



## Pars Drilling Fluids Overview and Services

Pars Drilling Fluids (PDF), a private service company established in 2002, provides onshore and offshore Drilling Fluids Services, Waste Management and Supply Services.

The company has been recognized as the first and the only knowledge-based company by the government due to the practical research activities in drilling industries to overcome drilling problems during the past 12 years.

Our Laboratory Center has been certified based on ISO/IEC 17025:2005 by Iranian Standard Organization as the only certified laboratory to provide quality control services as a third party inspection for monitoring and controlling the quality of drilling fluids materials of local manufactures and import/export materials from customs.

Currently, we are providing services for 14 rigs in onshore and offshore projects. Our clients are both local and international oil & gas companies such as NIOC, NIDC, PETROPARS Ltd., CNPCI, and SINOPEC. We have also provided engineering services and material supply to; Halliburton, Baker Hughes Drilling Fluids and ENI between 2002 and 2006 whilst they were actively operating in Iran.

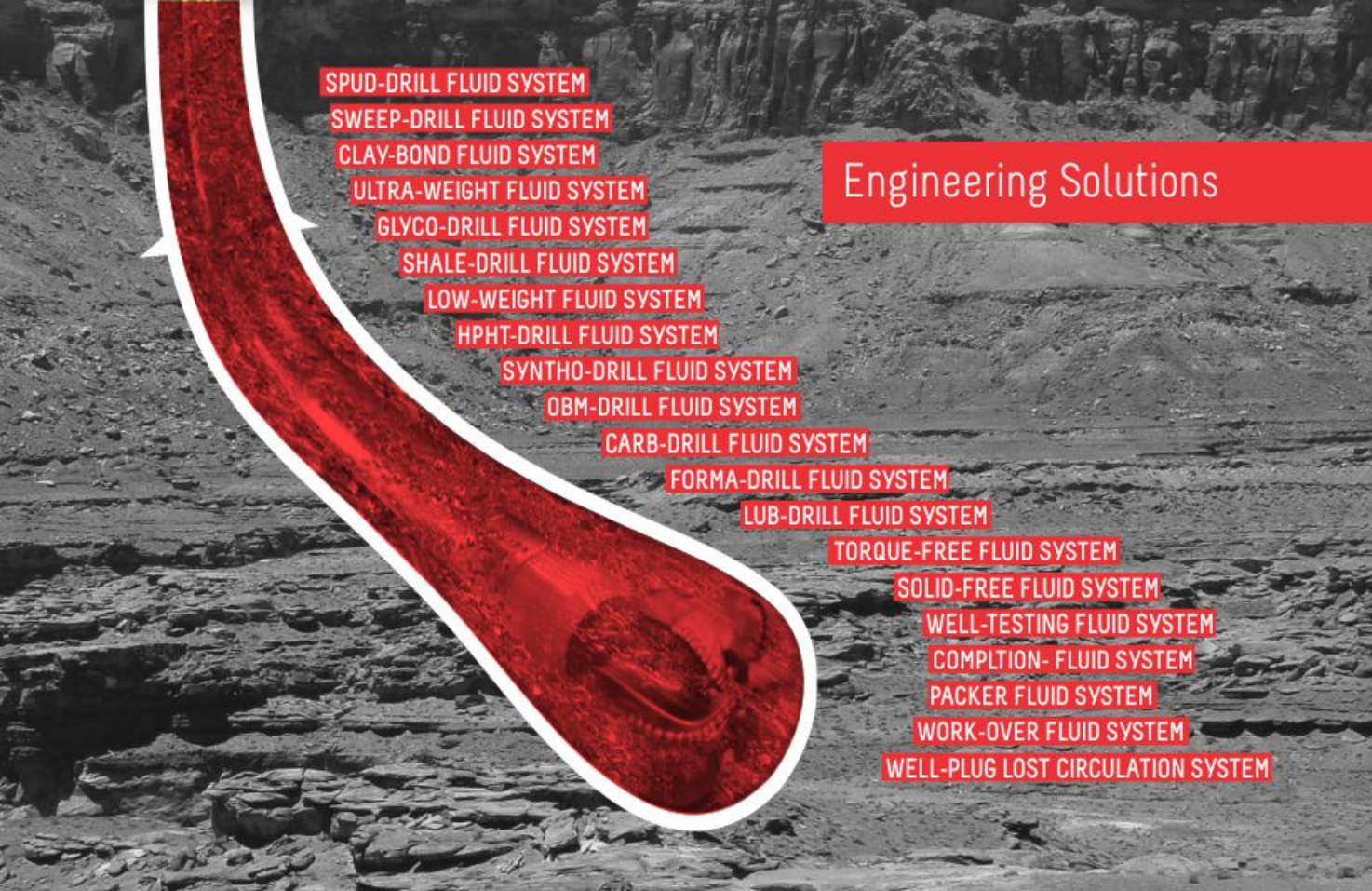
- Drilling Fluids Material Supply based on API, ASTM & other International Standards
- Drilling Fluids Engineering & Operational Services
- Solids Control Equipment Supply & Services
- Drilling Waste Management Equipment Supply & Operational Services
- Laboratory Quality Control Services
- Training & Mud School Services
- Research & Development in New Technology and Knowledge Transfer

### Current Active Rigs 2012 - 2016

- 3** No. of Drilling Fluids Services - Offshore Rigs
- 5** No. of Drilling Fluids Material Supply Rigs
- 3** No. of Drilling Fluids Services - Onshore Rigs
- 3** No. of Waste Management Services

### Our Certificates

- ISO 9001:2008
- ISO 14001:2004
- OHSAS 18001:2007
- HSE-MS
- ISO/IEC 17025:2005 CERTIFIED



- SPUD-DRILL FLUID SYSTEM
- SWEEP-DRILL FLUID SYSTEM
- CLAY-BOND FLUID SYSTEM
- ULTRA-WEIGHT FLUID SYSTEM
- GLYCO-DRILL FLUID SYSTEM
- SHALE-DRILL FLUID SYSTEM
- LOW-WEIGHT FLUID SYSTEM
- HPHT-DRILL FLUID SYSTEM
- SYNTHO-DRILL FLUID SYSTEM
- OBM-DRILL FLUID SYSTEM
- CARB-DRILL FLUID SYSTEM
- FORMA-DRILL FLUID SYSTEM
- LUB-DRILL FLUID SYSTEM

# Engineering Solutions

- TORQUE-FREE FLUID SYSTEM
- SOLID-FREE FLUID SYSTEM
- WELL-TESTING FLUID SYSTEM
- COMPLTION- FLUID SYSTEM
- PACKER FLUID SYSTEM
- WORK-OVER FLUID SYSTEM
- WELL-PLUG LOST CIRCULATION SYSTEM



## Research & Development



## Engineering, Research & Development

We believe that research and development is a key element to continuous improvement in our engineering solutions. Our R&D activities cover a wide range of drilling fluids system technologies and waste management procedures.

We have joined forces with several national/international and academic research institutions to extend the depth of our R&D. The laboratory equipment facilitates our quest for new green drilling fluids solutions.

Our research has resulted in the development of different drilling fluids systems such as:

- Glycol Based Mud
- Synthetic Based Mud
- Aphron Based Mud
- Formate Based Mud
- HPHT Drilling Fluids System
- Non-Solids Drilling Fluids
- Shale Inhibitors and Stabilization Additives
- ROP Enhancer Additives
- Torque & Drag Reducer Additives
- Formation Damage Evolution
- Polymeric Lost Circulation Materials
- High Performance Drilling Fluids

We have successfully replaced oil based mud with glycol based mud in Ahwaz Well No.426 by drilling the Pabdeh, Gurpi and Ilam formations which contain more than 700 meters of highly reactive shales and sticky marls.

Our facilities and experience provide us the confidence to conduct research on specific issues in drilling fluids.

## Drilling Fluids & Supply Chain Management

Supply Chain Management (SCM) and Supply Quality Management (SQM) procedures are embedded within our organizations policy. Given the number of projects PDF has completed and is currently active in, a vast amount of experience has been gained in SCM & SQM to ensure a dynamic and reliable mud material supply operation.

Three active warehouses are in place with over 15,000 sqm stocking over 50 different chemicals and minerals. Located in Tehran, Ahwaz and Kish Islands to provide reliable logistics services to all locations. We operate 24 hours a day, 365 days a year.

Pars Drilling Fluids Specialty Chemical Plant produces different grades of chemicals for different industries including Oil & Gas, Petrochemicals and Water Treatment.

Our research teams have developed several Speciality Chemicals and Fluent Fluid Systems to remedy drilling problems, such as: improving operations to increase ROP, decrease torque and drag, obtain stability in HPHT environment, inhibit reactive shales, reduce formation damage and in-turn improve production.

## Active Work Experience & Projects

### Onshore

- North Azadegan Oil Field
- South Azadegan Oil Field
- North Yaran Oil Field
- South Yaran Oil Field

### Offshore

- South Pars Gas Field:
- SPD13, 17, 18, 23, 24A

Drilling creates waste, which harms our environment. PDF has paid special attention to this issue and so Drilling **Waste Management Services** have been developed to provide Total Fluid Solutions (TFS), for our clients. This ensures our clients to reduce their footprints of the drilling activities and meet environmental legislations. TFS solutions reduce the associated costs by recovering the required water, in particularly in sensitive environments.



Via Total Fluids Management Systems (TFM) we closely monitor the performance of Drilling Fluids System, Solids Control Efficiency and Waste Management Services to introduce the optimum solution to our operators which results in the reduction of the drilling fluids and waste treatment costs.

Our engineering team designs an environmentally friendly drilling fluids system and selects high performance solids control equipment to recover the drilling fluids and reduce discharge waste. Furthermore, we offer a survey plan to operators to benchmark the current practices and improvement capacities.

# HSEQ

HEALTH, SAFETY,  
ENVIRONMENT & QUALITY

## LICENCE TO WORK



The Drilling Fluid package provided by PDF includes:

- Weighting Agents Barite, Ferro-Bar, Calcium Carbonate
- Salts Sodium Chloride, Pottasium Chloride
- Viscosifiers Natural Gum, CMC HV, PAC R/HV, Xanthan Gum, XCD Polymer HT
- Fluid Loss Control Additives Starch, Modified Strach, Amylose HT, CMC LV, PAC LV, Polymer HT
- Shale Inhibitors Clay-Bond(PHPA), Glyco-Drill, Glyco-Drill HT, Sulphonated Asphalt
- PH & Alkalinity Control Caustic Soda, Soda Ash, Sodium Bicarbonate, Potassium Hydroxide
- Lubricants Bit Lub, EP Lubricant, HT Lubricant
- Torque & Drag Reducers Torque Low, Torque Free
- Stuck Pipe Free Agents Pipe-Free W/UW, Pipe Lax
- Preservatives Biocide
- Dispersants & Deflocculants Dispersants, WBM Thinners
- Cleaning Agents & Surfactants Rig Wash, Detergents
- Foaming & Defoaming Agents Foamer, Defoamer, Anti-foam
- Corrosion Inhibitors Drill Pipe Corrosion Inhibitors, WBM Corrosion Inhibitors
- Scavangers Oxygen Scavangers, H<sub>2</sub>S Scavangers
- Lost Circulations Mica, Walnut Shells, Cellophane Flake, Fiber Lock, Oyster Shells, Carbo-Sized
- Oil Based Mud Package Primary & Secondary Emulsifiers, OBM FLC & Viscosifiers
- Synthetic Based Mud Package Synthetic Base Fluids
- Hpht Additieves for HP-WBM HT Polymers, HPHT Stabilizers
- Workover & Completion Fluidis Calcium Chloride, Sodium, Calcium and Zinc Bromide Brine
- Waste Treatment Chemicals Coagulants, Flocculants



### Central Office

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### Ahwaz Office

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### Kish Office

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### Zavieh Production Plant

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