



CAPEMANO

ENERGY & PETROLEUM ■■■■■■■■

Company Overview

Cape Mano Group is a group of companies dedicated to finding innovative means of attaining growth and development across sectors in Africa, setting new standards of excellence and breaking barriers.

Our group of companies consist of Cape Mano Energy and Petroleum Ltd., Cape Mano Agriculture, Cape Development Nigeria Ltd. and Cape Mano Technologies Ltd.

Cape Mano Energy & Petroleum is committed to becoming a leading oil and gas company globally, providing a range of high-quality products and services, while upholding industry best practices, ensuring environmental sustainability and efficient use of resources.

Our Core Values



Integrity



Reliability



Collaboration



Fairness



Generosity

Service Divisions



Well Stimulation

All operators know that near wellbore damage (and skin) from oil based mud (OBM) reduces production wells and injection wells performance. However, most operators have not realised that the OBM damage actually reduces the production and injection capability of well to less than half, and sometimes even less than a quarter, of their original (virgin) reservoir capability.

Do you know that your reservoir could produce more than double of its current production if it had a near wellbore permeability that is close to the original virgin permeability of the formation before drilling was done with oil base mud?



Production Chemistry

Maximise oil flow with our Production Chemistry products.

Prevent the emulsification of reservoir fluids and successfully stimulate oil flow from your wells using SAS-PS' unique microemulsion technology.

FlipMulsion

With our Flipmulsion range of products you could benefit from maximised flow of oil, emulsion formation prevention, faster and more complete hydrocarbon recovery, and production increases of between 200% - 1000%.

Micro-Dispersant

Our Micro-Dispersant products are designed to be highly effective wax and paraffin dispersants. With these products you could reduce viscosity in crude oil, clean and prevent blockages in transfer stations, and provide and maintain flow assurance in wells, pipelines and pigging operations

Service Divisions



Filtercake Removal

Improve your production with SAS Filtercake Removal & Breaker products

The SAS-PS team has been the developing force behind many of the more well known filtercake breakers on the market today. Our expertise in developing microemulsion (or nanoemulsion, or mesophase, etc.) based oilfield products has resulted in the next generation of filtercake removal or breaker products.

Specifically aimed at resolving Oil Based Mud (OBM) damage we supply these products direct to our customers.

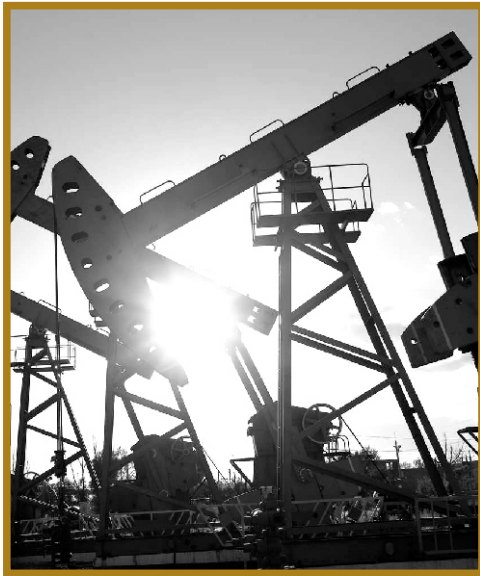


Scale Removal & Treatments

Remove or inhibit scale formation

Oil wells often develop deposits of inorganic scales. Scales can form in perforations, casing, production tubulars, valves, pumps, and downhole equipment. This scaling will negatively impact production and sometimes leads to abandonment of the well. With the right treatment this scaling can be prevented, reduced or removed. Our scale treatment and inhibition products are listed here.

Service Divisions



Exploration & Production

Our Exploration and Production division operates marginal field assets across Nigeria.



Geology

Our team of geologists is well-trained in data acquisition, analysis and exploration programs. We offer a wide range of geological services to National and International Oil Companies.

Service Divisions



Engineering, Procurement and Construction

Our team of civil and mechanical engineers are experienced and skilled in providing a wide range of midstream and downstream engineering and construction services, including but not limited to pipeline fabrication, oil & gas processing components installations and tank farm design and commissioning.

The procurement arm strategically procures oil and gas chemicals and equipment to support upstream and midstream operations for National and International Oil Companies.



Logistics, Data Management & Data Storage

Our logistics services include design, construction, operation and maintenance storage facilities for our clients across sectors in Africa. We also pride ourselves in designing, constructing and managing state-of-the-art technologically advanced data storage and analyzation facilities National and International oil companies in Nigeria.

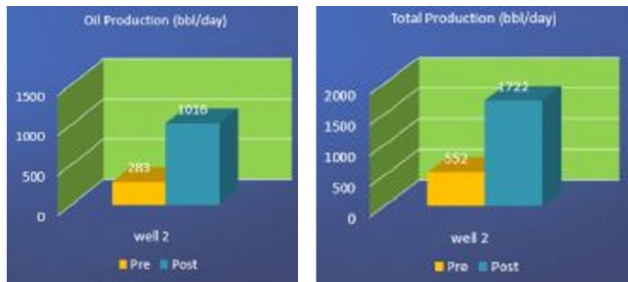
Case Studies

01 Well Stimulation

THE PROJECT:

An operator in Nigeria needed to increase oil production from a horizontal well drilled in a heavy and viscous, low pressure, oil reservoir. The well was drilled in 2015 and oil production had steadily declined to a low value of 283 bbl/d, and total production (oil and water) declined to 552 bbl/d.

The operator was looking for a solution to increase the well production and productivity index. SAS provided our microemulsion SAS Breaker 162SC chemistry to completely restore the near-wellbore to its original permeability and increase production.



The Solution:

The SAS Breaker 162SC was deployed with coil tubing across the reservoir section and allowed to soak for the desired period. It restored the near-wellbore permeability to its original virgin state by completely removing the damage caused by the drilling mud when the well was drilled, completely removing all the downhole in-situ emulsion that formed during production, and water-wetting all sand grains.

After the soak period, the well was opened and SAS Breaker 162SC had successfully remediated the horizontal well, removing nearwellbore formation damage and increasing production by 259%, from 283 bbl/d to 1,016 bbl/d.

After the well flowed for one month, the operator turned on a gas lift valve and the oil production further ramped up to 1,620 bbl/d

The Results:

- Increased well production from 283 bbl/d to 1,016 bbl/d on the same choke size. This represents 259% increase (or 3.59 times the pretreatment rate).
- Total production increased from 552 bbl/d to 1,722 bbl/d.
- Productivity index increased, enabling a single gas lift valve to increase oil production to 1,620 bbl/d. After the soak period, the well was opened and SAS Breaker 162SC had successfully remediated the horizontal well, removing nearwellbore formation damage and increasing production by 259%, from 283 bbl/d to 1,016 bbl/d. After the well flowed for one month, the operator turned on a gas lift valve and the oil production further ramped up to 1,620 bbl/d.

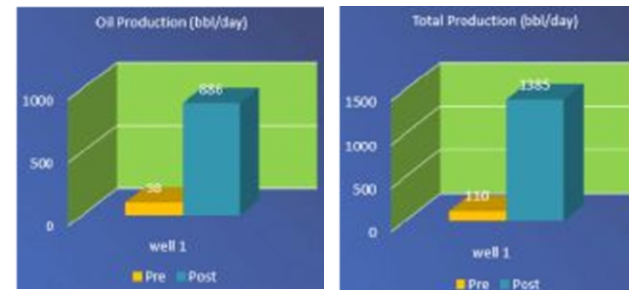
02 Well Stimulation

THE PROJECT:

An operator in Nigeria needed to increase oil production from a horizontal well drilled in a heavy and viscous, low pressure, oil reservoir. The well was drilled in 2014 and oil production had steadily declined to a low value of 98 bbl/d, and total production (oil and water) declined to 110 bbl/d.



The operator was looking for a solution to increase the well production and productivity index. SAS provided our microemulsion SAS Breaker 162SC chemistry to completely restore the near-wellbore to its original permeability and increase production.



The Solution:

The SAS Breaker 162SC was deployed with coil tubing across the reservoir section and allowed to soak for the desired period.

It restored the near-wellbore permeability to its original virgin state by completely removing the damage caused by the drilling mud when the well was drilled, completely removing all the downhole in-situ emulsion that formed during production, and water-wetting all sand grains.

After the soak period, the well was opened and SAS Breaker 162SC had successfully remediated the horizontal well, removing nearwellbore formation damage and increasing production by 802%, from 98 bbl/d to 886 bbl/d.

After the well flowed for one month, the operator turned on a gas lift valve and the oil production further ramped up to 1,290 bbl/d

The Results:

- Increased well production from 98 bbl/d to 886 bbl/d on the same choke size. This represents 802% increase (or 9.02 times the pretreatment rate).
- Total production increased from 110 bbl/d to 1,385 bbl/d.
- Productivity index increased, enabling a single gas lift valve to increase oil production to 1,290 bbl/d

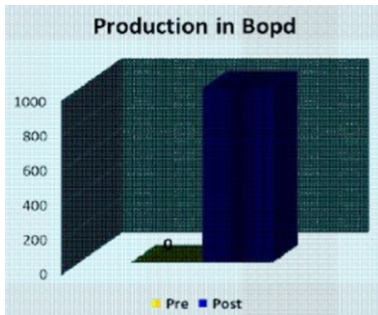
Case Studies

03 Well Stimulation

THE PROJECT:

An operator in Nigeria needed to restore oil production from a vertical well drilled in a sandstone reservoir onshore Nigeria. The well was drilled and put into production in 2011. Water base mud was used for the drilling of the reservoir section and the well was completed with a simple completion and a 14 ft perforation. The liquid production rate had continuously declined over the years to 0 bbl/d.

The operator was looking for a solution to increase the well production and productivity index. Sensitivity analysis was ran and determined that if our chemistry could increase the inflow performance by 3 times, the well would be able to flow again and give up to 300 Bopd at 35% water cut.



The Solution:

SAS provided our microemulsion SAS Breaker 162SC chemistry to completely restore the near-wellbore to its original permeability and increase production index. The operator decided to try our micro-emulsion technology after being convinced that the chemistry does not go into any chemical reaction with the formation nor the crude, and hence would never damage their well. Only physical phenomenon takes place between the chemical and the formation, hydrocarbon and water.

The chemistry water wets all solids, solubilises oil and in-situ emulsions by micro-encapsulating the oil micro-bubbles, thereby mobilising and creating fluidity of emulsions and filtercake solids (if any is still present), dissolves fines and damaging materials, such that when the well is opened, all mobilised materials flow out, leaving the near-wellbore as clean as virgin formation.

The SAS Breaker 162SC was deployed with coil tubing into the long string and the coil was run in to 20 ft above the sliding sleeve. The chemical blend was pumped down into the reservoir section and allowed to soak for the desired period. It restored the near-wellbore permeability by completely removing the near wellbore damage and water-wetting the sand grains. After the soak period, the well was opened, and production increased from 0 Bopd to above 1,000 Bopd with BSW of only 2%.

The Results:

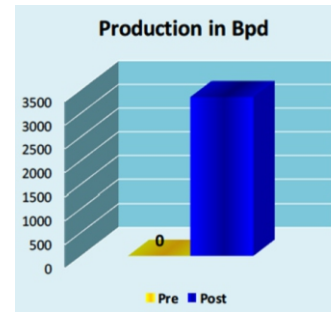
- Removed all skin damage
- Increased well production from 0 Bopd to above 1,000 Bopd on 16/64" choke size.
- Water cut was only 2%.
- Production rate was measured at the LP separator pressure of 40psi at the flow station.

04 Well Stimulation

THE PROJECT:

An Operator needed to restore production from a well which was drilled in a sandstone reservoir onshore Nigeria. The well was drilled and put into production in June 2018. Oil base mud was used for the drilling of the reservoir section and well was completed with a 34 ft perforation.

Liquid production rate continuously declined as flowing pressure decreased and by Jan 2019, the well completely stopped flowing. The operator tried to revive the well without success. The last recorded water cut before the well quit flowing was 30%.



The Solution:

The operator decided to try the micro-emulsion technology for the first time in their well after several failed attempts to lift the well with nitrogen. The chemistry water wets all solids, solubilizes oil and in-situ emulsions by micro-encapsulating the oil micro-bubbles, thereby mobilizing and creating fluidity of emulsions and filter cake solids (if any is still present), dissolves fines and damaging materials, such that when the well is opened, all mobilized materials flow out, leaving the near-wellbore as clean as virgin formation.

The chemical blend was deployed with coil tubing into the well and the coil was run to 20 ft above the end of tubing. The chemical blend was pumped down (semi-bullheaded) into the reservoir section. Injection into the reservoir was initially hard but with the microemulsion in contact with the near-wellbore, the injection pressure slowly decreased to allow smooth and steady pumping rate into the formation. After the soak period, the well was opened, lifted with Nitrogen and production of 3,330 Bpd with BSW of 5% was achieved.

The Results:

- Increased well production from 0 Bpd to 3,330 Bpd.
- Water cut was 5%
- Customer was very pleased with the production gain and was surprised by the decline of water production from the last recorded value of 30% prior to microemulsion deployment (before well quit flowing) to 5% post treatment.

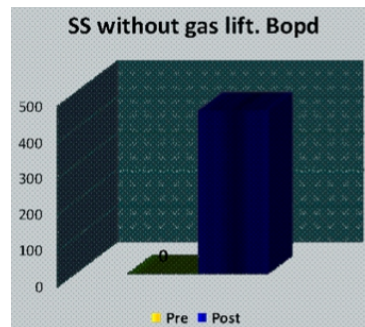
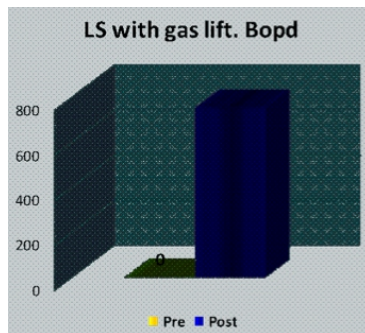
Case Studies

05 Well Stimulation

THE PROJECT:

An operator in Nigeria needed to restore oil production from a vertical well drilled in a sandstone reservoir onshore Nigeria. The well was drilled and put into production in 1992. Water base mud was used for the drilling of the reservoir section and the well was completed with a simple completion and perforation. The liquid production rate had continuously declined over the years down to 0 bbl/d, with and without gas lift.

The operator was looking for a solution to revive the well. The oil was quite heavy with Sg of 16 API. Several attempts to inject into the short string during previous acid stimulation attempts failed - indicating total blockage. By 3 times, the well would be able to flow again and give up to 300 Bopd at 35% water cut.



The Solution:

The operator, having had good results using the SAS microemulsion breaker in some wells, decided to try the microemulsion technology in this highly damaged near wellbore well. The SAS Breaker 162SC was deployed with coil tubing into the short and long string consecutively. Injection into the short string was made possible by a series of pump and relax sequence until the near wellbore pores opened enough to allow smooth and steady pumping rate into the formation. The chemical was left to soak for the desired period in both strings. It restored the near-wellbore permeability by completely removing the near wellbore damage and water-wetting the sand grains.

After the soak period both strings were opened. The short string production increase from 0 Bopd to 450 Bopd (without gas lift), while the long string production increased from 0 Bopd to 750 Bopd (with gas lift). Both strings have 0% BSW. The operator is in the process of fixing the gas lift valve of the short string which will further boost the short string production.

The Results:

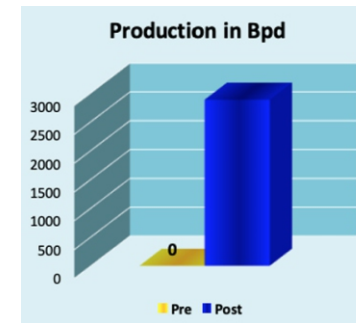
- Removed all skin damage
- Increased well production from 0 Bopd to above 1,200 Bopd & 0% BSW at 20/64" chokes.
- Water cut was 0%.
- Production rate was measured at the flow station with the LP separator

06 Well Stimulation

THE PROJECT:

An Operator needed to restore production from a well which was drilled in a sandstone reservoir onshore Nigeria. The well was drilled and put into production in June 2018. Oil base mud was used for the drilling of the reservoir section and well was completed with a 34 ft perforation.

Liquid production rate continuously declined as flowing pressure decreased and by Jan 2019, the well completely stopped flowing. The operator tried to revive the well without success. The last recorded water cut before the well quit flowing was 30%.



The Solution:

The operator, having had good results using SAS Micro-emulsion breaker in some wells with heavy and viscous crude, decided to try the micro-emulsion technology for the first time in a well with a normal light crude. The chemistry water wets all solids, solubilizes oil and in-situ emulsions by micro-encapsulating the oil micro-bubbles, thereby mobilizing and creating fluidity of emulsions and filter cake solids (if any is still present), dissolves fines and damaging materials, such that when the well is opened, all mobilized materials flow out, leaving the near-wellbore as clean as virgin formation. Micro-Dispersant was added into the chemical recipe to disperse the accumulated wax in the near wellbore and tubing. The chemical blend was deployed with coil tubing into the well and the coil was run to 20 ft above the end of tubing (which is a Baker perforated tube) – 110 ft above the perfs.

The chemical blend was pumped down into the reservoir section. Injection into the reservoir was made possible by series of pump and relax sequence until the near wellbore pores opened enough to allow smooth and steady pumping rate into the formation. After the soak period, the well was opened and production of 2,880 Bpd with BSW of 5% was achieved and lined up to the flowstation.

The Results:

- Increased well production from 0 Bpd to 2,880 Bpd on 32/64" choke
- Water cut was 5%
- Customer was very pleased with the production gain. They have decided to line up another 3 to 4 more wells remediation campaign in the same field.

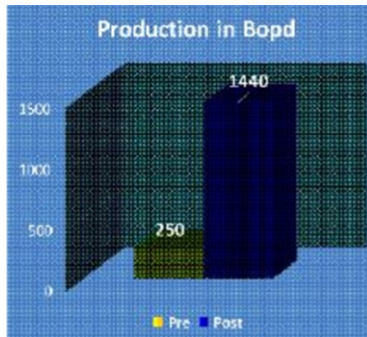
Case Studies

07 Well Stimulation

THE PROJECT:

An operator in Nigeria needed to increase oil production from a vertical well drilled in a sandstone reservoir onshore Nigeria. The well was drilled and put into production in 1993. Oil base mud was used for the drilling of the reservoir section and the well was completed with a screen inside the casing. The oil production rate had continuously declined over the years to 250 bbl/d, and total production (oil and water) declined to 280 bbl/d.

The operator was looking for a solution to increase the well production and productivity index. SAS provided our microemulsion SAS Breaker 162SC chemistry to completely restore the near-wellbore to its original permeability and increase production



The Solution:

The SAS Breaker 162SC was deployed with coil tubing into the short string and the coil was run in to about 100 ft above the perforation. It was not run to the perforation depth to avoid getting the coil stuck from wrapping around the long string. The chemical blend was semibullheaded down into the reservoir section and allowed to soak for the desired period

It restored the near-wellbore permeability by completely removing the near wellbore damage and water-wetting the sand grains. After the soak period, the well was opened, and production increased by 476%, from 250 Bopd to 1,440 Bopd

The Results:

- Increased well production from 250 Bopd to 1,440 Bopd on the same choke size. This represents 476% increase (or 5.76 times the pretreatment rate).
- Total production increased from 280 bbl/d to 1,440 bbl/d (zero water cut).
- Productivity of 1,440 Bopd was measured at a separate pressure of 330psi whereas LP tank at the customers facility is at 65psi. Flow rate into the LP tank of 65psi is estimated to be more than 3,000 bbl/d

08 Filtercake Removal

Our customer, based in Asia, was experiencing difficulty in meeting production expectations from new wells. They drilled using Oil Based Muds (OBM) in a heavy oil reservoir.

They were using thermal stimulation in order to decrease the viscosity of the oil. However no mud damage treatment had been used before activating the well and they were not producing the expected volumes.

The operator was aware that the drill-in fluid damage was significant and beyond the capabilities of their usual treatment methods. Many lab tests were conducted, and the SAS Breaker was a clear winner in outperforming the other potential solutions being considered.



Job Analysis:

The production increase across all wells were all extremely impressive.

Using SAS Breaker to remove buildup of OBM significantly improves production

Well Bore	Oil Increase
Well 1	233%
Well 2	193%
Well 3	566%
Well 4	246%
Well 5	17%

The Process:

SAS Breaker treatment fluid was used to dissolve and displace the OBM used to drill the wells. The operator decided to use remedial treatments based on displacing SAS Breaker for OBM fluid into the screens spanning the reservoir sections, using coiled tubing. SAS Breaker products are a patented approach using unique microemulsions to mobilize hydrocarbons in the skin created by the OBM.

SAS Breaker products can be combined with most available acids and acid precursor products. This aids to dissolve calcium carbonate that is often found in OBM and filter cake. The fluid was placed in each well using coiled tubing and left downhole for the required soak period. The wells were then returned to production.

The Results:

- Increase wellbore productivity by up to 566%.
- Remove skin damage in formation

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