Table of Effectiveness of the Innovative Projects PI UAS (21 technologies) 2019

№ п/п	Sequence number of technology	Name of RW/DW	Estimated profitability of the project	Expected RW/DW results (report, documentation, test report, model, etc.)	Readiness of the RW / DW project for investment,	Presence of patent / know–how	Presence of analogue in CIS or in the world, if any, what is the difference / what are the advantages	Where were the tests or implementation work (area, field)	Funds neeDD to complete development	Start of the development implementation.	ProviDD form of using attracted resources (carrying out of RW/DW, purchase of devices, materials, equipment, producing industrial model, carrying out of industrial tests)
			%		%				Thousand US dollars	Months	
1	2		3	4	5	6	7	8	9	10	11
1.	**CH**	Technology of avitational hydrogenation of carbohyd-rates and hydrocarbons	>600	8 devices (laboratory installations)	**90**	**+/**+	**+** Increasing production of fuels from oil	Laboratory and industrial experiments	**168-172**	after 8-10 months	Documents
2.	**CG-HC**	Technology of cavitational hydroge-nation of carbohydrates and hydrocarbons	>190	Methodology. Test results. Detailed engineering drawings.(DD)	**25**	**+/**+	**+** Increasing production of fuels from oil	Laboratory and industrial experiments	**27 - 30**	after 6 - 8 months	Purchasing, Manufacturing, Trial, Designing the means
3.	**PPS – CH**	Technology of heavy oil extraction	>1200	8 devices (laboratory installations)	**85**	**+/—**	**+** Oil recovery increasing	Laboratory and industrial experiments	**114**	after 8 -10 months	Purchasing, Manufacturing, Trial, Designing the means
4.	**ND (Nucleon desulfurization)**	Technology of removal of hydrogen sulfide compounds	>1000	8 devices (laboratory installations). Methodology, Test model Detailed engineering drawings.	**75**	**+/—**	**+** Decreasing **S** content	Laboratory and industrial experiments	**120 - 130**	after 10 -12 months	Purchasing, Manufacturing, Trial, Designing the means
5.	**GG - 100 (gas generator)**	Technology of generation gas from oil	>1000	8 devices (laboratory installations)/ **D**etailed **e**ngineering **d**rawings.	**80**	**+/—**	**+** Production of domestic gas	Laboratory and industrial experiments	**27**	after 12 months	Purchasing, Manufacturing, Trial, Designing the means
6.	**CAVITATOR**	Downhole (Intensification of oil production)	>800	Methodology. Test model. Test results. **Design documentation DD**.	**75**	**+/—**	**+** Debit increasing	Laboratory and industrial experiments Комплект КД	**25** for 1 instrument	after 8-10 months	Purchasing, Manufacturing, Trial
7.	**GPC 1000-10 (pipe cavitator)**	(Intensification of industrial and trunk oil transportation)	>500	Methodology. Test model. Test results. **DD**.	**70**	**+/—**	**+** Dilution of oil	Laboratory and industrial experiments Design ocumentation (**DD**)	**48** for 1 system	after 10 months	Purchasing, Manufacturing, Trial

1	2	3	4	5	6	7	8	9	10	11
8.	**GEOZOR - 3DM** (Inter-well tomography system (field monitoring)	150	Systems: **Geozor 1.57 Geozor 3DM DD**	**95**	**+/+**	**+** Increasing speed and accuracy	Used on 18 pairs of wells in 8 fields.	**120** for 1 system	after 3 - 4 months	Purchasing, Manufacturing, Testing, Application
9.	**GEOVIZOR** (control system of reservoir hydraulic fracturing (field monitoring)	150	Methodology, System Geovizor. Pilot model, Tests**. DD**	**75**	**+/—**	**+** Increasing speed and accuracy	On 2 wells	**145** for 1 system	after 12 months	Purchasing, Manufacturing, Trial
10.	**PILLAR** (Intensification of oil field development)	>400	Methodology, Software complexes Feasibility study, Guidance documents **DD**.	**85-90**	**+/—**	**+** Increase in oil recovery	1 sq. km at an arbitrary field	**1050**	after 6 months	Experimental - design works. (**EDW**) Methodology, Program.Trial
11.	**ZUMPF** (Intensification of oil production)	150	Methodology, Test results **DD**.	**25**	**+/—**	**—** Debit increasing	Industrial experiments. **DD**	**112** for 1 well	after 12 months	(**EDW**) Purchasing, Manufacturing, Trial
12.	**SHELL** Special heat treatment of the well bottom (Intensification of oil production)	250	Methodology, Test results **DD** .	**50**	**+/—**	**+** Debit increasing	Laboratory experiments. **DD**	**125** for 1 well	after 12 months	(**EDW**) Purchasing, Manufacturing, Trial
13.	**Hydrohorizont** (hydrodynamic method of field development intensification)	150	Methodology. Test model. Test results. **DD**.	**25**	**+/—**	**+** Oil recovery increasing	Laboratory and industrial experiments **DD**	**140** for 2 horizontal wells	after 18 months	50% (**EDW**) Purchasing, Manufacturing, Trial
14.	**BSHT** (Intensification of oil production)	150	Methodology, Test results **DD** .	**25**	**+/—**	**+** Debit increasing	Industrial experiments. **DD**	**130** for 1 well	after 18 months	(**EDW**) Purchasing, Manufacturing, Trial
15.	**Quantized heating** of borehole zones (Intensification of oil production)	250	Methodology. Test model. Test results. **DD**	**20**	**+/-**	**—** Debit increasing	Laboratory and industrial experiments **DD**	**135** for the first well	after 24 months	50% (**EDW**) Purchasing, Manufacturing, Trial
16.	**ThermoHorizont** (thermal intensification of field development)	300	Methodology. Test model. Test results. **DD**.	**25**	**+/—**	**+** Oil recovery increasing	Laboratory and industrial experiments **DD**	**142** for 2 horizontal wells	after 18 months	50% (**EDW**) Purchasing, Manufacturing, Trial
17.	**PES Periodic explosive seismic** (Intensification of oil production)	150	Methodology, Results of pilot works **DD**	**20**	**+/—**	**—** Debit increasing	At selected fields **DD**	**125** for 1 well	after 2 months	(**EDW**) Purchasing, Manufacturing, Trial
18.	**VOilW (Vibronaftovod)** (Vibration method of field development intensification)	250	Methodology **DD**	**25**	**+/—**	**+** Oil recovery increasing	Laboratory and industrial experiments **CD**	**27** for 2 wells	after 3 months	50% (**EDW**) Purchasing, Manufacturing, Trial

1	2	3	4	5	6	7	8	9	10	11
19.	**MBA (Multiresource drilling apparat)** (for drilling of inclined and horizontal wellbore trunks)	>500	Design, Schemes. Test results. **DD**.	**30**	**+/—**	**+** Increase in penetration	**DD**, Schemes, two copies	**68**	after 12 months	Purchasing, Manufacturing, Trial
20.	**SP-80 "Smart" pump** (intensification of oil production)	200	Design, Schemes, **DD**	**25**	**+/—**	**+** Oil recovery increasing. Cost reduction	**—**	**140** On the first pump		Purchasing, Manufacturing, Trial
21.	**Mini refinery (non-residual)** (oil recovery intensification)	190 - 195	Methodology, Stand, Laboratory research. **DD**	**80**	**+/—**	**+** Increase in oil refining ratio	Stand. Theoretical and experimental studies	**1245** for 1 set of equipment	after 18 months	Purchasing, Manufacturing, Trial, operation

Notes and explanations to the table:

1. For a description of the technologies, see the Explanatory Note attached to this Table;
2. The calculations in each row of the table are the result of detailing and refining the design capabilities of technologies;
3. The estimated profitability of the project is determined according to the experimental data. Here, it is determined from the maximum results
4. In column 6, the sign (+) indicates presence, and the sign (-) indicates absence;
5. The estimated cost of each development is to be specified at the stage of beginning of investment and realization of the project;
6. "Own" means that the funds of the Inventory or its Contractors were involved in the development;
7. The terms of development should be specified depending on the results of marketing introduced at the beginning of the project implementation;
8. The answers to the questions in column 3 of the table will be updated and presented in a separate document;
9. The answers to the questions in column 5 and 9 of the table were obtained by calculations;
10. The answers to the questions in column 10 is the deadline for the project readiness for use in the field or in production;
11. The 8th column shows the estimated cost of the installation, which will be used as standard equipment for increasing the well flow;
12. CD is the design, as well as and availability of a set of drawings;
13. The PILLAR technology program (column 10) is a combination of several technologies to intensify the development of the field. The start of the refund is the end of the second year of project implementation.
14. **DD** - Design documentation. **EDW -** Experimental - design works.

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