approved

Operations director \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# **«\_\_\_» \_\_\_\_\_\_\_\_\_\_ 20\_\_**

# **ORGANIZATION OF WORKOVER OPERATIONS**

1. **Introduction**

This Procedure was developed basing on the Policy for Drilling, Workover and Servicing of Wells of \_\_\_\_\_\_\_ Company. This Procedure regulates the order of works in workover operations on the Company contract territories.

1. **Purpose**

This Procedure represents the requirements to conduct of workover operations on the Company contract territories.

1. **Sphere of application**

The provisions of this Procedure apply to all departments, conducting operations on workover of wells on the contract territories of \_\_\_\_\_\_ Company, including the contracting organizations.

1. **References**

Safety rules in oil-and-gas producing industry of the Republic of Kazakhstan

Rules for development of oil and gas fields

Instructions for open well flowing control in construction, production and workover operations of oil and gas wells

Regulations on wells conservation on oil and gas fields, underground storages of gas and thermal water fields

International standards of Oil and Gas Industry (API)

1. **Preparatory and organizational works for workover operations on wells**

A decision on conduct of workover operations on wells has to be taken by the Company Management upon written request from the geological department and rationale in writing from the production manager justifying the necessity of such works. The list of works over the period of workover shall be given in the annual work program and estimated in the company annual budget. After the aforementioned documents were approved, the preparatory works shall be started, which include:

### **Preparatory works**

### Prepare the work plan for workover operations on the well and agree it with \_\_\_\_\_\_ (OPS.03.03.01).

### Conduct tenders for choice of contractor in accordance with tender procedure FIN.01.07, for the following types of works:

* 1. Supply of workover rig;
	2. Conduct of geophysical surveys in wells during the workover operations;
	3. Perforating work;
	4. Cementing works;
	5. Supply of materials and chemicals;

### Obtain from Contractor a layout of workover equipment location, including dimensioning specifications (OPS.03.03.03) and requirements to site specifications.

### Sign a contract with workover Contractor and service companies according to the contracts signing Procedure GEN.11.01.

### By conducting a tender, choose the suppliers of:

1. Tubing;
2. Mud chemicals;
3. Necessary wellhead equipment;
4. Bits;
5. Subsurface equipment;
6. Completion string/system,
7. Equipment for artificial lift.

### Place the orders for delivery of equipment and materials according to the Procedure FIN.01.07.

### Ensure that Contractor obtains permission of \_\_\_\_\_\_ for rigging up of equipment.

### If necessary, provide for Contractor registration and certification of vessels, working under pressure, and hoisting devices by \_\_\_\_\_\_ services.

### Develop and agree with \_\_\_\_\_\_ and \_\_\_\_\_\_ the BOP hookup scheme (OPS.03.03.04).

### Before a workover rig is mobilized to a dedicated site, ensure that all required equipment and materials stock are available and reliable source of water, fuel, are in place on the allocated sites.

### **Assembling works**

### Upon mobilization of workover rig and under the condition that work plan for workover operations duly approved is on place:

* 1. Ensure that contractor is provided with a clear and valid Work-program, approved by \_\_\_\_\_\_.
	2. Perform pre job meetings with Contractors and Field Personnel
	3. Make an Act on transfer of well from Customer to Contractor for workover operations (OPS.03.03.11).

### Contractor shall rig up and assemble the equipment in a safe and timely manner, including, but not limited to the following works:

### Envisage option for installation of BOP equipment (according to the typical schemes);

### For conducting of workover operations, the well site should be equipped with worksite, and pipe racks.

### Test all the equipment and execute the following documents:

1. Act on maintenance check of drilling equipment (OPS.03.03.07);
2. Act on testing of traveling block limit switch (OPS.03.03.08);
3. Act on inspection of drill rig OPS.03.03.09);
4. Act on testing of electric equipment and grounding devices (OPS.03.03.05).

### After completion of rig up, all equipment should be operational function tested.

### Only Personnel having special education, Licensed and experienced in workover operations are permitted to supervise and conduct the workover operations.

### The list of technical documentation, necessary to keep on place before commencement of workover operations:

* 1. The scheme of wellhead connections with BOP equipment, approved by \_\_\_\_\_\_ (OPS.03.03.04);
	2. The approved plan of workover operations, agreed with \_\_\_\_\_\_ (OPS.03.03.01);
	3. Passports (certificates) for:
		+ - Production tree, preventer, perforation valve
			- back valves, emergency valve, drill spool adaptor
			- nonstandard elements of wellhead equipment;
			- Tubing;
			- Load indicator;
			- Set of gas-protection equipment;
	4. Logs:
		+ - Shift change;
			- Registration of circulation fluid parameter;
			- Drills conducted with drilling crew on Health and Safety rules, blowout and fire safety rules;
			- Checks of safety measures;
			- Checks of BOP equipment;
			- Blowout alarms for instruction;
	5. Health and Safety and Blowout safety caution boards.
1. **Workover operations**

Workover operations should be conducted strictly in accordance with the International Standards in Oil and Gas industry and "Safety Rules in oil and gas industry of the Republic of Kazakhstan", requirements to reserves conservancy and protection of environment, "Unified rules of reserves conservation in exploitation of mineral resources", as well as current norms of equipment operation and operating procedures. The workover operations shall be conducted in accordance with Work Plan, approved by Blowout emergency response service, which should include, but not limited with the plans for:

* 1. Preparation of kill mud with parameters according to the work plan.
	2. Killing of well.
	3. Rig assembly.
	4. Obtaining of permission from representative of \_\_\_\_\_\_ for teardown of production tree (OPS.03.03.02).
	5. Takedown of production tree.
	6. Equipping of wellhead with BOP equipment and connection and pressure test of this. The Act on pressure test shall be executed jointly with the representative of \_\_\_\_\_\_ (OPS.03.03.13).
	7. Make a register of BOP equipment installed (OPS.03.03.20).
	8. Pressure test of preventer and hookup elements, back valves, ball valves, emergency circulation head with participation of representative of \_\_\_\_\_\_.
	9. On the results of pressure test, execute the respective Acts jointly with representative of \_\_\_\_\_\_ (OPS.03.03.14).
	10. Bring the spare volume of mud in accordance with requirements of work plan.
	11. Run tubing up to artificial bottom hole and wash the well, taking mud parameters and bringing these parameters in conformance to the requirements in work plan.
	12. POOH and revise tubing, making control measurements. Make the respective Act (OPS.03.03.15).
	13. Preparation of well for geophysical surveys:
		1. Install cable preventer and cable lubricator.
		2. Pressure test cable preventer and lubricator with participation of \_\_\_\_\_\_ representative. On the results of test, make respective Act (OPS.03.03.14).
		3. Execute the Act on well readiness for conduct of geophysical surveys (OPS.03.03.10).
		4. Obtain permission of representative of \_\_\_\_\_\_ for conduct of geophysical surveys (OPS.03.03.02).
	14. Isolating works:
		1. Before commencement of isolating works, the necessary amount of cement and cementing equipment in serviceable condition shall be on site.
		2. Before setting of cement bridge, a laboratory analysis of cement shall be on place, made in the conditions similar to conditions of works conducted.
		3. Set isolating cement bridge in the interval as envisaged in the work plan and as confirmed by geophysical surveys.
		4. Execute Acts on setting of cement bridge and leakage test OPS.03.03.16, OPS.03.03.14).
	15. Perforation works:
		1. Install cable preventer and lubricator. Conduct pressure test and execute the respective Acts (OPS.03.03.14).
		2. Execute the Act on well readiness for perforation works (OPS.03.03.10).
		3. Conduct instructions with the crew on Safety measures during perforation works.
		4. Obtain permission to conduct perforation works from the representative of \_\_\_\_\_\_ (OPS.03.03.02).
		5. Perforate in the intervals, chosen basing on report of geophysical survey.
	16. Well completion:
		1. At the presence of representatives of well completion service company and in accordance with the work plan, assemble well equipment package for completion and run on string up to projected depth.
		2. Tear-out BOP and install production tree. Pressure test the production tree with participation of \_\_\_\_\_\_ representatives and make the respective Act (OPS.03.03.14).
		3. Set packer in accordance with completion work program. Make an Act on setting of packer and downhole assembly, envisaged by the work plan (OPS.03.03.21).
		4. Rig down
	17. Finishing the well:
		1. The finishing works shall be conducted in accordance with the approved plan, developed by geological and technical services of the Company.
		2. After production tree is installed on wellhead, conduct pressure test with estimated pressure according to the work plan and with participation of \_\_\_\_\_\_ representative (OPS.03.03.14).
		3. Pressure test offsets and joints of well connections.
		4. On the results of pressure test, make the Acts jointly with the representative of \_\_\_\_\_\_ (OPS.03.03.14).
		5. Make the Act on well readiness for work on production stimulation (OPS.03.03.10).
		6. Obtain permission from \_\_\_\_\_\_ for finishing of well (OPS.03.03.02).
		7. Finish the well in accordance with technology, envisaged in the work plan.
	18. Stimulation of production:
		1. The operations shall be conducted basing on the approved work plan for stimulation of production.
		2. Before commencement of works, instruct the crew in safety measures and fire safety.
		3. The personnel, engaged in operations should have all the necessary means of individual protection.
		4. Before commencement of works pressure test all discharge line with necessary pressure. Back valve should be installed on the line.
		5. After chemical agent is pumped into the well, equipment and lines should be washed with water thoroughly.
		6. The completion of works in bottom hole area shall be registered in the Act, signed by the field management and in well passport.
		7. If in the course of operations under the items 6.11-6.17 a direct signs of well flowing appear, the wellhead shall be sealed and further works conducted in accordance with the plan of liquidation of possible emergency situations (OPS.06.01).
1. **Putting of well in exploitation:**
	1. Rig down and demobilize equipment and instruments from the well site.
	2. Restore the well site.
	3. The Commission, appointed by Company management will inspect and accept the well from Contractor after completion of workover and provided that work is found satisfactory, execute the "Act on workover completion and transfer of well into production" (OPS.03.03.19) and "Act on works performed on well" (OPS.03.03.18). These Acts shall be executed in four originals and spread as follows:
		1. Well files kept on site - 1 original
		2. To works executor - 1 original
		3. Company geological department - 1 original
		4. Accounting office - 1 original
	4. The detailed information on workover operations conducted on well is attached to the well file and stored at the field during the whole period of well operation.
2. **Exceptions**

Any exceptions from this Procedure are allowed only upon consent of Operation Director.

1. **Reporting**

There are no requirements to reporting under this procedure.

1. **Effective date**

This Procedure comes into effect on \_\_ \_\_\_\_ 20\_\_.

1. **Revision date**

This Procedure shall be revised once a year.

1. **Supervisor**

Drilling Manager

Attachment

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| OPS.03.03.01 |  | Approved plan of workover operations  |
| OPS.03.03.02 |  | Permission of governmental authorities and agencies |
| OPS.03.03.03 |  | Equipment location layout  |
| OPS.03.03.04 |  | BOP hookup scheme  |
| OPS.03.03.05 |  | Act on testing of electric equipment and grounding devices  |
| OPS.03.03.06 |  | Engineering documentation for drilling equipment |
| OPS.03.03.07 |  | Act on maintenance check of drilling equipment  |
| OPS.03.03.08 |  | Act on testing of traveling block limit switch  |
| OPS.03.03.09 |  | Act on inspection of drill rig  |
| OPS.03.03.10 |  | Act on well readiness for conduct of geophysical surveys |
| OPS.03.03.11 |  | Act on well transfer from Customer to Contractor for workover operations  |
| OPS.03.03.12 |  | Act on BOP leak test before installation  |
| OPS.03.03.13 |  | Act on BOP leak test after installation |
| OPS.03.03.14 |  | Act on leak test  |
| OPS.03.03.15 |  | Act on control measurements  |
| OPS.03.03.16 |  | Act on setting of cement bridge  |
| OPS.03.03.17 |  | Act on casing head leak test  |
| OPS.03.03.18 |  | Act on works performed on well  |
| OPS.03.03.19 |  | Act on completion of workover operations and well transfer into production  |
| OPS.03.03.20 |  | Register of BOP equipment and casing head installed  |
| OPS.03.03.21 |  | Record on length of tubing and list of subsurface equipment run in well  |
| OPS.03.03.22 |  | Daily operations workover and servicing report |