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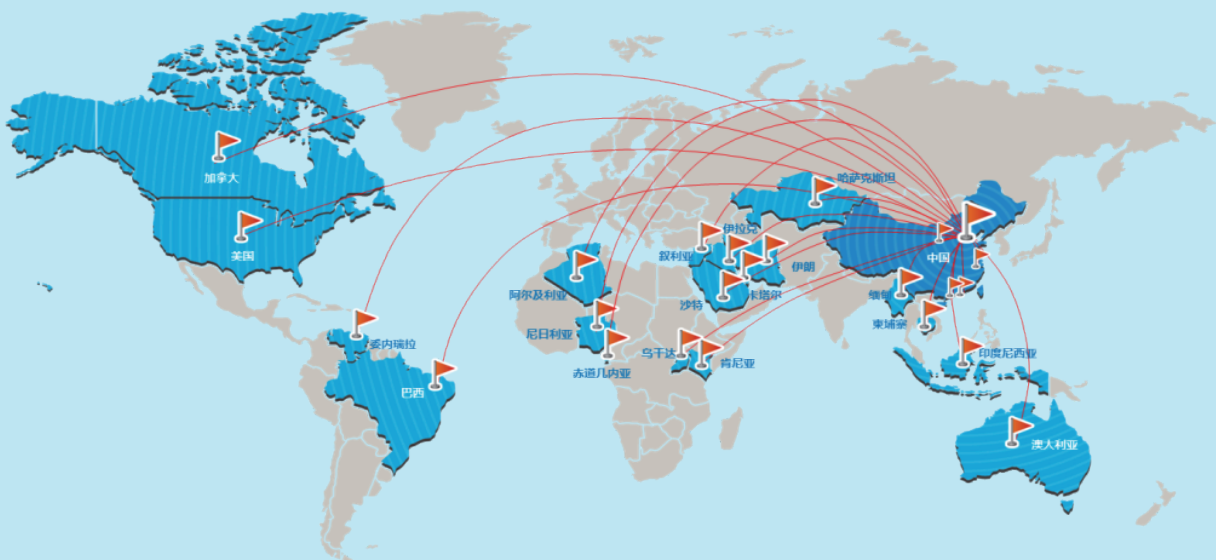
Stimulation Operation Services

1. Overview

Stimulation Operation Branch has a high-quality team who is highly capable in business and familiar with offshore oil-gas field development and international conventions. From the early scheme design to the operation construction and late effect tracking, the industrial chain of stimulation service, to obtain the customer's good evaluation with the win-win service concept. At present, the business scope has covered the whole CNOOC block, and a part of business has extended to the onshore and overseas markets.

Our main business contains: Oil production technology service, Stimulation technology service, well completion technology service and tertiary oil recovery technology service.

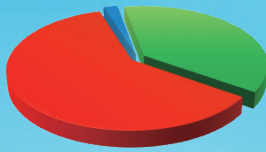
2. Clients



Currently, the company has 455 persons totally, of which the average age is 31 years old. The technicians account for 46%, wherein the persons having intermediate title account for 38%, and it is a team which is full of vigour and energy and has good professional technical background.

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Stimulation Operation Services



High title:2%
Intermediate tile:38%
Assistant:60%

Title proportion:

The persons having the intermediate tile and above accounts for 38%



Technician:46%
Management personnel:21%
Skilled personnel:33%

Function proportion:

The technicians account for 46%



Postgraduate or above:2%
Bachelor degree:45%
College degree and below:53%


Academic proportion:

The persons with bachelor or above degree account for 47%

3. Service Capability

Overview—Equipment

Up to August of 2016, the total set number of equipment is: 70 sets, with Total equipment asset: 450 million yuan:

Until August,2016 Total service equipment:70 sets Total asset amount: 4.5 billion RMB	Acidization equipment 9 sets 	Profile control equipment 11 sets 	Fracturing equipment 2 sets 	Nitrogen foam equipment 2 sets 
	Liquid nitrogen foam equipment 2 sets 	Polymer injection equipment 13 sets 	Heavy oil thermal recovery equipment 7 sets 	Sand control equipment 3 sets 

Overview—Service Category

Generally, the service of Stimulation Branch can be divided into 4 sections:

Production processing technique/service: Regular workover service

Layered water injection service

Coiled tubing service

Testing service

Stimulation Operation Services

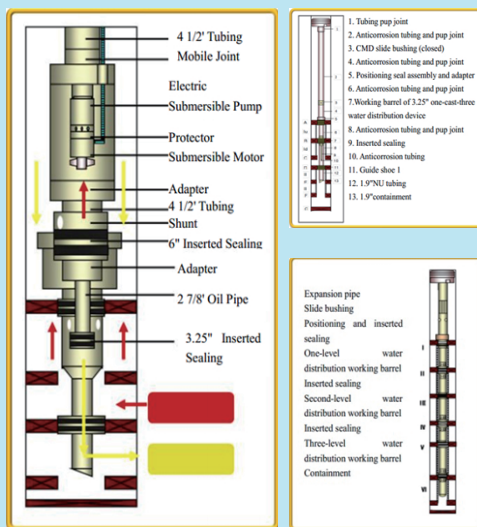
Treatment technique/service: Acidization service
 Nitrogen foam service
 Water blocking service
 Profile control service
 Fracturing service
 Interwell conductivity detection service

Completion service: Plain sand control
 Completion tools service
 Sand control completion after haulworkover service
 Pump startup service

EOR technique/service: Polymer flooding service
 Heavy oil treatment service

Water Injection Technique / Service

Oil production technology service–water injection tools technique



Layering Water Injection

One–cast–three separate injection technology
 Hollow integrated separate injection technology
 Multitube separate injection technology
 Concentric test modification separate injection technology
 325 concentric single–stage separate injection
 Separate technology for backwashing well of inflatable packer
 Separate technology of lift backwashing well
 Inserted sealing backwashing separate injection technology
 Production allocation technology of concentric test modification
 Integrated technology for implanted test adjustment of cable

Layer Mining

Water extraction and injection technology of the same well
 Oil extraction and gas injection technology of the same well
 Oil extraction and water injection technology of the same well
 Mining technology of test adjustment and separate injection
 Downhole oil–water separation and reinjection technology
 Closed pump technology
 Intelligent Y joint technology
 Uniform injection technology of horizontal well
 Industry profile prediction technology of horizontal well
 Sectionalization test technology of horizontal well

Service In Iraq

Until August, 2016, total service equipment in Iraq is 3 sets, total asset amount in Iraq is 33.1 million RMB.

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Acidization service:

- Cementing
- Well washing
- Acidization
- Plug removal
- Overhaul works
- Small size fracturing



Nitrogen foam service:

- Coiled tubing Technical Services
- Lift operations with coiled tubing
- Sand washing / flushing
- Discharge, induced flow
- Shunt acidization & residual fluid backflow
- Gas flooding
- Water coning block
- Depugging
- Perforation / fracturing
- Pressure test and nitrogen inerting operations



Coiled tubing services:

- Salvage technology service
- Acidizing technology service
- Sand washing service
- Cable test service
- Gas lift service
- Water exploration service
- Descaling service
- Paraffin removal service

