



- Commitment to Social Responsibilities
- Commitment to Personnel
- Commitment to HSE
- Commitment to Quality
- Creating value for Investors

**Corporate Social Responsibility**

Along with its efforts in achieving business objectives, PDK is an active member in addressing issues relevant to social responsibilities of the company. PDK conforms all its activities to minimizing hazards and risks exposed to the nature, empowering the relevant communities complies with waste management and HSE standards.

**Environment protection initiatives**

**Land burner**

In order to dispose oil and gas during well testing operation in onshore locations, burner pits are commonly being used. This method of burning operation leaves a massive environmental pollution. PDK has prepared a land burner system to be utilized during land well testing operation instead of conventional burner pit.

PDK's Land Burner system have the following advantages:

- Minimize air pollution by mixing high pressure air with oil to have a smokeless flare
- Eliminate land pollution and decrease produced waste oil
- Increase burning efficiency
- Optimized ignition system, decrease down time due to loss of flare
- Fast Installation

**Specification:**

Service: H2S  
 Oil Capacity: 11000 BOPD  
 Gas Capacity: 60 MMSCFD



**IMI-100 ranking**

According to the Industrial Management Institute of Iran annual ranking of Iranian companies, PDK was recognized as one of the top-ranking companies and stood among the 4th grade of fast growth companies. The IMI-100 ranking assesses Iranian businesses on the basis of their financial, market share, Human resources, innovation and growth.



**Knowledge Management**

Petro Danial believes in the effectiveness of knowledge management (KM) in terms of improving quality, collective learning and achieving a prominent position within the market while creating further value for customers. In doing so, PDK entered into the assessment of international award for companies who manage their knowledge (MAKE) in early 2017 and was recognized and awarded for its efforts in implementing KM standards throughout the whole company levels.

**International and Local Standards**

Commitment to quality and safety has pushed PDK towards going under meticulous audits by certified institutions to achieve ISO 14001, ISO 9001, ISO 45001, and HSE-MS in Management, Consultancy, Technical Services, and Provision of Technical and Drilling related Services. In addition to these certificates, following the necessity to achieve Contractors Competency Certificate by Iran government, PDK has pursued the process and succeeded to pass the requirements to gain this certificate.



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PRECISION  
 DEDICATION  
 KNOWLEDGE  
**PDK**  
 2023

Petro Danial Kish (PDK), a subsidiary of Pasargad Energy Development Company (PEDC), was established in 2010 as a Technical Services Company for Oil and Gas Wells. Standing among top IMI-100 ranking of Iranian companies in 2015 and one of the fast growth companies of Iran, PDK has achieved numerous outstanding achievements through its technology and knowledge driven human capital. PDK has established its reputation on the pillars of excellent quality, expertise, and dedication of its hardworking employees. Technology and people working together to deliver fantastic result, that is the way of PDK as a Solution Oriented Company.

### Our Services

- Wireline Logging
- Surface Well Testing
- Drill Stem Test
- Surface & Downhole Sampling
- Perforation
- Coiled Tubing & Nitrogen
- Stimulation
- Slickline
- Data Interpretation
- Service Barge

### Services at a glance

#### » Wireline Logging

The oil and gas industry uses wireline logging to obtain a continuous record of a formation's rock properties. Wireline logging can be defined as being "The acquisition and analysis of geophysical data performed as a function of well bore depth, together with the provision of related services." The measurements are made referenced to "TAH" — True Along Hole depth. These and the associated analysis can then be used to infer further properties such as hydrocarbon saturation and formation, and to make further drilling and production



decisions. PDK Wireline Logging offers various services such as: Open-Hole Services (Petrophysics, Geophysics) and Cased-Hole Services (Well Integrity, Production, Perforation).

#### » Well Testing

Tests on oil and gas wells are performed at various stages of well construction, completion and production. The test objectives at each stage range from simple identification of produced fluids and determination of reservoir deliverability to the characterization of complex reservoir features. Most well tests can be grouped as productivity testing or descriptive testing. PDK offers various types of surface Well Testing including: Conventional Test and Clean up, High Rate Test and Clean up.



#### » Drill Stem Test (DST)

DST is a method of gathering data on the potential productivity of a reservoir before a permanent completion string is installed. DST has been the industry standard for testing new and especially exploration wells for almost a century. These tests are one of the primary methods used to evaluate a new formation to determine its commercial feasibility. These tests are typically performed using a special DST tool that has downhole pressure gauges installed. PDK Special DST solution offers complete DST strings and internationally experienced and trained personnel, PDK is perfectly capable to fulfill DST operations with up to 15 Kpsi down hole pressure and temperatures up to 410 degF.

#### » Perforation

Perforating is a process used to establish a flow path between the near reservoir and the wellbore. It normally involves initiating a hole from the wellbore through the casing and any cement sheath into the producing zone. PDK provides various types of Perforation techniques in Overbalanced and Underbalanced conditions, such as Wireline Perforation, Coiled Tubing Perforation (CTP), and Tubing Conveyed Perforation (TCP) with different Gun types (HSD, Enerjet, Phased Enerjet, Spiral, ...), and vast range of Gun sizes (" , 4-1/2", 3-3/8", 2-1/8", 1-11/16", ...) for both Oil and Gas wells.



#### » Coiled Tubing & Nitrogen

In the oil and gas industries, Coiled Tubing refers to a very long metal pipe, normally 1 to 3.25 in (25 to 83 mm) in diameter which is supplied spooled on a large reel. It is used for interventions in oil and gas wells and sometimes as production tubing in depleted gas wells. PDK Coiled Tubing Services provides customers with reliable, efficient and engineered well intervention solutions and services for vertical, highly deviated and horizontal wells. Well intervention solutions support the upstream operators throughout the life of the well by engineering and modeling the interventions, consultancy and field execution of the operations. We cooperate with our customers in the challenges they encounter in their wells to draw safe, efficient and cost-effective solutions at the highest service standards. Utilizing tapered coiled tubing pipes, PDK is not only able to support conventional operations, but also relying on its international joint ventures enables PDK to provide a wide range of downhole advanced services.



#### » Stimulation

Well production enhancement is a crucial objective of reservoir owners to maintain the hydrocarbon delivery. Stimulation is an essential well intervention operation during the course of a well life. Various methodologies are introduced worldwide to solve the technical and operational challenges of Stimulation.

PDK skid mounted Stimulation package could provide the clients with conventional and High-Rate High-Volume matrix Acidizing services. This H2S service, acid resistant fleet could be carried out for hydraulic fracturing applications, relying to its

100 barrels per minute on-fly acid mixing unit and heavy-duty fracturing pumps of total 8600 Horse Power. All of the package components are diesel driven and designed to be utilized onboard of the Service Barge, production platforms, rigs and land locations with no dependency on presence of the rig. The fleet is an integrated remotely controlled system to furnish the customer demands in sophisticated pumping challenges.



#### » Service Barge

##### “Solutions Beyond Expectations”

Many workover and intervention operations are required in the course of a reservoir life cycle to maintain and enhance well productivity. Meanwhile, mobilization of conventional offshore rigs for such activities are not always the best choice. PDK did recognized the demands for a cost efficient and multi-functional service platform which led into the idea of configuring a multi-purpose Service Barge (Hilla) with the capability to deliver special services to offshore clients. These services include but not limited to Well Testing (Conventional & High-Rate), Clean-Up, Slickline, Wireline Logging, Perforation, Coiled Tubing, Stimulation and Nitrogen setups, in addition to heavy lifting and accommodation capabilities onboard. Hilla is able to lift loads up to 250 tons and host more than 100 persons in her equipped accommodation. With more than 600 square meters of deck area, various modular services could be easily set up and utilized. The 8-point mooring system will make the barge very stable and capable to conduct operations up to 6ft waves. Special considerations and safety measures are now in place to accomplish a safe mooring away from any hazard to the client's facilities and subsea structures.



#### ■ 1<sup>st</sup> Successful Well Testing Operation in South Pars Oil Layer, Heavy Oil

Some of the world's largest reserves are heavy oil reservoirs. The significant operating investment in recovering heavy oil necessitates a high oil price to financially justify heavy oil operations. The main challenge in heavy oil is not in finding resources, but in extracting, recovering, producing, and selling heavy crude oil within often changing economic guidelines. PDK successfully performed pre-production test of 7 wells in South Pars Oil Layer. PDK successfully ran the production test utilizing sophisticated techniques to handle heavy-foamy oil in a challenging offshore environment. PDK's technical and operation crew has achieved highest client satisfaction rating in this very special campaign. PDK engineering team also devised a Unique Ignition System to tackle problems arising from heavy oil burning difficulties.

#### ■ 1<sup>st</sup> Full Package Well Testing operation by Service Barge in Offshore Iran

As a result of multiple brainstorming meetings with IOOC production and marine experts, technical discussions between engineers and precise operation design and execution by field personnel, an offshore well was completely cleaned up and fully tested rig less by PDK Service Barge (Hilla), for the first time in Iran-Persian Gulf. The sophisticated Clean-Up, multi rate Well Testing and flow measurement operations were conducted without the requirement of offshore rig. All of surface Well Testing equipment, including High-Rate Burner Boom, Choke Manifold, Separator and Surge Tank along with required side services such as H2S services and remotely controlled safety equipment were lined up onboard of Hilla and operation objectives achieved successfully without any HSE or Service Quality issue, which encouraged the customer to assign more similar rig less jobs to PDK.



#### ■ Rig less High Rate Clean up in South Pars

Costly conventional methods of operation are phasing out and clients see new cost saving techniques. Most of the operations in offshore oil and gas fields are being conducted utilizing offshore rigs. Considering multi-thousand dollars daily rate of

offshore rigs, Cost of wells exceed several million dollars and also after completion of a well, such a daily cost will apply to Work-Over, Well testing and Stimulation operation. PDK's innovation during Stimulation and Clean-Up operation of phases 15-16 and 20-21 of South Pars gas field is a prominent example of such an effort by Iranian engineers. In 2015, PDK's clients, POGC and Dana Drilling Co. had a pending project to perform stimulation and Clean-Up of 22 wells in phases 15 and 16 of South Pars gas field which normally could be operated via an offshore rig. A strong team of PDK's experienced engineers studied the case and came up with a so-called Rig less solution instead to perform the project. Despite uncertainties related to this kind of operation, which was new to offshore clients, with support from clients and calculated risk measurement and management, PDK's precise design and execution came to complete job with no incident and desired quality. The project was executed by PDK well testing team with no rig and all the equipment were mounted on the platform. This gave PDK the title of 1st Rig less High Rate Well Test operator in Iran Offshore. Pursuant to this successful Rig less operation, in 2017, PDK's client, OIEC requested us to perform Rig less operation on 7 wells in Phases 20 and 21 of South Pars gas field, which was one of the PDK's unique achievements in terms of operation safety and project time management.



#### ■ Multi-service project for SAED in Azar field

Combination of all required services to satisfy a client's need for workover operations has made PDK one of the few companies who is able to meet the requirements as a whole package under one company. This integrity not only facilitate the client communications but also boosts the efficiency of operations and minimizes the failures caused by miscommunication among different service companies and the client. PDK has provided a full range of services, including accommodation camp, Surface well testing, Clean up, coiled tubing (displacement, acid wash, Bridge Plug setting, and milling), Nitrogen Lifting, Stimulation (Matrix and Frac), Wireline logging, Perforation for 8 wells in minimum time and in predefined time limitations.