Quality Policy is communicated, understood and implemented throughout the company and is periodically reviewed for continuing suitability.

OUR STRENGTH



- ***BETHEL ENGINEERING SERVICES LIMITED** has in its pool, highly experienced and skilled personnel who are experts in their various fields.*
- *We employ a general management approach that places great premium on innovation and creativity; it is thus able to respond in a dynamic and proactive manner to clients' changing needs*
- *BESL is in partnership with hi-tech companies both foreign and local to boasts her strong technical and financial base for the purpose of providing the full range of her services to oil, gas and petrochemical industry.*
- *Our equipment are highly mobile and very cost effective. Also our pipeline integrity and hydro services equipment eliminates the usual high cost of maintaining pipeline facilities.*

OUR CORE SERVICES

- ◆ *Pigging and Intelligent pigging*
- ◆ *Advanced Pigging Services*
- ◆ *Precommissioning Services*
(Flushing, Flooding, Intelligent pigging, Hydrostatic Pressure, Hydro Testing, Dewatering and Drying)
- ◆ *Manifold Maintenance*
- ◆ *Tank Cleaning, Calibration and Leak Testing Services*
- ◆ *Nitrogen Inerting*
- ◆ *Pumping services*
- ◆ *Flow Metering and measurement.*
- ◆ *Corrosion control services*
- ◆ *Procurement services*
- ◆ *Hot Bolting and Bolt Tensioning Services*
- ◆ *Valve Services*
- ◆ *Instrument Calibration Service*
- ◆ *Equipment Leasing Services*



BETHEL ENGINEERING SERVICES LIMITED provides specialized and Professional pipeline services to the Oil; Gas and petrochemical industry that helps our clients to consolidate the maintenance and service programs in order to achieve greater efficiency through the following processes:

❖ **PIGGING SERVICES**

- **Routine Pigging** – For this service we design pigging programmes for weekly or monthly for cleaning of pipeline to enhance effective production and transportation of crude oil and gas.
- **Desanding and Descaling** – We use specialized chemicals to remove excessive sand and scales from production and transmission pipeline which could reduce internal diameter and efficient pipeline operations.
- **Chemical Batching** – We offer pipeline cleaning services using non-contaminating and non-corroding chemicals to inhibit the internal section of a pipeline against corrosion effects.
- **Intelligent pigging** to determine the comprehensive details of a pipeline internal condition, such as pipeline internal ovality, wall thickness and total length or distance of the pipeline.

❖ **PRECOMMISSIONING SERVICES**

BESL provides the best ***Crude Oil and Gas line Precommissioning services:***

We precommission your crude oil and Gas pipelines to:

- Remove weld chips and other metal/foreign materials that might have entered into the pipeline during construction.
- Ascertain the actual pipeline internal diameter, wall thickness and total distance of the pipeline.
- Pressure test the pipeline and ascertain the strength and established the maximum operating pressure of the pipeline.
- Dewater in readiness for commissioning (introducing pipeline designed product).

❖ **PIPELINE REPAIR AND ABANDONMENT SUPPORT SERVICES:**

For pipeline repair works and pipeline abandonment, we carry out the following operations to get the pipeline ready for the pipeline operators:

- **PIPELINE DE-OILING**
- **DEWATERING.**
- **LEAK TESTING**
- **CHEMICAL TREATMENT**

❖ **PIPELINE INTEGRITY MANAGEMENT:**

our integrity management services include but not limited to:

- ★ **Geometric Inspection**
- ★ **Post intelligent pigging**
- ★ **Pathfinder pigging**
- ★ **Strength Test**

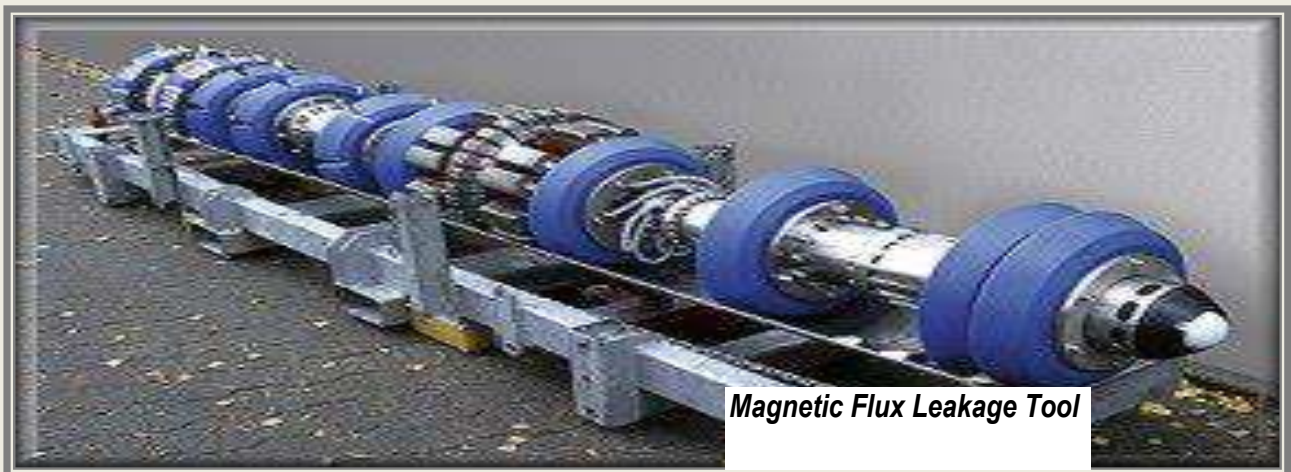
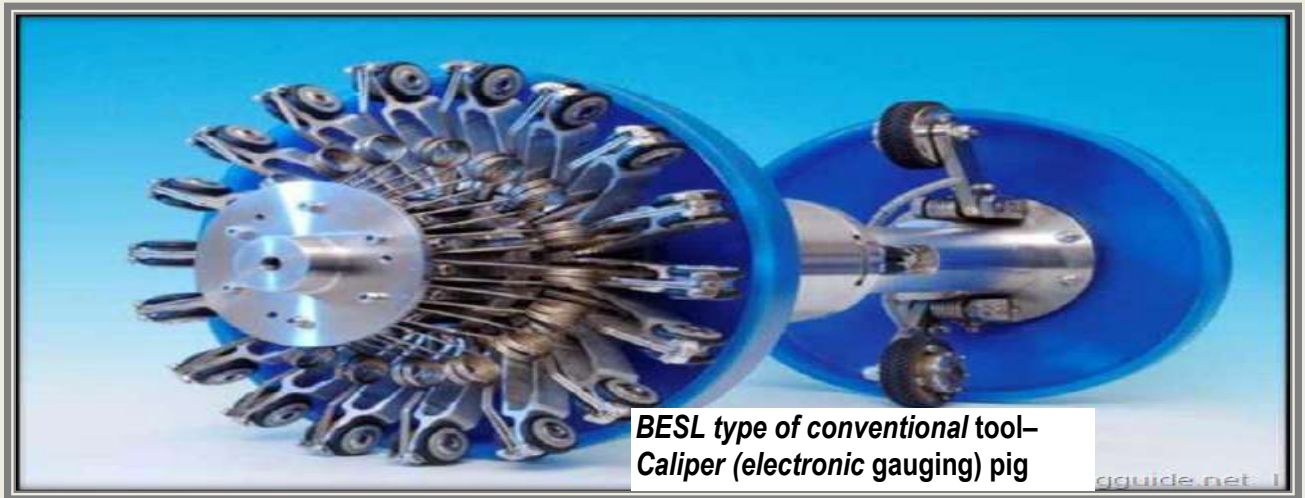
❖ **PIPELINE PUMPING SERVICES:**

BESL Pumps are second to none in providing pumping services. We provide:

- ***Flow Augmentation services*** – Using specialized pumps with Proven efficient flow and Pressure rates.
- ***Chemical Injection*** – With high pressure/volume pumps.

OUR INTELLIGENT PIGGING TOOLS

We have pool of tools and trained/certified engineers that meet every facility inspection needs and deliver high quality results and reports to our clients.



We partner with world class companies both local and international to execute excellent Intelligent pigging services.

PRECOMMISSIONING EQUIPMENT SPREAD



PRECOMMISSIONING EQUIPMENT SPREAD



VALVE SERVICES

BETHEL ENGINEERING is highly recommended for valve procurement, installation, inspection, maintenance and repair, hydrostatic testing and leak detection.

Our valve servicing and repair workshop is of standard and well equipped in accordance to ASME, ASTM and API standard.



BESL Valve Testing Equipment displayed in the Workshop



BESL Valve Test Connectors in a Receptacle



Automatic Air operated grease gun model 1163

TYPE OF VALVES WE SERVICE

- I. Ball Valves
- II. Gate Valves
- III. Weldon Valves
- IV. Pressure Relief Valves
- V. Check Valves
- VI. Double block and Bleed Valves

HYDROSERVICES

WE OFFER THE BEST HYDROSERVICES:



MULTISTAGE(3 STAGE) PUMP FOR FLOODING OF PIPELINE DURING HYDROTESTING



LIFTING PUMP WITH VOLUME RATE OF 80BBLs/MIN



HYDROTESTING PUMP WITH PRESSURE RATING OF 42BAR



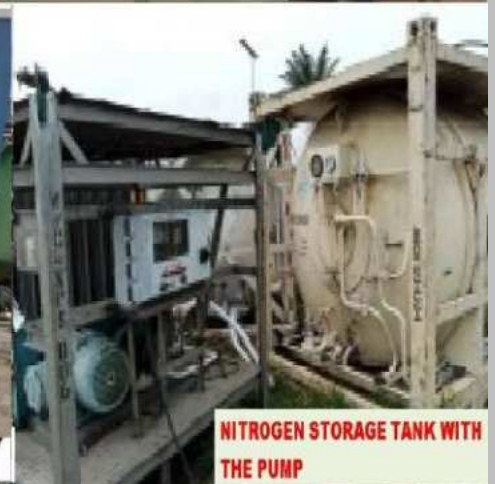
400BBLs HOLDING TANK



2300CFM COMPRESSOR FOR POWERING OF NITROGEN PUMP



DOUBLE POT(16 CARTRIDGES EACH) FILTRATION UNIT



NITROGEN STORAGE TANK WITH THE PUMP

HYDROTEST INSTRUMENTATION GALLERY



FLOW METERS



PRESSURE GAUGES



PRESSURE RELIEF VALVES



TEMPERATURE GAUGE



PRESSURE RECORDERS



PRESSURE/TEMPERATURE RECORDER



CHECK VALVES



DATALOGGER THERMOCOUPLE



DEAD WEIGHT TESTER



DATALOGGER THERMOMETER WITH ITS COMPUTER



TEMPERATURE GAUGES

HYDROBLASTING SERVICES



**Roto-Fan-System
Standard Set-up**

Container 2



**90BBLs/MIN @ 300Psi PIPELINE FLOW AUGMENTATION
EQUIPMENT**



**54BBLs/MIN @ 365Psi PIPELINE FLUSHING & FLOODING
EQUIPMENT**



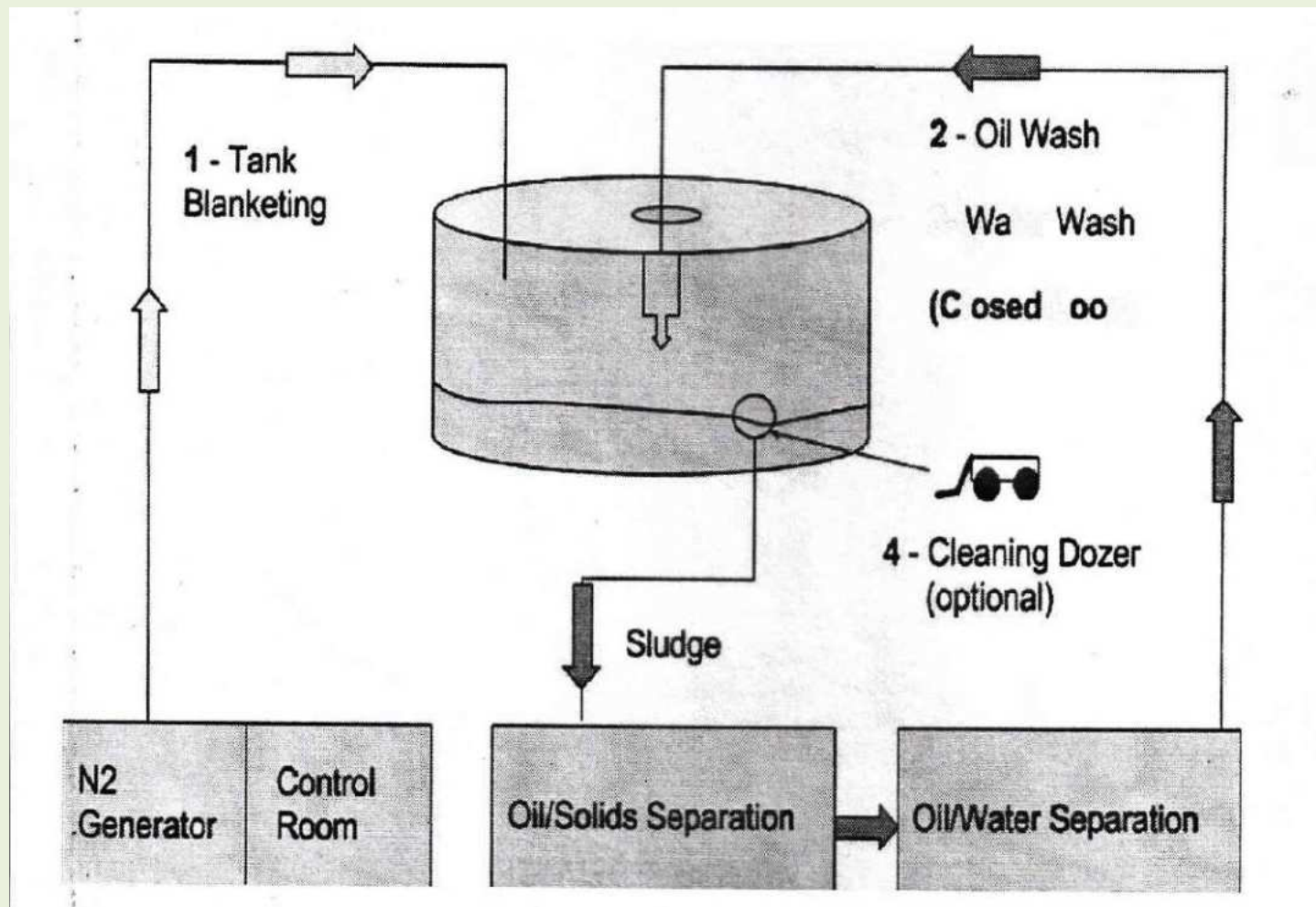
1500PSI TRIPLEX PUMP FOR HYDROBLASTING SERVICES



**BETHEL ENGINEERING STAFF DURING HYDROBLASTING
OPERATION**

BETHEL ENGINEERING SERVICES LTD is a leading provider of environmental and industrial cleaning solution to the downstream and midstream energy sectors. Through a customer-centric culture and the deep-rooted principle of safety, integrity, accountability and adaptability. **BESL** is a trusted partner to many of the largest and most discerning energy companies in Nigeria, and we have become one of the fastest growing companies in our field. Our technical expertise, talented employees, and focused offering of specialized and complementary services uniquely position us to engineer solutions for our customers to address a wide range of complex industrial cleaning requirements, and to provide safe service execution.

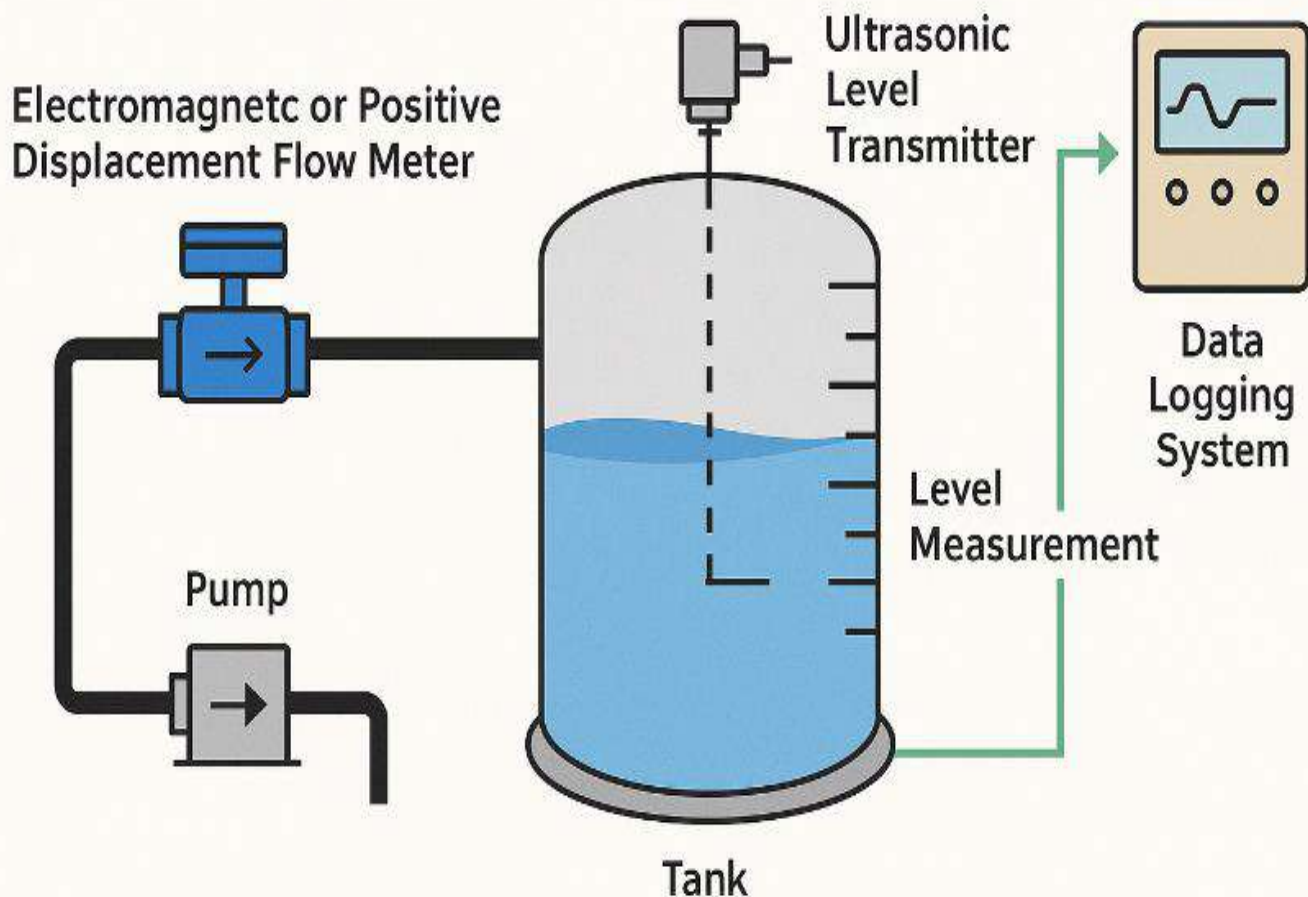
BESL'S Tank Cleaning Process Diagram



TANK CALIBRATION BY METERING

BESL as a specialist in this field and has executed several jobs in this field to SPDC at Forcados Terminal, Agip Nigerian Oil Brass Terminal and NESTOIL Nigerian Limited at Odid Tank Farm.

CALIBRATION BY METERING



TANK CALIBRATION SERVICES



TANK CALIBRATION SERVICES



TANK CALIBRATION SERVICES

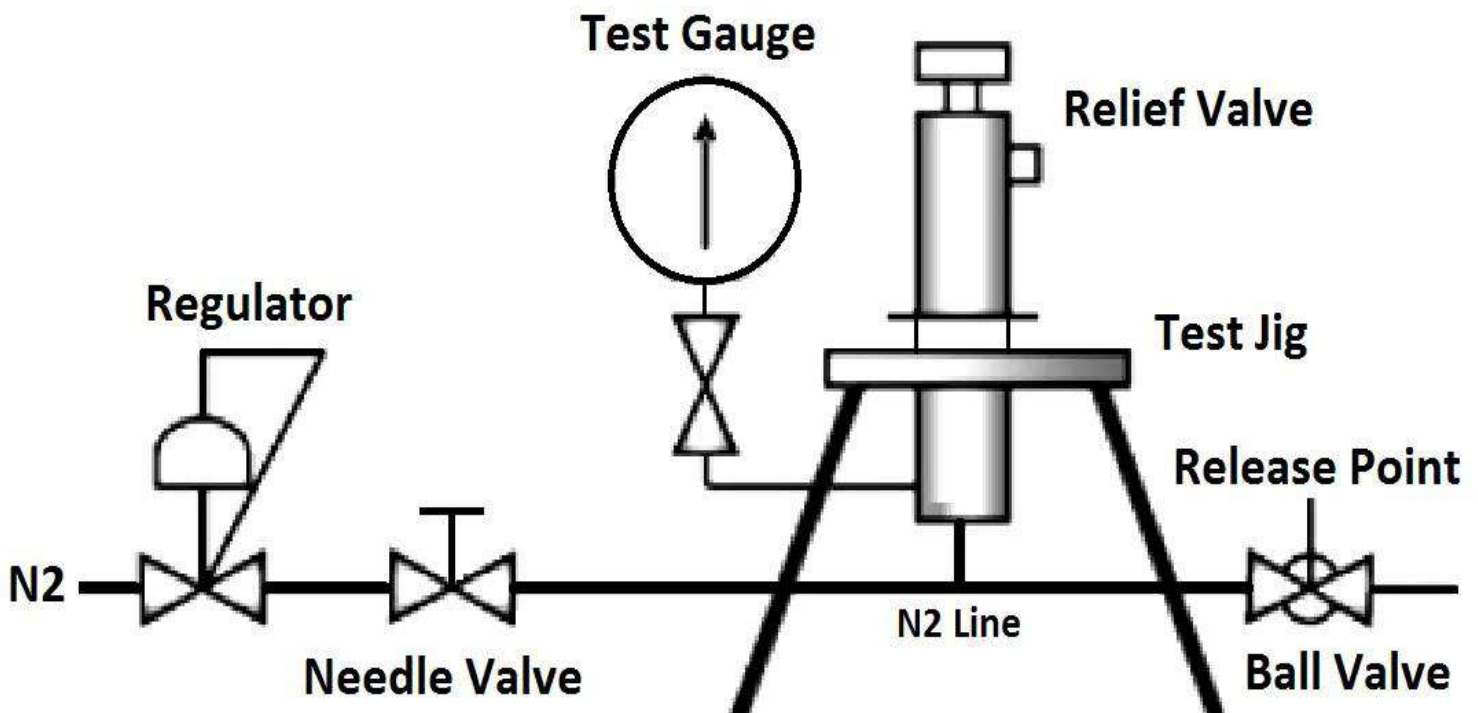


Bethel Engineering Services Ltd offers technical expertise and specialized services in this field thereby helping client to preserve and consolidate the functionality of their instrumentation system.

Our Scope of calibration Services include the Following:

- Oil and Gas Storage Tanks
- Flow measuring Instrument (Liquid Flow Meter and Gas Flowmeter)
- Flow Control Valves
- Pressure Safety Valves (PSV or PRV)
- Non Return Valves
- Pressure measuring Instrument (Gauges and Recorders)
- Temperature Gauges

Pressure Safety/Relief Valves Functional Testing



InstrumentationTools.com

OIL & GAS INSTRUMENT CALIBRATION



Count on BETHEL ENGINEERING SERVICES LIMITED for provision of high quality goods and delivery services to her clients. Our procurement service covers the following:

- ◆ **Pipes and fittings**
- ◆ **Barrel doors, accessories and seals.**
- ◆ **Flow control and wellhead valves**
- ◆ **Gas testers, flow monitors**
- ◆ **Bolts and nuts of all types**
- ◆ **Corrosion inhibitor chemicals**
- ◆ **Industrial equipment – Flow station pumps**
- ◆ **General industrial safety gadgets**
- ◆ **Equipment Leasing Services**

★ You can have a glance of some of BESL selected sample products



X 42 Carbon Steel Pipes



API X 52 Carbon Steel Pipes



ASTM A 53 Welded Black Steel Pipes



GD Band Lock Barrel Closure



Flow Control Ball Valve



Clamp Ring Barrel Closure

EQUIPMENT LEASING SERVICES

BETHEL ENGINEERING SERVICES LIMITED is widely known as the best provider of industrial pumps and other industrial equipment of various grades. Our equipment are well maintained, pre-mobbed and readily available at all times and cost convenient to our customers. We parade highly skilled engineers and operators who are competent and certified in operating these equipment to give professional delivery when demanded by our customers/clients.

BETHEL ENGINEERING SERVICES LIMITED
(PROCESS & PIPELINE SERVICES DIVISION)

BESL/CP/001 DATA SHEET



ENGINE DETAILS:
ENGINE MAKE: DETROIT
ENGINE NO: 12VF-073411*886-7889
ENGINE MODEL: V12-92 DOUBLE TURBO
ENGINE HORSE POWER: 435HP
ENGINE RPM: 2100RPM
CRASH FRAME DIMENSION: 8' X 4' FT X 10' FT
WEIGHT: 4500KG (9.92TON)

PUMP DETAILS:
PUMP TYPE: MULTISTAGE (5 STAGE)
FLOW RATE: 3088LS/MIN
PRESSURE RATING: 343PSI (23.8BAR)
SUCTION/DISCHARGE SIZE: 8" X 8"
PUMP SERIAL NO: 8010184-42145

INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer and Vessel Balancing.

BETHEL ENGINEERING SERVICES LIMITED
(PROCESS & PIPELINE SERVICES DIVISION)

BESL-CP-002 DATA SHEET



ENGINE DETAILS:
ENGINE MAKE: DETROIT
ENGINE NO: 61L-6488174
ENGINE MODEL: 6L-71SERIES
ENGINE HORSE POWER: 250HP
ENGINE RPM: 1500RPM
CRASH FRAME DIMENSION: 6' X 4' FT X 8' FT
WEIGHT: 3.000KG (3.3TON)

PUMP DETAILS:
PUMP TYPE: SINGLE STAGE
FLOW RATE: 3088LS/MIN
PRESSURE RATING: 150PSI (10.3BAR)
SUCTION/DISCHARGE SIZE: 8" X 8"
PUMP SERIAL NO: 14327798

INDUSTRIAL APPLICATION: Pipeline Picking and Flooding, Pigging of Oil and Gas Pipelines (Steel 8" - 48"), Floor degreasing, Refineries and Petrochemical Storage Tanks at Refineries and Tank Farms, Storage Tank Flooding / Collection and Barge Balancing Services.

BETHEL ENGINEERING SERVICES LIMITED
(PROCESS & PIPELINE SERVICES DIVISION)

BESL/CP/003 DATA SHEET



ENGINE DETAILS:
ENGINE MAKE: DETROIT
ENGINE NO: 12VAT2744
ENGINE MODEL: V12-92 DOUBLE TURBO
ENGINE HORSE POWER: 435HP
ENGINE RPM: 2100RPM
CRASH FRAME DIMENSION: 8' X 4' FT X 10' FT
WEIGHT: 5000KG (11.02TON)

PUMP DETAILS:
PUMP TYPE: MULTISTAGE (5 STAGE)
FLOW RATE: 3088LS/MIN
PRESSURE RATING: 343PSI (23.8BAR)
SUCTION/DISCHARGE SIZE: 8" X 8"
PUMP SERIAL NO: PH 150/80

INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer and Vessel Balancing.

BETHEL ENGINEERING SERVICES LIMITED
(PROCESS & PIPELINE SERVICES DIVISION)

BESL/CP/004 DATA SHEET



ENGINE DETAILS:
ENGINE MAKE: Detroit
ENGINE NO: 8VF1897 808-7340
ENGINE MODEL: V12-92 DOUBLE TURBO
ENGINE HORSE POWER: 435HP
ENGINE RPM: 2100RPM
CRASH FRAME DIMENSION: 8' X 4' FT X 10' FT
WEIGHT: 4500KG (9.92TON)

PUMP DETAILS:
PUMP TYPE: MULTISTAGE (5 STAGE)
FLOW RATE: 3088LS/MIN
PRESSURE RATING: 343PSI (23.8BAR)
SUCTION/DISCHARGE SIZE: 8" X 8"
PUMP SERIAL NO: PIN 10010

INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer and Vessel Balancing.

BETHEL ENGINEERING SERVICES LIMITED
(PROCESS & PIPELINE SERVICES DIVISION)

BESL-CP-006 DATA SHEET



ENGINE DETAILS:
ENGINE MAKE: Detroit
ENGINE MODEL: V8-92series
with double Turbo
HORSE POWER: 650HP
ENGINE RPM: 1500RPM
CRASH FRAME DIMENSION: 6' X 4' FT X 10' FT
WEIGHT: 2150KG (4.73TON)

PUMP DETAILS:
PUMP TYPE: CLOSE SINGLE IMPELLER
FLOW RATE: 2388LS/MIN
PRESSURE RATING: 4.0BAR
PUMP SERIAL NO: 89419 - 803
SUCTION/DISCHARGE SIZE: 8" X 8"

INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Storage Tank Collection and Vessel Balancing.

BETHEL ENGINEERING SERVICES LIMITED
(PROCESS & PIPELINE SERVICES DIVISION)

BESL-CP-008 DATA SHEET



ENGINE DETAILS:
ENGINE MAKE: Detroit
ENGINE NO: 12VFOB180*8123-7400
ENGINE MODEL: V12-Titanium
with double Turbo
HORSE POWER: 500HP
ENGINE RPM: 2100RPM
CRASH FRAME DIMENSION: 8' X 4' FT X 10' FT
WEIGHT: 5000KG (11.02TON)

PUMP DETAILS:
PUMP TYPE: CLOSE SINGLE IMPELLER
FLOW RATE: 3088LS/MIN
PRESSURE RATING: 10.0BAR
SUCTION/DISCHARGE SIZE: 12" X 10"

INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Storage Tank Collection and Vessel Balancing.

BESL-CP-010 DATA SHEET



ENGINE DETAILS:	PUMP DETAILS:
ENGINE MAKE: DETROIT	PUMP TYPE: SINGLE STAGE 115001-00PM
ENGINE NO: 11VF-1150131-8087-7850	FLOW RATE: 6000 GPM
ENGINE MODEL: V12-92-TURBO	PRESSURE RATING: 348PSI
ENGINE HORSE POWER: 685HP	SUCTION/DISCHARGE SIZE: 10" X 8"
ENGINE RPM: 2100RPM	PUMP SERIAL NO: 142277001
CRASH FRAME DIMENSION: 15FT X 6.5FT X 8.1FT	
WEIGHT: 9000KG (9.0TON)	
INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Storage Tank Calibration and Vessel Balancing	

BESL/CP/011 DATA SHEET



ENGINE DETAILS:	PUMP DETAILS:
ENGINE MAKE: DETROIT	PUMP TYPE: SPLIT CASE PUMP
ENGINE NO: 12VP08180-8123-7400	FLOW RATE: 500BLS/MIN
ENGINE MODEL: V12-92Series-DOUBLE TURBO	PRESSURE RATING: 210PSI (15BAR)
ENGINE HORSE POWER: 650HP	SUCTION/DISCHARGE SIZE: 10" X 8"
ENGINE RPM: 2100RPM	
CRASH FRAME DIMENSION: 8FT X 6.5FT X 10FT	
WEIGHT: 9000KG (9.0TON)	
INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Storage Tank Calibration and Vessel Balancing	

PUMP BESL-CP-013 DATA SHEET



ENGINE DETAILS:	PUMP DETAILS:
ENGINE MAKE: DETROIT	PUMP TYPE: MULTISTAGE (5 STAGE)
ENGINE NO: 12VF 04355-8123 7405	FLOW RATE: 348BLS/MIN
ENGINE MODEL: V12-92-DOUBLE TURBO	PRESSURE RATING: 348PSI (24BAR)
ENGINE HORSE POWER: 655HP	SUCTION/DISCHARGE SIZE: 10" X 8"
ENGINE RPM: 2100RPM	PUMP SERIAL NO: P1N15050C
CRASH FRAME DIMENSION: 10FT X 6FT X 8.5FT	
WEIGHT: 9000KG (9.0TON)	
INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer and Vessel Balancing	

BESL/CP/014 DATA SHEET



ENGINE DETAILS:	PUMP DETAILS:
ENGINE MAKE: DETROIT	PUMP TYPE: MULTISTAGE (5 STAGE)
ENGINE NO: 12VF-892-3240	FLOW RATE: 548BLS/MIN
ENGINE MODEL: V12-92-DOUBLE TURBO	PRESSURE RATING: 348PSI (24BAR)
ENGINE HORSE POWER: 685HP	SUCTION/DISCHARGE SIZE: 10" X 8"
ENGINE RPM: 2100RPM	
CRASH FRAME DIMENSION: 15FT X 6.5FT X 8.1FT	
WEIGHT: 9000KG (9.0TON)	
INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer and Vessel Balancing	

BESL/CP/015 DATA SHEET



ENGINE DETAILS:	PUMP DETAILS:
ENGINE MAKE: DETROIT	PUMP TYPE: MULTISTAGE (3 STAGE)
ENGINE NO: 16VF-07048-8163-7405	FLOW RATE: 900BLS/MIN
ENGINE MODEL: V16-92Series-DOUBLE TURBO	PRESSURE RATING: 210PSI (15BAR)
ENGINE HORSE POWER: 950HP	SUCTION/DISCHARGE SIZE: 10" X 8"
ENGINE RPM: 2100RPM	
CRASH FRAME DIMENSION: 15FT X 6.5FT X 8.1FT	
WEIGHT: 12000KG (12.0TON)	
INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer	

BESL/CP/016 DATA SHEET



ENGINE DETAILS:	PUMP DETAILS:
ENGINE MAKE: DETROIT	PUMP TYPE: MULTISTAGE (3 STAGE)
ENGINE NO: 16VF-892-3240	FLOW RATE: 900BLS/MIN
ENGINE MODEL: V16-92Series-DOUBLE TURBO	PRESSURE RATING: 210PSI (15BAR)
ENGINE HORSE POWER: 950HP	SUCTION/DISCHARGE SIZE: 10" X 8"
ENGINE RPM: 2100RPM	
CRASH FRAME DIMENSION: 15FT X 6.5FT X 8.1FT	
WEIGHT: 12000KG (12.0 TON)	
INDUSTRIAL APPLICATION: Pipeline & Process Line Flooding, Pigging, Crude Transfer	

BESL/ECP/010 DATA SHEET

WORTHINGTON SPLIT CASING CENTRIFUGAL PUMP

(ELECTRIC MOTOR DRIVEN & EXPLOSION PROOF)



FLOW RATE:	810GAL/MIN(19BBL5/MIN)
SIZE :	3" X 3"
ELECTRIC MOTOR HORSE POWER:	60HP
FREQUENCY:	60HZ
PRESSURE RATING:	150PSI(10BAR)
DIMENSION:	7.5FT X 3FT X 3FT
WEIGHT:	1500KG (1.5TON)
QUANTITY AVAILABLE:	2 UNITS

BESL/SMP/001 DATA SHEET

SUBMERSIBLE PUMP



FLOW RATE:	138BBL5/MIN
SIZE :	6"
ELECTRIC MOTOR HORSE POWER:	20HP
FREQUENCY:	60HZ
HEAD:	20FT
DIMENSION:	1.5FT X 4FT X 1.5FT
WEIGHT:	650KG (0.65TON)
QUANTITY AVAILABLE:	6 UNITS

BESL/NST/001 DATA SHEET

NITROGEN STORAGE TANK



SPECIFICATIONS

$P_{MAX}(BARG):$	3
$P_{MIN}(BARG):$	1
STORAGE LN_2 (1tr 8100)	
STORAGE GN_2 ($NM^3 @ 15^{\circ}C$)	5700
$T_{MAX}(^{\circ}C):$	196
$T_{MIN}(^{\circ}C):$	196
WEIGHT(TONS):	3.7 (9.9incl N_2)
DIMENSIONS:	6m X 2.5m x 2.5m
TRANSPORT:	SKID MOUNTED



BETHEL ENGINEERING SERVICES LIMITED

(PROCESS & PIPELINE SERVICES DIVISION)

BESL PROJECT EXPERIENCE

S/N	CLIENT	PROJECT NAME	LOCATION	DATE / DURATION	STATUS
1	ACNL/NNPC	Precommissioning of 24" X 15KM AKK Gas Line, Gwagwalada Section	Gwagwalada Niger State	25 th June 2026 - Date	Ongoing
2	ZOGL/RAEC	Cleaning, dewaxing and Intelligent Pigging of 12" X 8.4km Adibawa – Okordia Pipeline.	Adibawa Manifold, Rivers State	1 st May, 2026 – 28 th June, 2026	Completed
3	SWASS/RAEC	Cleaning, De-oiling and Leak testing of 28" X 55km Ebubu – BOGT.	Ebubu Manifold, Eleme LGA Rivers State.	13 th May, 2026 – 15 th June, 2026	Completed
3	ZOGL/RAEC	Cleaning and Intelligent Pigging of 8" Ubie – using Auxiliary pumping t support	Ubie Flow Station, Ahoada LGA, Rivers State.	19 th March – 2 nd May, 2026	Completed
4	HYDRODIVE/RAEC	Leak Testing of BSPM Renaissance Pipeline	Bonny Island, Rivers State	30 th Feb. – 17 th March, 2026	Completed
5	FETL/RAEC	Pigging with Auxillary Pumping of 20" X 19.5KM Okpukushi – Brass Creek	Okpukushi Bayelsa State	14 th Oct. – 4 th Nov. 2025	Completed
6	NNPC/SWASS	Precommissioning of 40" X 11KM AKK Gas Line, Kazai section	Kazai Niger State	21 st Feb – 13 th May, 2025	Completed
7	OILSERV/NNPC	Site calibration of PRV, Pressure gauges and Temperature Gauges	ASSAH ANOH GAS PLANT	March 17 th – 22 nd , 2025	Completed
8	MJD/SPDC	Flushing, Dewatering, Leak Testing & Chemical Batching of 20" X 36.2km Rumuekpe – Nkpoku TL	Rumuekpe Manifold, Emouhua LGA, Rivers State	Sept. 2024 – Dec 2024	Completed



BETHEL ENGINEERING SERVICES LIMITED

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9	MJD/SPDC	Flushing, Dewatering and Drying of 36" X 36.2km Rumuekpe - Nkpoku TNP	Rumuekpe Manifold, Emouhua LGA, Rivers State	April 2024 – Aug. 2024	Completed
10	MJD/SPDC	Crude Oil reinjection on 28" X 22km Nkpoku – Ebubu TNP	Rukpokwu Manifold obio/Akpor LGA	Nov. 2023 – Aug 2024	Completed
11	MJD/SPDC	Crude Oil reinjection on 36" X 21.5km Ogale – Bonny TNP	Ogale Manifold Ele me LGA	June 2023 – Aug 2024	Completed
12	MJD/SPDC	Cleaning and Intelligent Pigging of 28" Ebubu – BOGT using Auxiliary pumping to support the flow in the pipeline	Ebubu Manifold Eleme, Rivers State	Nov. 2023 – February 2024	Completed
13	MJD/SPDC	Flushing and Dewatering of 28" X 22km Nkpoku – Ebubu TNP & 36" X 21.5km Nkpoku – Ogale TNP	Nkpoku Manifold Obio/Akpor LGA Rivers State	July 2023 – Oct. 2023	Completed
14	MJD/SPDC	Routine Pigging using Process Flow of 36" Nkpoku – Ogale TNP	Nkpoku Manifold, Rivers State	16 th June 2023 – 28 th June 2023	Completed
15	MJD/SPDC	Cleaning & Inline Inspection of 8" X 9.7km NorthBank – Yokri Gas lift Pipeline	Northbank-Yokri Delta State	7th March,2023 – 8th April, 2023	Completed
16	MJD/SPDC	Cleaning, Descaling & Inline Inspection of 12" Benisede/Brass Creek	Benisede – Brass Creek Delta State	22nd Nov,2022 – 11th Dec, 2022	Completed
17	CHEVRON	Pigging, Inspection and Leak Testing of 30" X 47Km Chevron Export Pipeline	Escravos	19th Feb, 2022 – 30th March, 2022	Completed
18	MJD/SPDC	Pigging, Flushing, Leak Testing, and Dewatering of 24" Ogale - Bonny	Ogale/Bonny Terminal	23rd Nov 2021 – 5th Jan 2022	Completed
19	MJD/SPDC	Pigging with Auxillary Pumping of 12" Ogale – Ebubu 1	Ogale/Ebubu	4th Dec 021 – 8th Dec 2021	Completed



BETHEL ENGINEERING SERVICES LIMITED

(PROCESS & PIPELINE SERVICES DIVISION)

20	MJD/SPDC	Pigging with Auxillary Pumping of 12" Ogale – Ebubu 2	Ogale/Ebubu	8th Dec 021 – 9th Dec 2021	Completed
21	MJD/SPDC	Pigging with Auxillary Pumping of 8" Isimiri– IMO Gate	Isimiri F/S – Imo Gate M/F	11th Dec 021 – 24th Dec 2021	Completed
22	BGT/ CHEVRON	12" Abiteye – Escravos Pipeline Reinstatement (Flushing with pigs & Chemical, Leak Testing)	Abiteye /Escravos	20th June- 19th Sept 2021	Completed
23	DSV/SPDC	24" Trans Pipeline- Pigging4with Auxiliary Pumping/Inline Inspection	TRP Brass Creek – Forcados Terminal	Oct – Nov 2020 (42 days) July 2015 (31 days)	Completed Completed
24	WellMan & Wellington	Pigging with Auxiliary pump 36" Ejiren – Modojah Lagos	Ejiren – Modojah Lagos	N0v 2019 – Jan 2020 (48 days)	Completed
25	BGT/SPDC	Pigging with Auxiliary Pumping 24" Ogale - Bonny	Ogale - Bonny	Jun2 2020 (12 days)	Completed
26	BGT/SPDC	Pigging with Auxiliary Pumping 24" TRP	Ogale - Bonny	May 2020	Completed
27	BGT / Chevron	Pigging with Auxiliary Pumping 8" Okan SAT	Okan SAT	March 2020	Completed
28	BGT/SPDC	Pigging with Auxiliary Pumping 24" Ogale _ Bonny	Ogale - Bonny	Dec 2019	Completed
29	BGT/SPDC	Pigging with Auxiliary Pumping 24" Ogale - Bonny	Ogale - Bonny	Nov 2019	Completed
30	BGT/SPDC	Pigging with Auxiliary Pumping 24" Ogale - Bonny	Ogale - Bonny	October 2019	Completed
31	BGT/SPDC	Pigging with Auxiliary Pumping 8" Isimiri – Imo Gate & 12" Imo River - Ogale	Isimiri - Imo Gate & Imo River - Ogale	Oct 2019	Completed
32	BGT/SPDC	Pigging with Auxiliary Pumping 24" Ogale – Bonny Terminal	Ogale – Bonny	June 2019	Completed



BETHEL ENGINEERING SERVICES LIMITED

(PROCESS & PIPELINE SERVICES DIVISION)

33	BGT/SPDC	Pigging with Auxiliary Pumping 24" Ogale – Bonny Terminal	Ogale – Bonny Terminal	April 2019	Completed
34	BGT/SPDC	Pigging with Auxiliary Pumping 10" X 18km Diebu – Nun River	Diebu – Nun River	Nov 2018	Completed
35	SPDC/BGT	Pigging with Auxiliary Pumping 8" Isimiri – Imo Gate	Isimiri/Imo Gate	23rd March – 6th April 2018	Completed
36	Addax/ Rictel	Pigging with Auxiliary Pumping of 12" Osu – Izombe F/S	Osu -Izombe	Nov 2017-April 2018 (5 Months)	Completed
37	SPDC/ Baywod	Tank 202 (6,000,00bbls capacity) Hydrotest	Forcados	27th Nov. 2016-1st Jan. 2017 (35 days)	Completed
38	NPDC/ Raytheon Energy	Pigging/Crude Pumping Oil Pumping Services	Afisere	2nd Feb 2016- 11th May 2016 (3 Months 7days)	Completed
39	Hydrodive / SPDC	Pipeline flushing/Cleaning with Auxiliary pumping (4Stage)	Bonga	May 2016- Aug 2016 (4 Months)	Completed
40	SPDC	Pigging with Auxiliary Pumping of 10" crude oil delivery pipeline during intelligent pig inspection	Diebu – Nun River	Aug – Oct 2015 (3 Months)	Completed
41	Flostar Oil and Gas Serv.	Leasing of Pumps, Flow Meters, Hoses and Manifolds		Sept. 2015 (30 days)	Completed
42	SNG (Subcontractor)	Pre-commissioning (Cleaning, Flooding, Hydrotesting, Intelligent Pigging, Dewatering and Drying) of 12" Gas pipeline		July 2015 (31 days)	
43	NNPC – Refinery (Subcontractor)	Pumping Services – Dewatering	Eleme		Completed



BETHEL ENGINEERING SERVICES LIMITED

(PROCESS & PIPELINE SERVICES DIVISION)

		operation				
44	NAOC (Subcontractor)	Pumping Services – Dewatering operation	Ebocha	April 2015 (30 days)		Completed
45	SAIPEM (Subcontractor)	Pre-commissioning (Cleaning, Flooding, Hydrotesting, Intelligent Pigging, Dewatering and Drying) of 24" Gas pipeline		April 2015 (30 days)		Completed
46	KAZTEC ENGRG	Procurement of pipe fittings, etc.		April 2015 (30 days)		Completed
47	NAOC/OSAKS Intech	Sea Water Pumping and Calibration of Tank 18	Brass NAOC Terminal	Sept 2014-Feb 2015 (6 Months)		Completed
48	Dorman long - ExxonMobil	Loadout of Oyo 1 Wellhead Platform	Lagos	March 2012 Month)		Completed
49	NLNG	Ultrasonic wall thickness test on STORAGE TANKS		Decembers 2011		
50	KAZTEC ENGRG	Leasing of Compressors and Welding Machines		May 2011 – Oct 2011 (6 Months)		Completed
51	Flostar Oil and Gas Serv.	Leasing of Pumps, Flow Meters, Hoses and Manifolds		Sept. 2015 (30 days)		Completed

BESL – PIPELINE AND PROCESS SERVICES COMPANY

**ONGOING PRE-COMMISSIONING OF 24" X 15KM AKK GAS LINE, GWAGWALADA SECTION,
NIGER STATE 25TH JUNE, 2026 - DATE**



BETHEL PERSONNEL AT WORK



BETHEL PERSONNEL AT WORK



RECOVERED PIG



LAUNCHING OF 24" PIG – RUN 3

CLEANING, DEWAXING AND INTELLIGENT PIGGING OF 12" X 8.4KM ADIBAWA – OKORDIA PIPELINE USING AUXILIARY PUMPING SUPPORT - 1st May, 2026 – 28th June, 2026.



EQUIPMENT SPREAD FOR AUXILIARY PUMPING SUPPORT



DESCALING PIG



RECOVERY OF DEWAXING PIG



BAGS OF RECOVERED DEBRIS AND WAXES

**CLEANING, DE-OILING AND LEAK TESTING OF 28" X 55KM EBUBU - BOGT USING
AUXILIARY PUMPING SUPPORT - 13th May, 2026 – 15th June, 2026.**



CLEANING PIG – RUN 3



DEWATERING PIG – RUN 2

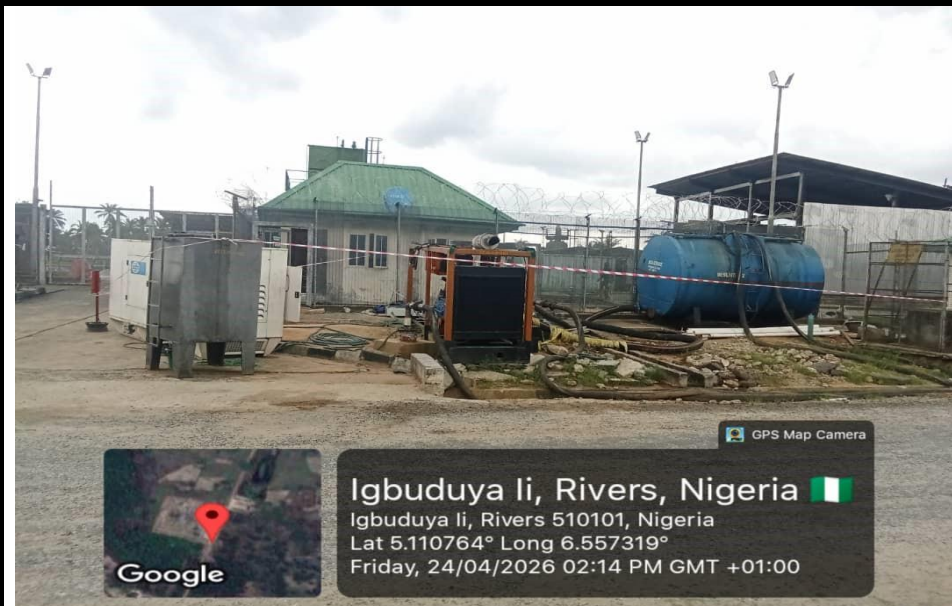


PIG RECOVERY



**PUMP SPREAD FOR AUXILIARY PUMPING
SUPPORT**

CLEANING AND INTELLIGENT PIGGING OF 8" X 12KM UBIE – UKPELEDE MFD USING AUXILIARY PUMPING SUPPORT - 19th March – 2nd May, 2026.



EQUIPMENT SPREAD



EQUIPMENT SPREAD



8" INTELLIGENT PIG



PIGGING, DESCALING AND LEAK TESTING OF BSPM RENAISSANCE PIPELINE, BONNY
30th Feb.,2026 – 17th March, 2026



EQUIPMENT SPREAD



EQUIPMENT SPREAD



16" BIDI MECHANICAL PIG



16" DESCALING PIG

PIGGING WITH AUXILLARY PUMPING OF 20" X 19.5KM OKPUKUSHI – BRASS CREEK
14th Oct. – 4th Nov. 2025.



EQUIPMENT SPREAD



EQUIPMENT SPREAD



20" FOAM PIG



20" PATHFINDER PIG

PRECOMMISSIONING OF 40" X 11KM AKK GAS LINE, KAZAI NIGER STATE 21ST FEB. 2025 – 13TH MAY, 2025



EQUIPMENT RIG UP ONGOING



EQUIPMENT SPREAD



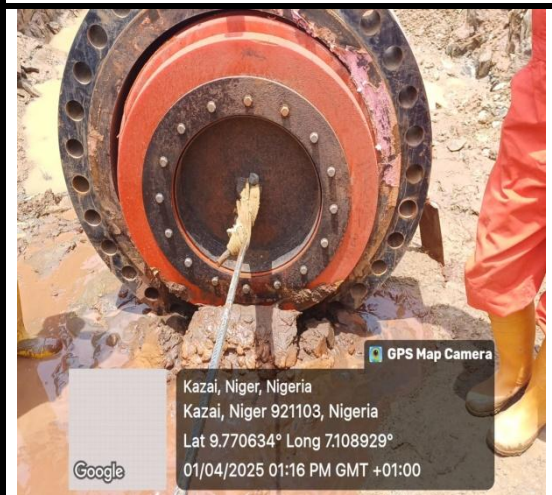
LOADING OF 40" MD COATED FOAM PIG



PIG RECOVERY ONGOING



LOADING OF MANDREL PIG



RECOVERY OF MANDREL PIG

**SITE CALIBRATION OF PSV, PRESSURE GAUGES & TEMPERATURE GAUGES, ANOHGP NNPC
ASSA GAS LINE 17TH MARCH 2025 – 14TH APRIL 2025.**



**CALIBRATION OF PRESSURE
GAUGES**



**CALIBRATION OF PRESSURE
GAUGES**



**CALIBRATION OF TEMPERATURE
GAUGE**



**CALIBRATION OF TEMPERATURE
GAUGE**



PSVs FOR CALIBRATION



CALIBRATION OF PSV

FLUSHING, DEWATERING, LEAK TESTING & CHEMICAL BATCHING OF 20" X 36.2KM RUMUEKPE – RUKPOKWU TRUNK LINE 1ST SEPT. 2024 – 6TH DECEMBER 2024



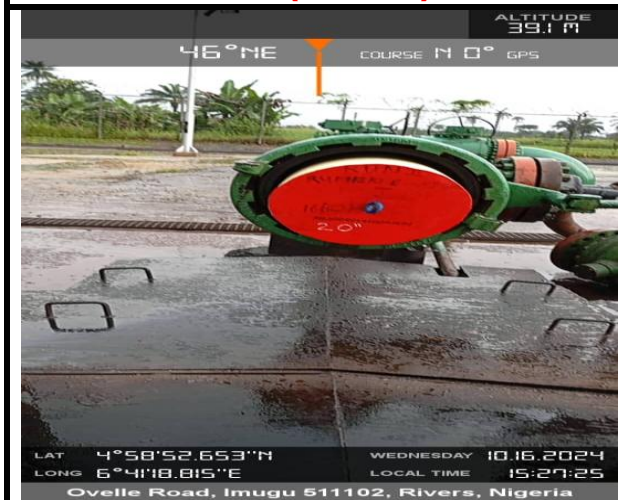
EQUIPMENT(PUMP) SPREAD



GENERATING SETS



HOLDING TANKS



**LOADED 20" MD BARE BODY
FOAM PIG (RUN 1)**

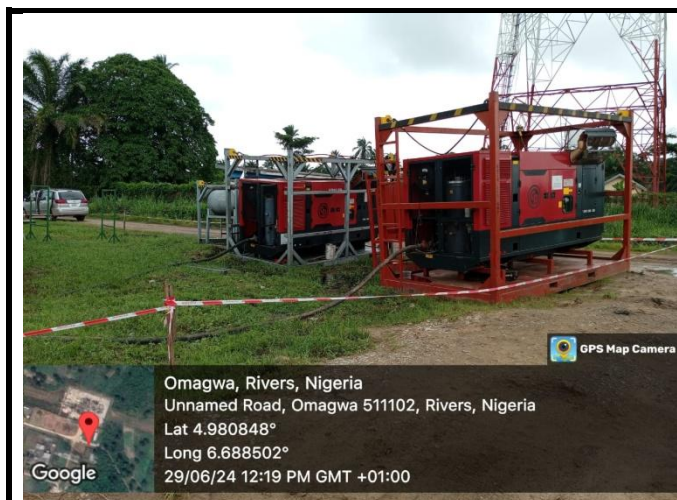


**LOADED 20" MD BARE
BODY FOAM PIG (RUN 2)**



**LOADED 20" MD BARE BODY
FOAM PIG (RUN 3)**

FLUSHING, DEWATERING, LEAK TESTING & CHEMICAL BATCHING OF 20" X 36.2KM RUMUEKPE – RUKPOKWU TRUNK LINE 1ST SEPT. 2024 – 6TH DECEMBER 2024



AIR COMPRESSORS USED FOR DRYING OPERATION



PIG RECOVERY AT RUKPOKWU MANIFOLD



PIG RECOVERY AT RUKPOKWU MANIFOLD



RECOVERED 20" MD BARE BODY FOAM PIG



RECOVERED 20" DEWATERING PIG



RECOVERED DEBRIS

FLUSHING, DEWATERING & DRYING OF 36" X 36.2KM RUMUEKPE – RUKPOKWU TRUNK LINE 6TH APRIL 2024 – 28TH AUGUST 2024.



EQUIPMENT SPREAD



GENERATING SETS



HOLDING TANKS



INSTALLATION OF HOOK UP POINTS



LOADED 36" MD BARE BODY FOAM PIG (RUN 2)



RECOVERED 36" MD FOAM PIG WITH DEBRIS

**CLEANING AND INTELLIGENT PIGGING OF 36" X 21.5KM RUKPOKWU - OGALE TRUNK
LINE 16TH JULY 2024 – 30TH JULY 2024.**



EQUIPMENT SPREAD FOR AUXILIARY PUMPING SUPPORT



PROJECT ENGINEER



LOADING OF INTELLIGENT PIG



**INTELLIGENT PIG AT RECIEVER
BARREL**



**RECOVERING OF INTELLIGENT
PIG AT OGALE MANIFOLD**

CLEANING, DESCALING AND INTELLIGENT PIGGING OF 28" EBUBU – BONNY BOGT 16TH NOV. 2023 – 8TH FEBRUARY 2024.



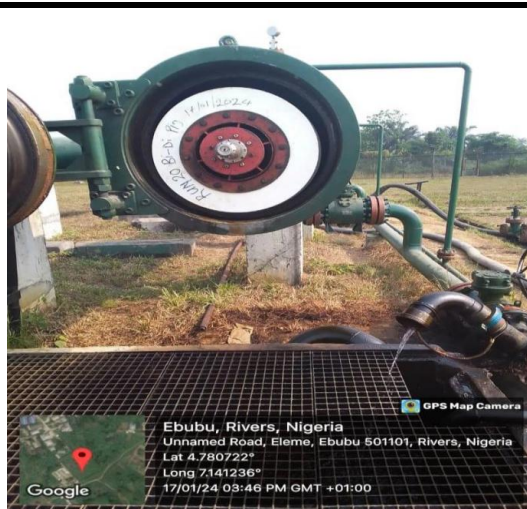
PUMP SPREAD FOR AUXILIARY PUMPING SUPPORT



WATER HOLDING TANKS



INSTALLED HOOK UP POINTS



LOADED BI-DI (RUN 2)



LOADED BI-DI (RUN 15)

FLUSHING AND DEWATERING OF 28" X 22KM NKPOKU - EBUBU TL & 36" X 21.5KM NKPOKU - OGALE TL 11TH JULY 2023 – 20TH OCTOBER 2023.



LOADED 36" MD FOAM FLUSHING PIG RUN 1



LOADED 36" MD FOAM FLUSHING PIG RUN 2



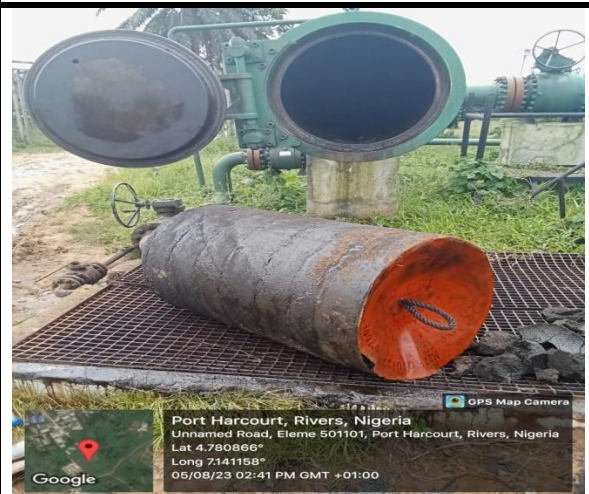
36" DEWATERING PIG RUN 1



LOADED 28" MD BARE BODY FOAM PIG (RUN 2)



RECIEVER PERSONNELS RECOVERING 28" PIG



RECOVERED 28" MD BARE BODY FOAM PIG

FLUSHING AND DEWATERING OF 28" X 22KM NKPOKU - EBUBU TL & 36" X 21.5KM NKPOKU - OGALE TL 11TH JULY 2023 – 30TH OCTOBER 2023.



RECOVERING OF 36" MD FOAM PIG (RUN 1)



RECOVERING OF 36" DEWATERING PIG



RECOVERED 36" MD BARE BODY FOAM PIG (RUN 1)



RECOVERED 36" DEWATERING PIG



RECOVERED 36" MD BARE BODY FOAM PIG (RUN 2)



RECOVERED MD BARE BODY FOAM PIGS

**ROUTINE PIGGING USING PROCESS FLOW OF 36" X 21.5KM NKPOKU- OGALE TL 16TH
JUNE 2023 – 28TH JUNE 2023.**



**36" MD BARE BODY FOAM PIG
READY FOR LOADING**



**LOADED 36" MD COATED
FOAM PIG (RUN 2)**



**DEBRIS PUSHED OUT BY
PIG**



**EVACUATION OF DEBRIS
FROM THE BARREL**



RECOVERED 36" MD BARE BODY FOAM PIG

CLEANING AND INLINE INSPECTION OF 8" X 9.7KM NORTHBANK – YOKRI GAS LIFT PIPELINE 7TH MARCH 2023 – 8TH APRIL 2023.



EQUIPMENT MOBILIZATION FROM BASE TO WORK SITE



EQUIPMENT SPOTTED AND POSITIONED



NITROGEN TANK SPOTTED AND POSITIONED



PUMP SPREAD POSITIONED AND RIGGED UP FOR AUXILIARY PUMPING



PUMP SPREAD POSITIONED AND RIGGED UP FOR AUXILIARY PUMPING



**CLEANING, DESCALING AND INLINE INSPECTION OF 12" BENISEDE/BRASS CREEK
22ND NOV. 2022 – 11TH DECEMBER 2022**



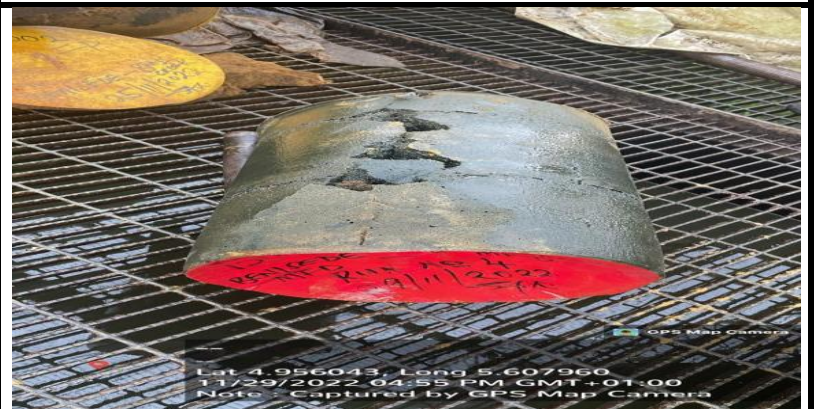
12" MD BARE BODY FOAM PIG (RUN 4)



LOADED 12" MD BARE BODY FOAM PIG (RUN 7)

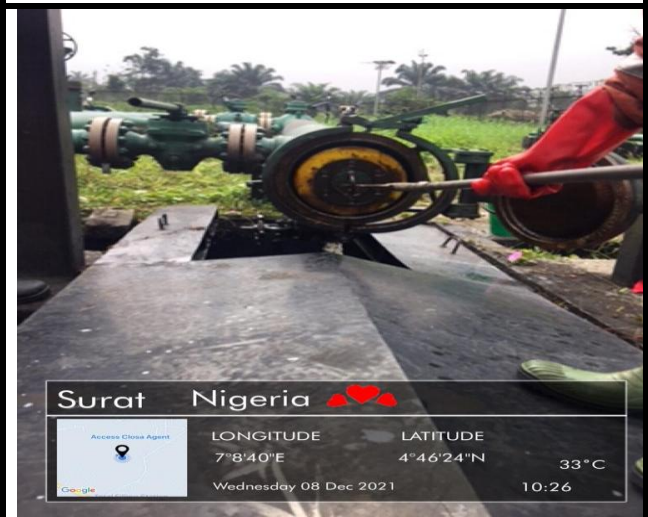
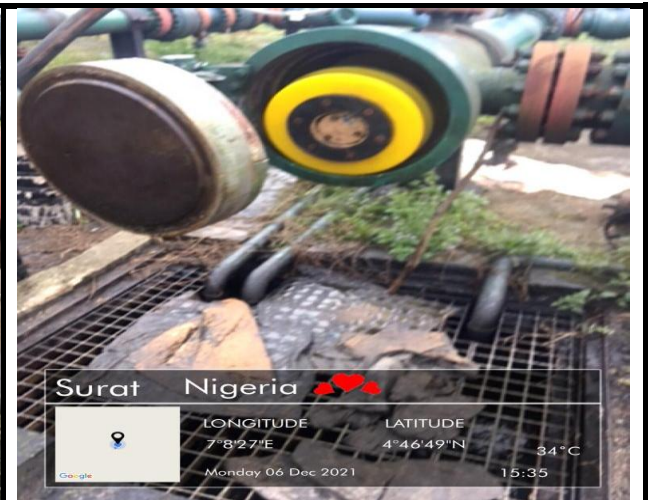


12" MD MD FOAM PIG AT THE RECIEVER BARREL



12" RECOVERED PIG

FLUSHING, LEAK TESTING, DEWATERING AND INTELLIGENT PIGGING OF 12" OGALE – EBUBU 1 & 2 AND 24" OGALE – BONNY TL 2ND MARCH. 2021 – 11TH AUGUST 2023





**OPERATIONS PERSONNEL
FOR IP LAUNCH**



**INTELLIGENT PIG
TECHNICIAN**



**INTELLIGENT PIGGING OF 12"
OGALE – EBUBU 1**



**INTELLIGENT PIGGING OF 12"
OGALE – EBUBU 1**



**PIGGING OF 24" OGALE -
BONNY**



**24" MD COATED FOAM PIG RECOVERY
@ BONNY OIL GATHERING TERMINAL
(BOGT)**

**EQUIPMENT SPREAD FOR AUXILIARY PUMPING SUPPORT DURING THE PROJECT 2ND
MARCH. 2021 – 11TH AUGUST 2023**



PIGGING WITH AUXILLIARY PUMPING OF 8" ISIMIRI F/S – IMO GATE M/F D/LINE FROM 11TH DEC. 2021 – 25TH DEC 2021

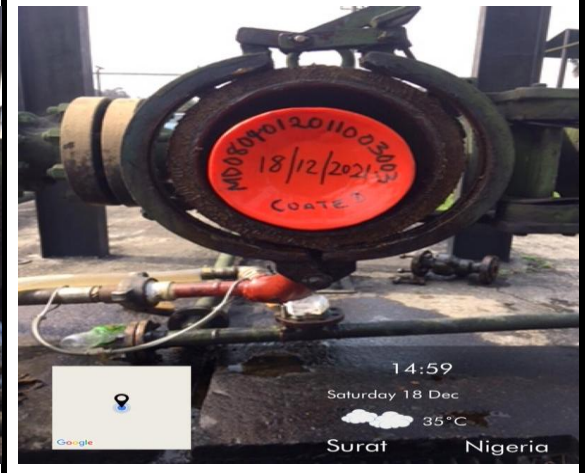
8" BARE BODY FOAM INSERTED



24" BARE BODY PIG IN THE BARREL



8" COATED PIG IN THE BARREL



RECOVERED BARE BODY FOAM PIG



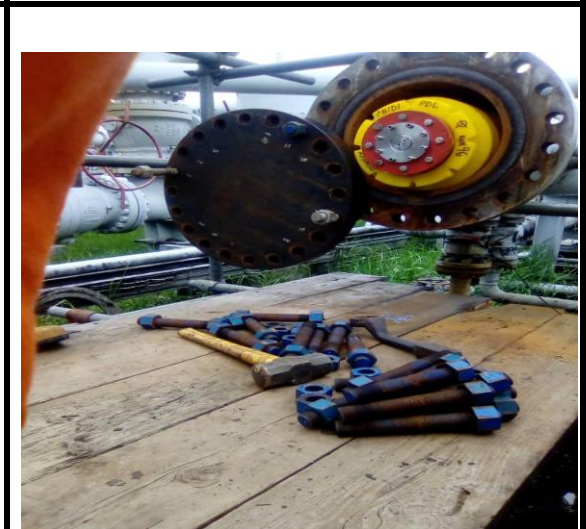
RECOVERING OF BATCHING FOAM PIG



RECOVERING OF 8" COATED FOAM PIG



PIGGING WITH AUXILLIARY PUMPING AND DEWAXING OF CHEVRON 12" ABITEYE – ESCRAVOS PIPELINE REINSTATEMENT PROJECT



LOADOUT OF OYOT-1 WELLHEAD PLATFORM DORMANLONG -EXXONMOBIL



VALVE MAINTENANCE AND REPAIR SERVICES AT ONE OF THE SPDC PIGGING M/FS

