

February 2023

PETROKASS

MAGAZINE

Drilling Fluid Engineering

Basic & Advanced Mud School
and Nine distinct mud systems

YOU
DON'T
KNOW
QUALITY!

Certified Safety Professional

INSIDE

“ PETROKASS Magazine is a Monthly Magazine Owned by PETROKASS Company Specialized in Petroleum Sector and Generalized in Management and New Technology This Magazine Created by you Containing Chaptered Topics and Information's with New Style and Published all over the World.

”
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QHSE



Exploration



Drilling Operations



Sustainability



Public Topics



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There is no doubt that the world of oil, gas and petroleum industries has become one of the most important areas that the whole world is preoccupied with and that there are great efforts for continuous development, along with serious research efforts for young researchers.

Therefore, we are pleased to present the first issue of **PETROKASS** magazine, which contains among its pages a number of articles, news and editorial presentations in various fields related to the world of the petroleum industry.

This Magazine included honest words to suit the generation of elders of science and its senior professors, the middle generation that seeks promotion and prepares for it, and the young generation of its employees, who the magazine's management was keen to Express their thoughts and allocate a corner for the hardworking and serious among them, in order to achieve the main goal of its issuance.

Editorial Board



PETROKASS in words:

PETROKASS is a Specialized and Authorized Education and Consultancy Company established since 2010, providing a wide range of Training & Consultancy services within MENA and overseas in Different Field Industries and Specialized in Oil & Gas and Located in United Arab Emirates.

Our vision:

Business Market needs Special services in-which Serve the Potential and requirements Also Looking for an answer for the most Important Question, which how can we develop our Needs, PETROKASS Has the Answer for this its Unique Options and After Market Services.

Our Mission:

To provide the Business market with Appropriate professional needs with Assuming the best works to companies *in the field*.

Certified Safety Professional (CSP)

What Is Certified Safety Professional (CSP)

Certified Safety Professional (CSP) is a certification offered by the Board of Certified Safety Professionals (BCSP). The CSP is accredited in the United States by the National Commission for Certifying Agencies and internationally by the International Organization for Standardization/International Electro Technical Commission (ISO/IEC 17024).



Eligibility Criteria:

All individuals applying for the CSP must have,

- A bachelor's Degree
- 4 years of safety experience where safety is at least 50%, preventative, professional level with breadth and depth of safety duties.

Is CSP certification worth it?

As you navigate your way through the occupational safety and health field, adding certifications can significantly boost your career prospects. Becoming a Certified Safety Professional® – commonly known as a CSP® – is a worthwhile goal as you plan your career.

You Don't know quality!

QHSE

PDCA cycle is an iterative process for continually improving products, people, and services. It became an integral part of what is known today as Lean management. The **Plan-Do-Check-Act** model includes solutions testing, analyzing results, and improving the process.

For example, imagine that you have plenty of customer complaints about the slow response rate of your support team. Then you will probably need to improve the way your team works to keep customers satisfied. That is the point where PDCA comes into play.

Let's take a closer look at the four stages of the PDCA process.

PLAN

At this stage, you will literally plan what needs to be done. Depending on the project's size, planning can take a major part of your team's efforts. It will usually consist of smaller steps so that you can build a ties of failure.

DO

After you have agreed on the plan, it is time to take action. At this stage, you will apply everything that has been considered during the previous stage.

Be aware that unpredicted problems may occur at this phase. This is why, in a perfect situation, you may first try to incorporate your plan on a small scale and in a controlled environment.

Standardization is something that will definitely help your team apply the plan smoothly. Make sure that everybody knows their roles and responsibilities.

CHECK

This is probably the most important stage of the PDCA cycle. If you want to clarify your plan, avoid recurring mistakes, and apply continuous improvement successfully, you need to pay enough attention to the CHECK phase.

Here, you need to audit your plan's execution and see if your initial plan actually worked. Moreover, your team will be able to identify problematic parts of the current process and eliminate them in the future. If something went wrong during the process, you need to analyze it and find the root cause of the problems.

ACT

Finally, you arrive at the last stage of the Plan-Do-Check-Act cycle. Previously, you developed, applied, and checked your plan. Now, you need to act.

If everything seems perfect and your team managed to achieve the original goals, then you can proceed and apply your initial plan.

It can be appropriate to adopt the whole plan if objectives are met. Respectively, your PDCA model will become the new standard baseline. However, every time you repeat a standardized plan, remind your team to go through all steps again and try to improve carefully.

PETROKASS all over the world



In drilling fluid engineering
you are the best
Djalel noureldine, Algeria



Thanks I owe you
Dalia Hassan, Egypt



happy to find such a
company makes it
easy to get the info
Goerge steve, USA



Proud to be dealt with
PETROKASS
Falah Mohamed, Kuwait



Different Thoughts make it
unique and PETROKASS is
always so, keep it up
Adriano Gonzaliz, Venezuela



10 years and Great as
always
Garah Elshatti, Suadi Arabia



Upstream vs. Downstream Oil and Gas Production

The terms upstream and downstream oil and gas production refer to an oil or gas company's location in the supply chain. Companies in the oil and gas industry are usually divided into one of three groups, upstream, downstream, and midstream.

Some companies are considered to be "integrated" because, as the name suggests, they combine the functions of two or three of these streams.



Upstream Oil and Gas Production

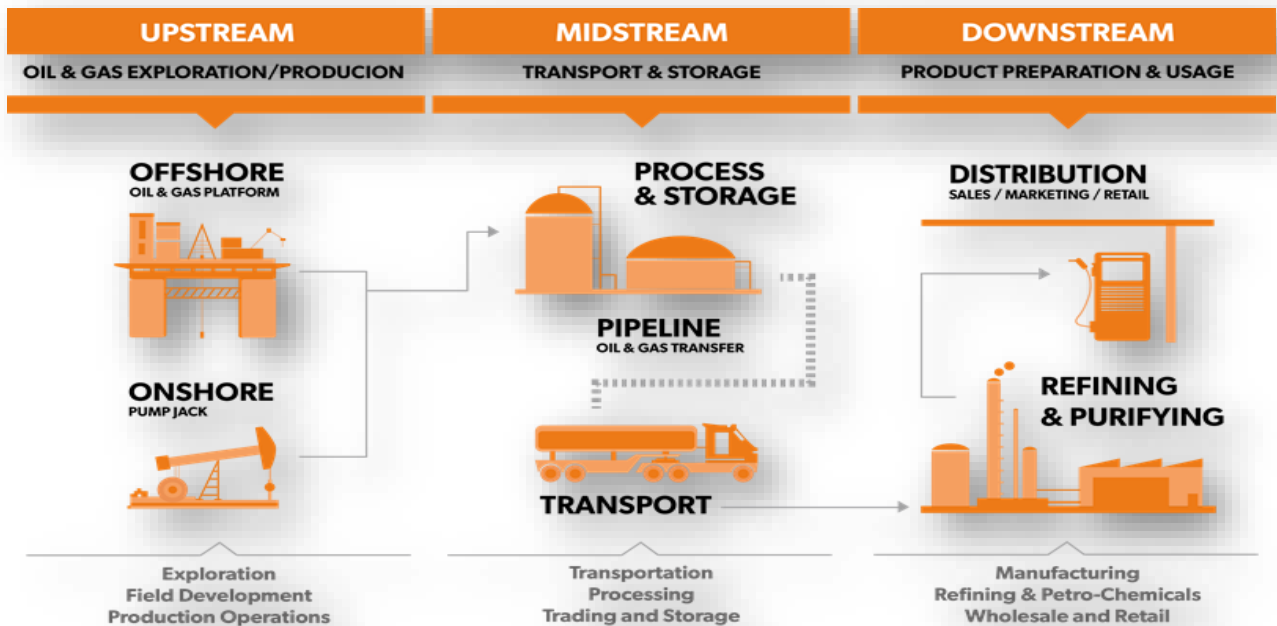
Upstream oil and gas production is conducted by companies who identify, extract, or produce raw materials. Downstream oil and gas production companies are closer to the end-user or consumer. Here's a look at upstream and downstream oil and gas production, their individual functions, and what role they play in the broader supply chain.

Upstream oil and gas production and operations identify deposits, drill wells, and recover raw materials from underground. They are also often called exploration and production companies. This sector also includes related services such as rig operations, feasibility studies, machinery rental, and extraction of chemical supply.

Many of those employed in the upstream part of the industry include geologists, geophysicists, service rig operators, engineering firms, scientists, and seismic and drilling contractors. These people are able to locate and estimate reserves before any of the actual drilling activity starts.



China National Offshore Oil Corporation and Schlumberger (SLB) are examples of large companies that focus on upstream services. Many of the largest upstream operators are the major diversified oil and gas firms, such as Exxon-Mobil (XOM).



Downstream Oil and Gas Production

The closer an oil and gas company is to supplying consumers with petroleum products, the further downstream it is said to be in the industry. Downstream operations are oil and gas processes that occur after the production phase to the point of sale.

This sector of the oil and gas industry—the final step in the production process—is represented by refiners of petroleum crude oil and natural gas processors, who bring usable products to end-users and consumers. They also engage in the marketing and distribution of crude oil and natural gas products. Simply put, the downstream oil and gas market is anything that has to do with the post-production of crude oil and natural gas activities.

Many of the products that consumers use every day come directly from downstream production, including diesel, natural gas, gasoline, heating oil, lubricants, pesticides, pharmaceuticals, and propane.

You can read more in <https://www.petrokass.com/category/articles/>

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Drilling Fluid Engineering

Continued from January Issue

The five main tasks of a drilling fluid

Mud has many important functions and corresponding necessary properties.

The single most important function is to

- 1) remove the cuttings away from under the bit and 2) transport them from the bottom to the surface,*
- 2) Flushing the cuttings from the bottom requires a high flushing effect. This is achieved by inserting small jet nozzles in the rock bit and thereby creating a large pressure drop. Typically, 50 % of the pump pressure is placed here for this very purpose. The other 50 % is pure friction loss through the thin, long drill string, and the*

concentric hole between the wellbore and the drill pipe. The wellbore is made up by the drilling bit, and the concentric hole is referred to as the annulus.

3) Maintaining a stable wellbore. This task includes many sub tasks, like chemical stability, mechanical stability and filtration control. Chapter 8 will reveal the details.

The drilling fluid must be designed to take care of other tasks also, such as;

- Cool and lubricate the bit and the drill string*
- Avoid losing mud into natural or induced cracks*
- Bring information back to the surface*

Mud circulation loop and its components

Mud is circulated through a wellbore to bring the cuttings to the surface. Here cuttings are separated out so that clean mud can be reinserted into the well.

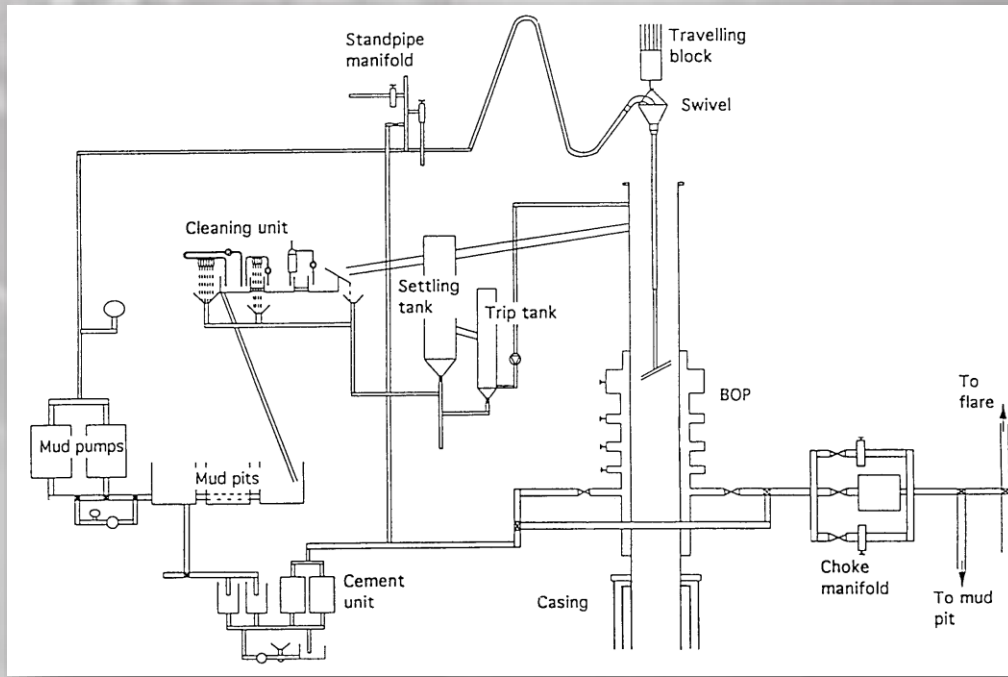
The mud loop and solids control

The circulation system is presented in Figure 2-1 as an example from a fixed drilling platform, while Figure 2-2 presents the circulation system from another view; on a floating drilling unit. Here mud is mixed and prepared in the mud pits consisting of several large tanks, each typically 60 m³ large. One or two of the tanks are in active use for mud circulation, while the others are for transfer and storing. One reserve pit is for kill mud, where density is kept typically at 0.25 kg/l above the density in the active pits. Both density and rheology are maintained in the active mud pits. Typical total volume of a mud pit is

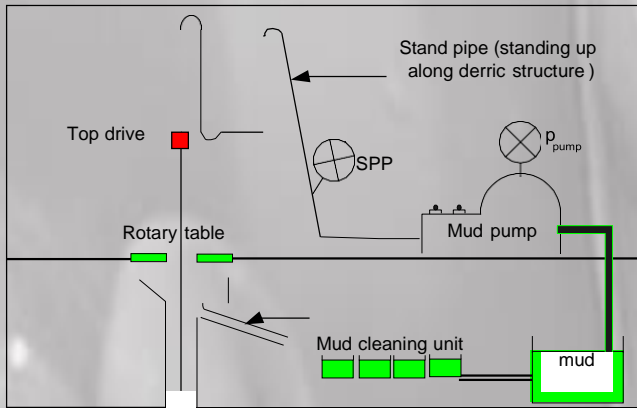
200 m³, with a surface area of typically 50 m². A vertical height of two cm corresponds to a volume of 1000 liters! In the surface mud system in Figure 2-1, we see two pumps in parallel. On offshore rigs it is more common with three.

From the pumps, a high-pressure output line leads up to the drill floor, where, on the standpipe, a multi-purpose junction is made, called the standpipe manifold. Here the driller can read the standpipe pressure, which is almost identical with the pump pressure, reduced only by pipe friction in the short distance between the pump and the standpipe manifold.

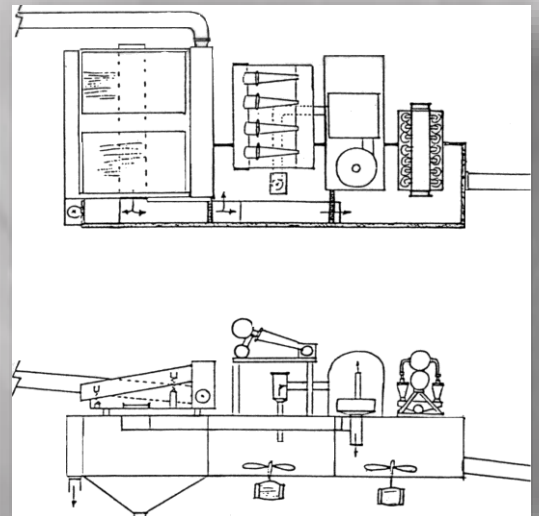
On its return to the surface, the mud is directed through a wide settling tank, where the largest particles are allowed to settle out: On other rigs this tank is called the sand trap, positioned in front of the shale shakers as an overflow tank.



urface mud flow path and the cleaning unit. For cementing operations and for killing operations the smaller cement pump is applied.



Mud circulation system on a floater



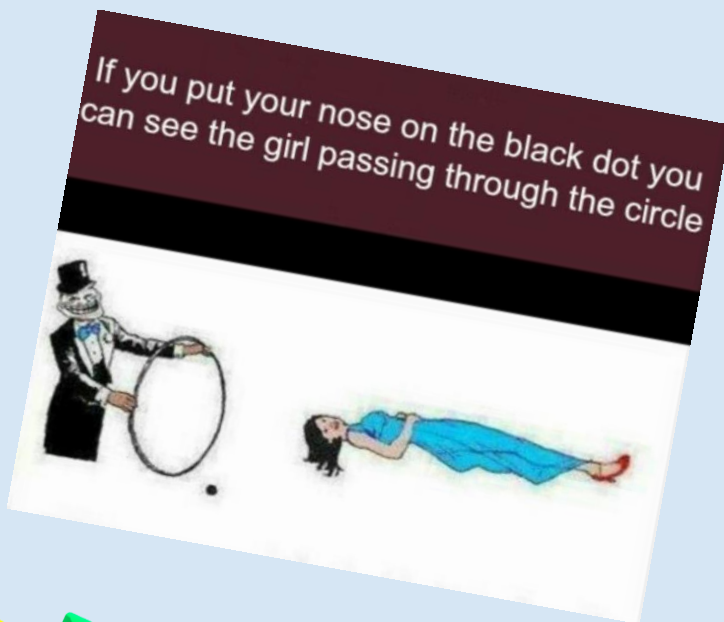
Horizontal and vertical projection of a mud cleaning unit.

To Be Continue Next Magazine Issue

Funny Infomati n



Pandas don't have specific spots for sleeping, they simply fall asleep wherever they happen to be.





Congratulations!
from 6-17 November 2023

COP28

COP, the conference of the parties, is the most important climate convention and one of the most important multilateral platforms of the annual calendar. It is a two-week international diplomatic platform that negotiates climate agreements which define economic and geopolitical issues. It brings together 147 countries, 30,000+ participants and over 120 heads of states.

In November 2023, the UAE will host COP28 where organizations contribute and support demonstrating and launching climate initiatives, increasing investments in low carbon technology, and supporting in ramping up domestic efforts such as the strategic net zero 2025 strategy.

Sustainability and net zero plans are key factors to proof responsibility towards low-carbon energy industries to create lasting and sustainable value for the country, people, and green businesses.

COP28 will be the most significant multilateral event UAE has ever hosted. The UAE will apply its experience on climate action, to ensure COP28 includes all relevant stakeholders to achieve global consensus for practical climate solutions. The UAE was the first country in the region to ratify the Paris Agreement and to announce a strategic initiative to achieve Net Zero by 2050.

There is an important role to play in helping the world navigate the energy transition, and to be part of the solution to the global energy challenge, supporting a smooth energy transition and continuing to deliver the social and economic benefits of oil and gas while investing in new clean energies and further reducing emissions to net-zero by 2050.

1- Under the slogan "One World", the UAE launched the forthcoming new climate summit logo, which includes dark and light green colors, which are colors related to the environment.

2- The slogan of the UAE Climate Summit also included a number of symbols related to climate action, including the human being who is affected by the climate summit, new and renewable energy technology as one of the solutions to confrontation and adaptation, and the elements of biological diversity of wild and natural organisms, which are also affected by climate change.

3- The logo bears the visual identity of the COP28 Conference of the Parties, for the UAE, and a website linked to the UAE summit has also been launched.

4- An animated version of the slogan of the UAE Summit was launched, explaining its story.

5- The city that will host the Emirates Climate Summit "COP27" is Dubai Expo City.



6 - The slogan of the UAE climate summit cop28 also came with the help of the shape of the globe that includes all the impacts and potential changes of the climate change crisis to reflect these elements together, the importance of preserving the wealth of natural resources and human technology together, as well as reflecting the ability to innovate in all sectors in order to achieve a shift quality in sustainable development.

7- The design of the logo of the upcoming UAE Climate Summit carries a reference to the international community and a message calling for the need to unite and combine efforts to take urgent climate action, to fulfill global climate commitments.

8- The UAE Climate Summit seeks to activate the basic messages of the previous Conference of the Parties, which was hosted by Egypt, as it works on the importance of cooperation, concerted efforts, and building bridges of dialogue between the countries of the North and the South, as well as containing the scientific community, civil society, women, youth, and the government and private sectors.

9- The Designated President and Special Envoy for Climate Change for the UAE is Dr. Sultan Ahmed Al Jaber, Minister of Industry and Advanced Technology.

10- The climate pioneer appointed by the UAE as a representative to chair the upcoming summit to be hosted by the UAE, is Razan Al Mubarak, President of the International Union for Conservation of Nature.

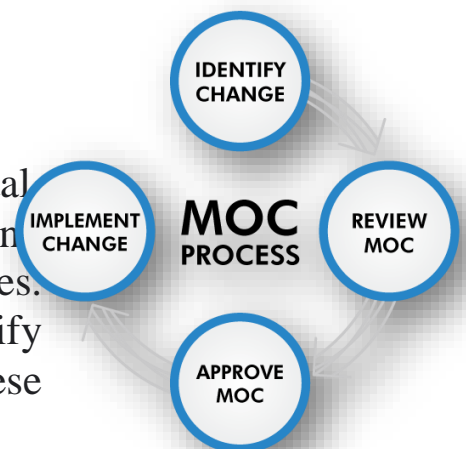


What do you mean by Management Of Change?

Change management is a systematic approach to dealing with the transition or transformation of an organization's goals, processes or technologies. The purpose of change management is to implement strategies for effecting change, controlling change and helping people to adapt to change.

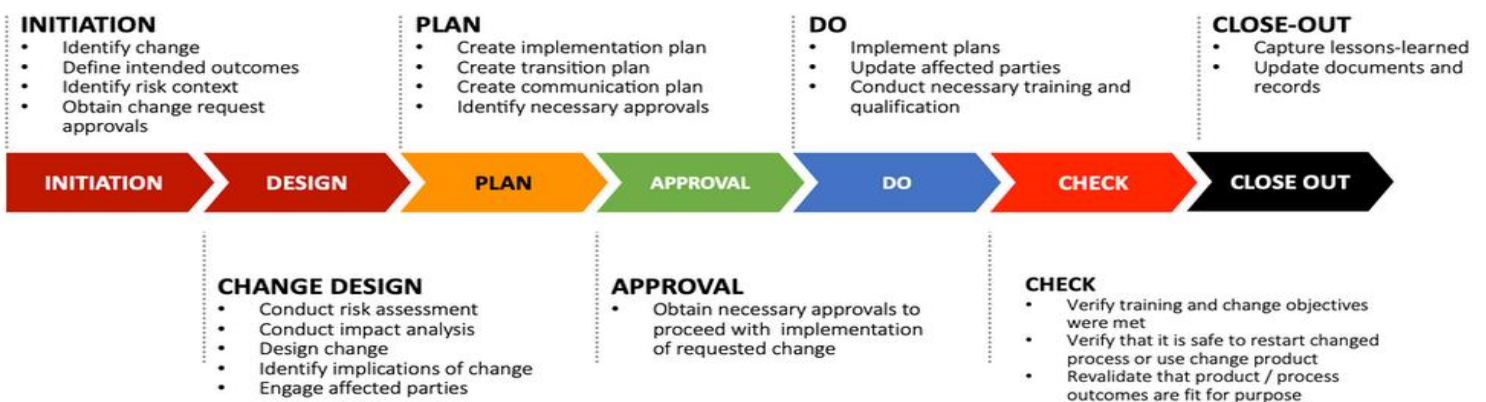
What is the MOC process?

An MOC is used to ensure that the environmental health, and safety risks are carefully evaluated and controlled prior to implementing significant changes. The MOC process gives employers a chance to identify potential new hazards that could result from these changes.



What are the 7 R's of change management?

- Who **RAISED** the change?
- What is the **REASON** for the change?
- What is the **RETURN** required from the change?
- What are the **RISKS** involved in the change?
- What **RESOURCES** are required to deliver the change?
- Who is **RESPONSIBLE** for the build, test and implementation of the change?





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