

**AN OBJECT:** "Construction of the pilot site ONEIL of the Ziayaetdin field CCI Mubarek" FE LLC "SANOAT ENERGETIKA GURUHI" in the Kiziltepa district of the Navoi region, as part of the pilot test program "Steam cycle treatment of wells of the Ziayaetdin field"

**CONTRACT NO.:** \_\_\_\_\_


**Document revision:** R3

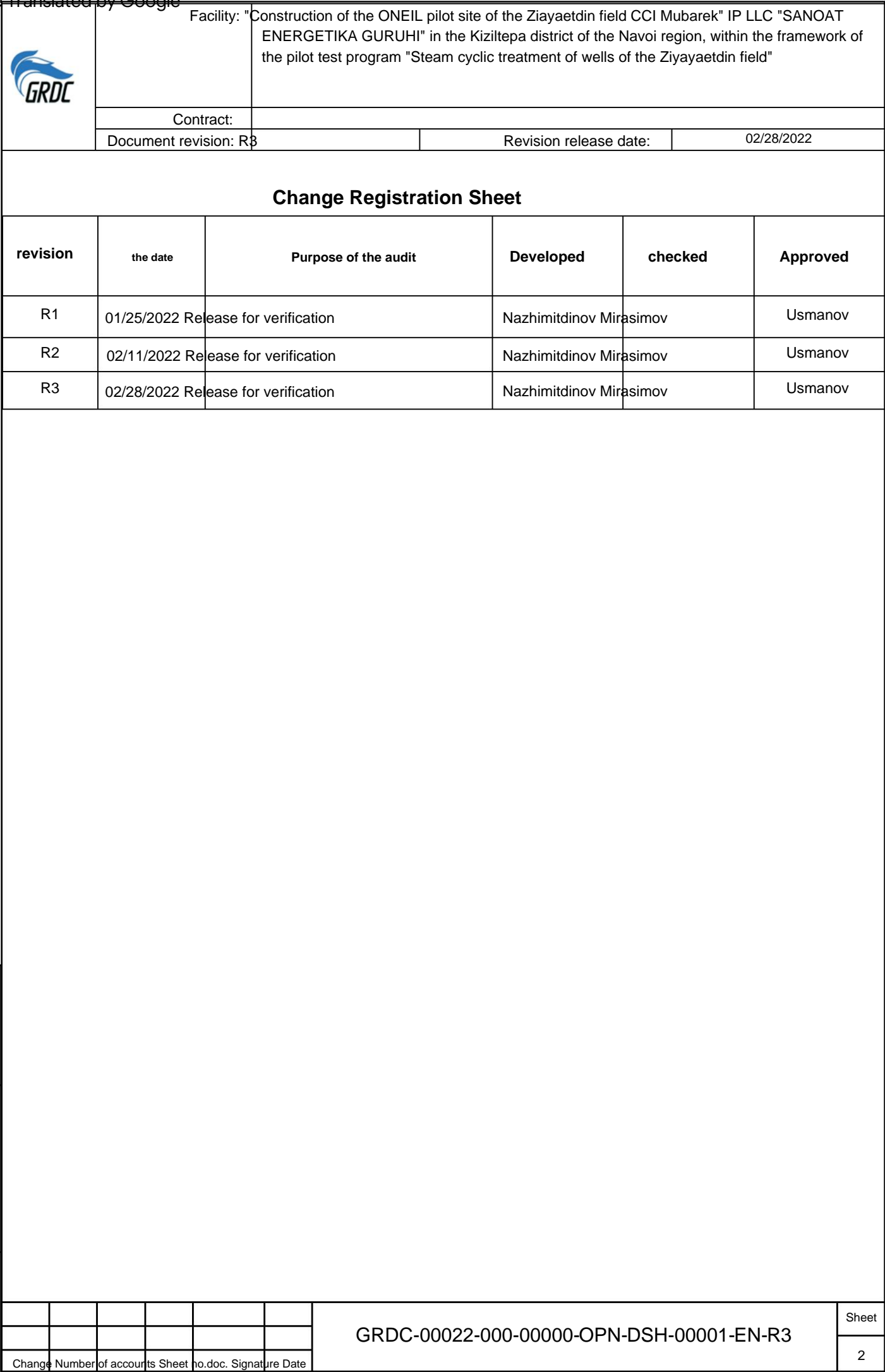
**The date:** 28.02.2022

OOO "Geo Research and Development Company"

**QUESTIONNAIRE**  
on the compressed air compressor unit

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GUI	Usmanov					Questionnaire on the compressed air compressor unit	Stage	Sheet	Sheets
Beginning otd.	Mahkamov						RP	-	7
Ch. specialist	Mirasimov						 Geo Research and development company"		
Performed	Nazhimitdinov								




construction of the ONEIL pilot site of the Ziayaetdin field CCI Mubarek" IP LLC "SANOAT ENERGETIKA GURUHI" in the Kiziltepa district of the Navoi region, within the framework of the pilot test program "Steam cyclic treatment of wells of the Ziyayaetdin field"

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02/28/2022

## Change Registration Sheet

revision	the date	Purpose of the audit	Developed	checked	Approved
R1	01/25/2022	Release for verification	Nazhimitdinov	Mirasimov	Usmanov
R2	02/11/2022	Release for verification	Nazhimitdinov	Mirasimov	Usmanov
R3	02/28/2022	Release for verification	Nazhimitdinov	Mirasimov	Usmanov

	Facility:	Construction of the ONEIL pilot site of the Ziayaetdin field CCI Mubarek" IP LLC "SANOAT ENERGETIKA GURUHI" in the Kiziltepa district of the Navoi region, within the framework of the pilot test program "Steam cyclic treatment of wells of the Ziyayaetdin field"					
	Contract:						
	Document revision: R3		Revision release date:	02/28/2022			
Questionnaire for compressed air compressor unit							
Customer data							
Organization name Organization		IP LLC "SANOAT ENERGETIKA GURUHI"					
address Contact person		Republic of Uzbekistan, Tashkent					
Contact details Object				Job title:			
address		Tel.:		e-mail:			
		The Republic of Uzbekistan					
Characteristics of the area of operation							
Absolute min air temperature, °ÿ Absolute max			minus 28.2				
air temperature, °ÿ Average temperature of the			plus 45.8				
coldest five-day period with probability 0.98 °ÿ Average temperature of the coldest month			Minus 16.0				
(January), °ÿ			Minus 2.8				
Average temperature of the hottest month (July), °ÿ			Plus 36.0				
Average wind speed, m/sec: cold period Number of days							
with snow cover per year Daily maximum precipitation			2.9				
Amount of precipitation per year, in mm Seismicity of the			16				
area Estimated seismicity Number of hours with			38				
thunderstorms per year Number of days with dust storms			199.8				
per year Barometric pressure, hPa Average minimum			7				
relative humidity, %: cold period			15.9				
			9				
			970				
			61				
Average minimum relative humidity, %: warm period			22				
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1. General information			
1.1 Name	1.2 Position	Compressed air compressor unit	
according to P&ID	1.3	KSV-1	
Quantity	1.4 Purpose	1 set	
Type of delivery	1.6	Compressed air supply to the steam generator	
Equipment location	1.7		
Estimated service life		block-container	
		20 years	

2. Specification			
2.1 Productivity, not less than m3/h	1540		
2.2 Outlet pressure, MPa		4.5	
		5.0	
2.3 Temperature, 0C		45	
		60	

3. Environment settings			
3.1 Working environment Air	3.2 Outlet air dew point, 0C	Up to	
+2 (maximum +10)			
3.3 Air density kg/m3	1.29		


4. Cleaning requirement			
4.1 Compressed air pollution class	according to GOST 17433-80, class 10		
4.2 Degree of air purification	the content of drip moisture and oil vapors the size of mechanical particles,	Water - Up to 1000 mg/m3; Oils - up to 16 mg/m3.	
	no more, micron	80	
	solids content, no more than, mg/m3	four	

5. Compressor drive			
4.3 Type of electric motor	4.4	General industrial with soft start	
Brand of electric motor	4.5 Power, kW	Manufacturer defined	
4.6 Speed, rpm	4.7 Number of phases	Up to 600 (Specified by the Manufacturer)	
4.8 Voltage, V	4.9 Mains frequency, Hz	Specified by the Manufacturer	
4.10 Explosion protection version	4.11	3	
Degree of protection, IP		6000-10000	
		fifty	
		-	
		65/F	

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6. Completeness	
5.1 Compressor with cooling system 1 set 5.2 Dryer 5.3 Number of filters	
	Specified by the Manufacturer Must
	ensure the degree of cleaning

7. Special requirements	
6.1	Technical documentation for block-complete process equipment must comply with the requirements of regulatory documentation for the design of oil and gas facilities and be applicable to the requirements of the State bodies of Uzbekistan. 6.2 The unit must be completed with mating flanges (including studs, nuts, washers, gaskets) and swivel wafer plugs, turnarounds (obturators) for testing. Before transportation, the fitting must be turned off.
6.3	<p>Include in the delivery set:</p> <ul style="list-style-type: none"> <li>- mating flanges with gaskets and fasteners;</li> <li>- supports;</li> <li>- Instrumentation and control devices (to coordinate the choice of devices with the Customer and the design organization). The estimated service life of instrumentation should be at least 20 years;</li> <li>- Spare parts and accessories for two years of operation;</li> <li>- Spare parts and accessories for commissioning;</li> <li>- a set of accessories and tools for installation, repair and maintenance of the device; - a set of design documentation;</li> <li>- foundation bolts, nuts and washers;</li> <li>- a set of swivel plugs for testing.</li> </ul>
6.4	Equipment supplied must be new, unused and meet modern requirements for technical characteristics, efficiency, reliability and correspond to the operating conditions in terms of material performance.
6.5	<p>Delivery limits:</p> <ul style="list-style-type: none"> <li>- along the lines of air inlet and outlet - mating flanges on the branch pipes of the unit;</li> <li>- via cable lines - terminal box at the border of the block.</li> </ul>
6.6	In the working drawings, indicate the permissible loads on the flanges, foundations, taking into account seismicity of the equipment installation area.
6.7	The block is to be made in maximum factory readiness, which does not require hot work at the place of operation. It is allowed to dismantle instrumentation and control equipment for the period of transportation with the inclusion of work on the installation of the removed equipment in the list of installation works for the installation organization.
6.8	Provide structures for connecting the ground loop in two places.
6.9	The shelter block must be coated with an external weather-resistant anti-corrosion coating in accordance with KMK 2.03.11-96 and OST 26.260.18-2004. The color scheme of the equipment shall be agreed with the Customer.

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- assembly drawing of the block (apparatus) with specification;
- combined schematic diagram;
- list of elements (fittings);
- list of elements (means of instrumentation and automation);
- manual;
- passport for the unit, including test reports;
- technical and shipping documentation for components (fittings, instrumentation and other products included in the unit);

methods of verification of measuring instruments, agreed in the Agency "Uzstandard";

Certification:

- Certification of measuring instruments on the territory of the Republic of Uzbekistan;
- Certificate of operability of the measuring instrument in the specified temperature range (environment and measuring medium);
- Certificate of protection against moisture and dust;
- picking list;
- packing lists (for each shipping place);
- installation marking scheme for devices (units) delivered with units and elements removed for the period of transportation.

6.12 The equipment must have:

- necessary technical documentation: passport, technical description, instructions for repair, maintenance, operation and installation of equipment, list of installation works, technical and installation diagrams, assembly drawings with specifications, imported equipment and tools must have the manufacturer's technical documentation translated into Russian and duly certified;
- the equipment must comply with the requirements of the "Safety Rules for the Oil and Gas Industry", "Rules for the Design and Safe Operation of Pressure Vessels", as well as other regulatory documents in force in the Republic of Uzbekistan at the time of putting the facility into operation.

6.14	Shelf life of the unit without re-preservation is at least 18 months from the date of shipment manufacturer.
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6.16 The block must be a transportable railway transport GOST 9238-2013, water or special vehicle in all weather conditions. All transport units must be equipped with lashing points.



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Contract:

Document revision: R3 Revision date: 6.17 The equipment must have a plate that meets the

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requirements of GOST 12971. The plate must be placed in a conspicuous place and securely fastened to the equipment.

The plate must show:

- the name of the manufacturer (abbreviated is allowed) or its trademark;
- block type (name or symbol);
- factory number;
- marking according to P&ID;
- design or nominal pressure, MPa;
- test pressure, MPa;
- design wall temperature, °C (if applicable);
- Year of manufacture;
- mass of the block;

Method of marking - according to OST 26-291-94.

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