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ROUTE OF MAIN TURKMENIAN CANAL SETTLED

The detailed route to be taken by the Main Turkmenian Canal, nearly 700 miles long, has now been settled.

WINTER in the Kara Kum desert is always harsh. Even the frost-cloaked saksaul thickets between the sand dunes seem to be dead.

Two winters ago large numbers of people appeared in the desert, driving new lorries, heavily laden with provisions and equipment of many kinds.

The Turkmenian shepherds were amazed to discover that these people, scientists of many different specialities, proposed spending several years in the Kara Kum, surveying it for the Main Turkmenian Canal. "Why spend so much time on it?" they asked. "All you need do is map out the route of the canal, and the job's done."

At first even some of the explorers had an oversimplified picture of their task. But they soon discovered that the mapping of the canal route across the little known Kara Kum desert was a most complicated task. There were hundreds of problems for the expeditions, in co-operation with the scientists back in the laboratories, to solve. Really exhaustive data had to be prepared before the canal could be properly planned.

The very first trips brought the geologists and drillers many surprises. In several places where the building of hydro-technical constructions was proposed, extensive chalk deposits were discovered. Dissolving in the water, these would form huge underground caves.

It has been established that a considerable section of the Uzboy, ancient dried up river bed nearly 500 miles long which had been selected for the canal route, was unsuitable. Scores of thousands of acres of additional territory had to be investigated by the expeditions of the Turkmenian Geological Administration, which has carried out a tremendous amount of work. All the 1952 tasks of these expeditions—the 38th topographical party, the Aral-Caspian, the Uzboy

Far larger area
than expected
will be
irrigated and
watered

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Members of an expedition of the USSR Academy of Sciences compare notes on the banks of the Uzboy

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This preliminary by-pass canal has been completed; in the area where the Main Turkmenian Canal will begin

and other expeditions—have been completed successfully.

The whole route which the waters of the Amu Darya will take across the Kara Kum has now been mapped out. All the special requirements for the building of great hydro-constructions and the growing development of Turkmenia's national economy have been taken into account.

It is already clear that the canal will make possible the irrigation, watering and cultivation of far more land and pasturage than had been anticipated.

Effective methods of consolidating the sands, removing the salt from the soil, and dealing with the silting-up of the canal, have been worked out by parties of scientists from the U.S.S.R. Academy of Sciences and the Academies of Sciences of the Central Asian republics, Kazakhstan and Georgia.

Over the past few months the work has assumed still wider scope. The expeditions are ascertaining the desert's reserves of mineral raw materials, so that they can be used on the construction of the canal.

Last year tremendous deposits of rock, gypsum, road metal, lime and gravel were discovered in the Kara Tau mountains. Scientists have confirmed that there are quite suitable local materials for the construction of dwelling houses and other buildings.

Similar riches have been found by the geologists in Khodjeili, Kizyl Arvat and other areas. The Central Asian hydro-construction organisation has already built several factories for the production of concrete, brick and foam-glass products.

The finding of sources of fresh water was a particularly difficult task. Some experts believed it was a waste of time to look for underground lakes in the sands, where the saksaul roots go down dozens of yards. But hydrogeologists of the Turkmenian Geological Administration found underground water in the Kara Kum lowlands. Dr. V. N. Kunin, outstanding mineralogist, came from Moscow to help the investigation. After studying the results of the hydrogeologists' work he concluded that it would be possible to supply the low-lying western part of the Kara Kum with water from underground sources.

Further investigation confirmed that this district could supply all the water needs of the builders of Kazandjik and Kizyl Arvat. The explorers are now drilling new wells and are engaged in laboratory examination and analysis of the data gathered.

In the two years the members of the expeditions have gained wide experience and have learned to overcome difficulties with the least expenditure of effort.

—G. Vasilyev