

DOC
CAI
EA 79
E83
EN 9
May/June
1989

BFL
Doc Sec

DEPARTMENT OF
EXTERNAL AFFAIRS
OTTAWA,
CANADA

INI SN4/89

DATE 10 October 1989

COPY

24

Dept. of External Affairs
Min. des Affaires Étrangères
OTTAWA
OCT 10 1989
ESTABLISHED BY REGISTRATION
REPOSÉ EN RÉGISTRATION DU MINISTRE

EXTRACTS FROM THE SOVIET PRESS ON THE SOVIET NORTH

AND THE ANTARCTIC

May - June 1989

Comments or queries regarding this publication should be directed to:

Department of External Affairs, INI
A-2 Lester B. Pearson Building
125 Sussex Drive
Ottawa, Ontario
K1A 0G2

TABLE OF CONTENTSPage No.Page No.TRANSPORT WATERARCTIC

Down the Big River.....	31
Ships Have Started Plying the Yenisey.....	32
A Trip to Yesterday - SP-31.....	1
When the Ice Floe Broke Up.....	5
To the Pole - Without Outside Help.....	6
The First Voyage to the Arctic.....	33
Navigation in the North.....	39

CONSTRUCTION

<u>MISCELL</u> Speeding Up Construction of New Homes.....	7
Homes with Owners at Last!.....	7
Plants for Scrapping Ocean-Going Vessels.....	11
Under the Permafrost.....	12
Beverages ... From Horns.....	43
A Reagent from Waste.....	44

ENVIRONMENTAL ISSUES

The Ecological Journal.....	15
What Will Things be Like Then?.....	15
The "Tropics" of the North.....	18

SOCIOLOGICAL ISSUES

Why is it Cold in Dikson?.....	22
--------------------------------	----

TRANSPORT AIR

Land Frozen to Provide Airstrip.....	25
A new Route Anadyr'/Palana.....	26

TRANSPORT LAND

According to the Laws of the Taiga.....	27
---	----

TRANSPORT WATER

We are flying to the North Pole-31 drifting

Down the Big River.....	31
Ships Have Started Plying the Yenisey.....	32
Time for a Decision.....	33
On the Northern Route.....	37
The Ship Convoys have Left.....	38
The First Voyage to the Arctic.....	39
Navigation in the North.....	39

MISCELLANEOUS

Our airplane is the Ilyushin-14 ice
ice aircraft built by the Kolyano-Indigirskiy
company. The "mighty ice plane #14" - this

Reikh's Flag at the North Pole.....	41
Fires in the Taiga.....	43
Beverages ... From Horns.....	43
A Reagent from Waste.....	44

since this plane was manufactured, but there are no
replacements. This creates great difficulties:
there is nothing with which to inspect the expanses
of ice and water, no means with which to transport
cargo to the drifting stations. This spring, for
example, the supplying of North Pole-30 was carried
out from Zhokhov Island, with the assistance of the
Antonov-26. It was a good thing that the station was
floating not far from this base. But problems
immediately arose with North Pole-31. The situation
has been saved for the time being only due to the
circumstance that the basic goods have been delivered
here in the fall, together with the entire station,
by ship. But any reserves have their limits, and
with winter approaching problems can arise here.

Before us is the Strölv Longa. The
altitude indicator has frozen at 1300. The first
signs of ice formation have appeared. The cabin
becomes instantly cooler, the energy used to heat the

ARCTIC

A Trip to Yesterday - SP-31

We are flying to the North Pole-31 drifting research station. Our journey will be a long one; the station is near Alaska at present, past the international dateline that intersects the Bering Strait. It is a 9-hour flight from Cherskiy, but since it is located in the other hemisphere, we will be arriving there yesterday - from Thursday to Wednesday, as the day that has passed is not over yet.

Our airplane is the Ilyushin-14 ice observation aircraft built by the Kolymo-Indigirskiy aviation company. The "mighty ice plane #14" - this is what the plane is called in the North. Only this aircraft can fly the thousands of kilometres in one direction and the same distance upon return with one refuelling. But for now this model is the only one for all the Eastern Arctic. It has been a long time since this plane was manufactured, but there are no replacements. This creates great difficulties: there is nothing with which to inspect the expanses of ice and water, no means with which to transport cargo to the drifting stations. This spring, for example, the supplying of North Pole-30 was carried out from Zhokhor Island, with the assistance of the Antonov-26. It was a good thing that the station was floating not far from this base. But problems immediately arose with North Pole-31. The situation has been saved for the time being only due to the circumstance that the basic goods have been delivered here in the fall, together with the entire station, by ship. But any reserves have their limits, and with winter approaching problems can arise here.

Before us is the Proliv Longa. The altimetre indicator has frozen at 1500. The first signs of ice formation have appeared. The cabin becomes instantly cooler, the energy used to heat the

cabin is directed to battle the ice. This is a typical working situation, and the pilot knows perfectly well how to get out of it. Our Ilyushin begins to climb higher, and at an altitude of 1800, the ice formation ends.

Yes, an Il-14 is an Il-14. On the one hand, the yesterday of our aviation, but on the other ... why yesterday? Of course, it was not that long ago that we were certain it was gone forever. But here before me is a radiogram: "There is an opportunity to obtain Il-14 airplanes; please inform the Ministry of Government Aviation (MGA) sub-unit whose services you utilize. Aircraft orders are to be directed to the MGA. We ask that you examine the given proposal and advise us of your decision."

To whom and by whom is such a dispatch sent? It turns out that the weather bureau is informing its local division. Of what? Of the fact that due to reductions in the Armed Forces, the opportunity arose to obtain military transport "Ils". And not in small numbers. It turns out that they were there and are there! Is it possible that so many problems will be resolved in one stroke?

But do not be too quick to rejoice, in the past we have often done so too soon. The Commander of the Chaunskiy aviation firm, A. Ibragimov, quickly dropped this question on sober, northern soil:

"How will it be with the engines? Where will repairs be carried out? We cannot take any airplanes until we hear persuasive answers to these questions."

It is amusing that this information came to the northern aviation enterprise in a roundabout way

from the management. Management does not know about it. In relation to this, it is interesting to ask, if the ministry knows of it. If not, then this means that our old economic mechanism survives as before and that it is not entirely healthy, as before.

But here we are, already taking our seats. Our flight is the final one during spring navigation. Soon the icy armour of the Arctic will begin to move, it will break up the zone and the next opportunity will be only prior to the New Year.

The radio operator announces: "The temperature is -16°C ." I recall that a week ago I was flying from Khabarovsk amid blossoming lilacs and temperatures of 26°C . A short run and the plane is frozen together with the station.

How many times have I been to these far-flung, frost-covered and ocean-surrounded human habitats. The initial feelings were mixed and not totally clear. They began to form with time. I learned that during the course of a year, under the most difficult conditions, outstanding people worked here. The conditions under which they live correspond more to the Middle Ages than to the 20th Century. Cramped trailers with primitive bunks, sometimes two-tiered. Primitive comforts. No structural imagination - "barrack-style" architecture. No present-day materials - only boards, lanterns, nails and oakum. All of this clearly belongs to yesterday.

The real state of affairs is achingly familiar: of the several million rubles allocated for the organization and upkeep of each station, the lesser portion is left for human necessities. Yet there are no more than three such stations in our

Arctic. It would seem that they could be made sweeter. But no, we cannot. Not long ago, a group of Japanese tele-operators visited North Pole-31 for an entire month. Of course they liked a lot of things: the exoticism of the Central Arctic, the northern day, the sub-ice world, people with an unusual destiny. One would not see all of this anywhere else. But I am expressing their feelings for them, based on the conditions under which they live. They are shameful to both the country and the times. And it is time we spoke of this.

The last plane...what does it mean to them...to those 37 people who remain on the ocean's unsteady ice.

"It gives rise to complex emotions," the head of the station, Hero of Socialist Labour, Vasiliy Semenovich Sidrov, thoughtfully explains, a farewell bottle of champagne in one hand. "On the one hand, it is sadness of parting with the entire world. On the other, it is the joy of the work. The only thing that is left for us during the long months."

But the plane is already turning its propellers. The people who are staying behind stand in a tight group beside the deserted hut. They are quiet now, nothing gives away their emotions. And only when the engines, having attained take-off power, pluck the airplane from the ground, do they suddenly throw their arms up in the air. And I sense that at this instant it has become joyless for each and every one of them.

Vozdushniy Transport

13 June 1989

Page 4 (Slightly Abridged)

When the Ice Floe Broke Up

The first joint high-latitude expedition of rheologists, meteorologists and airmen in the Arctic has been completed.

The new take-off and landing strip was in service for a little longer than a week. Before the departure of the last heavy transport, a sixty ton An-12 airplane, the ice started to move and a "piece" of ice, the size of a football field, broke off from the airstrip.

"For two months the geophysicists were able to study a 50 kilometre long section along the meridional traverse between the Lomonosov rise and the Mendeleev uplift", the deputy head of the high latitude expedition, Mikhail Yur'evich Sorokin, told me.

During its drift the ice floe shifted 120 kilometres from the place where the investigators were first set down in March. During this time the ice camp was broken up five times.

Five times they re-located the tents, together with all of the stores, equipment, instruments, platforms, fuel tanks and radio station, and they ferried the technical machinery. The aerodrome was moved three times and the take-off and landing strip had to be constructed anew three times.

All of the planned studies in the "Trans-Arktika" program were carried out. At the beginning of the week the last workers from the expedition returned to Leningrad.

Izvestiya
19 May 1989
Page 4 (Abridged)

To the Pole - Without Outside Help

For the first time in the history of polar travel, the North Pole has been reached over land without using any means of transportation, including dogs, and without receiving supplies of fuel, equipment and provisions along the route.

The group encountered extremely difficult weather and ice conditions, that were unusual even for these regions of the Arctic. Despite this, the expedition carried out extensive scientific programs and assignments for several organizations: medical and biological investigations, observations on the nature conservation program of the State Committee on Nature of the Council of Ministers of the USSR, testing of new products manufactured in the Soviet Union (in particular, of new kinds of Arctic equipment), and of food for use in the high latitudes. The expedition's navigational equipment, radio communication, and cine- and photographic equipment all operated flawlessly.

Izvestiya

11 May 1989

Page 3 (Extract)

CONSTRUCTION

Speeding Up Construction of New Homes

The construction of housing is being carried out on a wide front in the cities and settlements of the West-Siberian oil and gas complex.

Tens of thousands of northerners have been furnishing their new homes during the years of the present five-year plan. But even more have this prospect ahead of them: the local soviets are increasing the rates of residential construction. It is firmly intended that every family in the oblast be provided with a separate apartment or house by the year 2000. The application of new technologies promotes the attainment of this goal. At the present time, for example, a 16-floor monolithic residential house is under construction in Tyumen'. In it are spacious apartments and kitchens, loggias and balconies. In all it is envisaged that several tens of such buildings will be erected.

Pravda

28 May 1989

Page 6 (full text)

Homes with Owners at Last!

The villages of Arkhangelsk oblast revive and renew themselves

It is quite obvious that without resolving the social problems in the villages it is impossible to achieve the main goal of returning the land to the owner. There can be no single prescription in this

situation. The March plenary session of the Central Committee emphasized that one should not expect to be prompted but should act, guided by peasant wisdom. Indeed, the nature of the different regions of the country is so specific and the traditions and habits of the people are so diverse as to preclude the possibility of proceeding in a uniform manner always and everywhere. It is necessary to select that particular variant, to find that golden mean, which is most appropriate to the local conditions.

Let us take, for example, the specific nature of our region, one of the most remote regions in the Arkhangelsk oblast. Both the regional center and all of the other villages are in the Arctic zone, in the Far North, where "one can only fly in by aeroplane". The territory has an area of 28 thousand square kilometres. The population is 15.5 thousand people. There is a complete absence of roads and of public electrical energy. There is no stable reception of television transmissions. Each populated point represents an autonomous territory. And the life of the people in these villages, in point of fact, is autonomous.

What would be the most effective pathway for resolving the social problems under such specific conditions? We can not count on the active assistance of industrial enterprises in the renaissance of our villages: the cities with their industrial might are too far away from us. Should the inhabitants of the village be brought together into the central buildings of the sovkhoses? Such attempts have been made, but right at the start they were found to be completely unsound. This meant not only disturbing the traditional way of life of the people, but also leaving ownerless land, fields and hay meadows, every hectare of which was won from the

bogs and the taiga by the incredible efforts of entire generations. It seems that the regional committee of the Party and the executive committee of the regional soviet, with the active participation of the community, reached the only valid conclusion, taking into consideration the limited nature of the capital investments, to direct the major part of the latter to resolving the social problems: to the construction in the villages of diesel power plants, schools, kindergartens, medical aid posts and clubs, i.e. everything that is required for normal life. We started with the introduction of a passport system for every inhabited point. In every settlement and village it was determined what, when and where to build. It was not at all simple to awaken interest in construction projects by individuals. However we understood that it is not an apartment in a sovkhos but only one's own house that can firmly bind a man to the earth and make him a true landowner. Both the regional committee of the party and the regional executive committee of the soviet have made sure, in the first instance, to create the most favourable conditions for each new individual building his own home. In the executive committees of the rural soviets and in the sovkhoses the consumers' cooperative society has established personal accounts in which is recorded everything that is needed by those wishing to start a home of their own.

It should also be stated that our trading establishments and the directors of our industries have begun to turn their face also towards the individual home builder. Not just in words but also in deed. In the last year, for example, to name one item, 280 thousand bricks were delivered, seven times more than previously. The branch of the Sberbank (savings bank) issued 140 thousand roubles of long-term loans. Incidentally, such loans are made

use of here only with reluctance; people prefer to build their houses with their own personal savings. In some places half of the expenses for the construction are assumed by the local industries or sovkhoses. Quite recently in the "Koinasskii" sovkhos a form of assistance to individual home builders was initiated, which is quite new to us: the sovkhos has taken onto itself not only the manufacture of the framework of the houses but also its assembly on prepared foundations. The building of the roof and the finishing work are up to the owner himself and are a matter of his taste. This form of assistance completely suits the individual home builders. This method is also convenient for the industry or the sovkhos. You see, the construction of only a single family house by means of state resources costs 41 thousand roubles. However, if the sovkhos will provide assistance of even up to two thousand roubles, then for this same sum 20 houses may be built.

Today the construction of individual housing is gaining more and more momentum in the region. While 53 houses were delivered during the preceding two years, during the present year construction is under way on 132 residential houses.

The expansion of individual construction already now allows considerably more of the state resources to be directed towards the erection of public buildings. During the last three years we have gained nine kindergartens, two hospitals and three medical aid posts ...

A start has been made on providing vital facilities in those villages that had been most neglected from the social aspect, based on the cooperation of the sovkhoses and the local

enterprises. The point here lies in that the latter will build homes, buildings for social, cultural and everyday use, storehouses for hay and other farm buildings in the villages of Nisogora, Smolenets, Chulosa and Bereznik, and in return they will obtain agricultural produce.

At the same time, however, new problems have also appeared here. I consider, for example, that, with our lack of roads and sparsely dispersed villages, it is an obligatory condition that each of them should have its own saw mill, while in the central buildings of the farms there should be a carpenter's shop, and we are now seeing that this is done. This will make it possible to adequately provide the rural inhabitants with the necessary building materials, and to keep them occupied during the winter period.

It goes without saying that this is not an easy thing, to build one's home in the Far North. Nevertheless, in our opinion, this is the most proper and reliable way for consolidating the cadres on the land, the way to revive the northern villages.

Stroitel'naya Gazeta

5 May 1989

Page 2 (full text)

Plants for Scrapping Ocean-Going Vessels

The recent established association "Primorryb-prom" the basin commercial fishery management associations "Sevryb," "Zapryb" and "Yugryb", and the American company "American General Resources"--in a joint Soviet-American venture called "Interscrap" ("Mezhdunarodnyy metall")--are planning

to build plants for scrapping written-off ocean-going vessels in Koz'mino Bay near the city of Nakhodka, and in the cities of Murmansk, Tallin and Novosibirsk.

According to the contract signed recently, the Soviet fishery management associations will build the factory wharves, slips and shops, as well as the various plant structures and buildings, while the American company will set up the construction equipment, modern plant production equipment, installations, compressors, large presses, etc.

The start of construction will begin this year in Koz'miro Bay on this country's first ecologically clean plant for scrapping written-off ocean-going vessels. All the production processes at the plant will be as mechanized as possible, allowing its 134 specialists to process 120,000 tonnes of scrap metal a year.

Vozdushniy Transport

30 April 1989

Page 2 (Slightly Abridged)

Under the Permafrost

Construction on permafrost hasn't been a novelty for a long time. But what about beneath the layer of ice, where it is always cold?

It turns out that this type of work is both feasible and effective for the national economy of the north. This has been proven by our experiments in Yakutiya -- experiments that have never been tried before anywhere in the world. Research into, and construction of underground reservoirs up to several thousand cubic metres in volume have been underway in

Yakutiya for some time now. And the local "Agropromproyekt" (Institute of Agro-industrial Design), "Yakutgiprovodkhoz" (Yakutsk State Institute for the Design and Planning of Hydroeconomic Construction) and other institutes are planning new underground reservoirs and so-called geocryogenic cold storage facilities, for the most part to serve the needs of agricultural regions. But why here of all places?

"There's nothing tying us to this place in particular," says P. Fedorov, Chief Engineer of Yakutgiprovodkhoz. "For now these reservoirs have found rural application, but nothing is preventing us from using them to serve the needs of industry. The underground reservoirs are designed for storing water, diesel fuel, gas condensates, and so on. All these things are extremely important for local farms. Potable water lies fairly deep here -- 300-400 metres and deeper. To supply farms with this water in winter is very difficult. This simplifies things in many ways. In summer the reservoirs are filled with water from natural basins. Bringing it back up is easy to automate."

"But the water can freeze."

"Not at all. The ice forms an envelope only around the reservoir chamber. This also keeps the water clean, by the way. This same water can be used to cool livestock products, such as milk. Specialists at the Yakutsk Institute of Geocryology have estimated that the use of natural cold would conserve over seven billion kilocalories of heat consumed in pastures in the Republic during the summer months. In addition, and this is important, everything that needs to be stored is excellently preserved underground and retains its qualities. We

know of a case here in which diesel fuel was kept in one of the reservoirs for fifteen years. The quality of the fuel, as analysis showed, had not deteriorated in the least."

"How do you build such unusual facilities? Permafrost is not the easiest medium to build in..."

"We use a hydraulic sluicing technique. In simple terms, it looks something like this. We drill two holes. Into one we pump water under pressure. Out of the other the frozen deposits come to the surface. And deposits of this kind (not rocky) are fairly plentiful here -- in the huge plains and in the floodplains of large rivers. And it is here, by the way, that the basic agricultural production of our northern Republic is concentrated.

Stroitel'naya Gazeta

4 May 1989

Page 1 (full text)

ENVIRONMENTAL ISSUES

The Ecological Journal

The trip by a group of journalists, together with workers from the Archangelsk District Committee on the Preservation of Nature, and members of the "Ecology of the North" Association along the expanse of the Northern Dvina, revealed that the ecological condition of the river is far from satisfactory.

The travellers saw cluttered shores and floating remains of oil products. One of the cheerful expedition members led the group to the Archangelsk petroleum base. A marine accident had occurred near the base, due to a lack of coordination in actions on the part of the crew of the vessel RT-246 and the commander of Barge 2330. The barge sustained a hole while at anchor and a large amount of diesel fuel poured into the river.

"We counted 11 potential sources of pollution along Archangelsk harbour," recounted V. Sadkov, a member of the "Ecology of the North" expedition. "The necessity to create an external department on the prevention of pollution by petroleum products has long since become urgent.

Vozdushniy Transport

8 June 1989

Page 4 (full text)

What Will Things be Like Then?

Murmansk Oblast. The main culprit responsible for environmental contamination in our city is the "Severonikel'" Iron and Steel Works,

which spews over 200,000 tonnes of sulphur dioxide and 16,000 tonnes of nickel and copper into our atmosphere and water basins each year. Many years of this massive assault on the environment have denuded nearby hills and killed the forests.

"Severonikel's" destructive pollution is spreading farther and farther, and destroying the animal and plant world. The concentration of contaminants on the surface of the soil has reached such a level that it has become dangerous to eat berries and mushrooms picked over an area of approximately 1,500 square kilometres. Medical studies have revealed a high level of occupational diseases among workers within the plant itself, and an increase in diseases among children.

To be fair, it should be stated that a broad program aimed at restoring the environment in the region around the city of Monchegorsk was recently approved. Implementation of the program requires resources, however, and there is no where to get them.

These circumstances have prodded authorities into setting up a fund for the protection of the environment, money which should mostly be taken from "guilty enterprises." Fines paid for damaging the environment will serve a dual purpose. They will provide resources for environmental protection work, and serve as an economic incentive to enterprises to build cleaning facilities -- the less they pollute, the less they pay. The managers of the plant and other industrial enterprises in the city, however, have unanimously decided that although the idea, of course, is a good one, they will not pay for it. Let the fund be created through voluntary donations from citizens, they say. No producer has yet been found who is willing to do his legal bit for environmental protection -- too expensive, they have declared.

This arrogant attitude towards the environment is a "tradition" for managers of "Severonikel". And even if the fact is made public, why should they be worried? The plant's former general manager, G. Yermakov, saved so much on environmental protection that an accident finally occurred. The damage to the environment was estimated at several million roubles.

And what happened to Mr. Yermakov? He was subsequently promoted and transferred to a managerial position in Moscow within the Ministry of Non-Ferrous Metallurgy. And the damage was covered not by him, but by the state treasury.

And while we're talking money ... Apparently Yerkov's successor was also a worthy inheritor of his traditions, established during the stagnant years. There are enough valuable metals in the tailings on the land belonging to the plant to finance the most grandiose environmental protection programs. But apparently the plant's present managers also believe that the environment is the responsibility of some other department. If they have to, they poison it, and then leave it to the residents of Murmansk to rescue at their own personal expense. Maybe they're preparing themselves for a promotion too? And who is going to upset this "tradition," the Ministry of Non-Ferrous Metallurgy, or Soviet power?

Trud
5 May 1989
(Slight abridged)

The "Tropics" of the North

A conference of northern countries on coordinating scientific research in the Arctic was held in Leningrad.

Discussing the problems of opening up the North are the general secretary of the organizational committee of the conference, associate member of the Soviet Academy of Sciences, V. Kotlyakov and an expert on problems of the non-Soviet North, vice-president of the Canada-USSR Association Society, doctor of geography, G. Agranat.

V. Kotlyakov: It seems to me that decades of a semi-official apathy have eroded our sense of geographic reality. We are indeed "living without feeling the country beneath our feet", without realizing how rich it is ... in cold. The North occupies half of the Soviet Union's territory - 11 million square kilometres, whereas the total area of the entire non-Soviet North, including Alaska, Iceland, Greenland, etc. amounts to only 9.5 million square kilometres. Two and a half million people live in the non-Soviet North while we have almost 11 million living in ours.

Where scientific knowledge is concerned, until recently we were acknowledged as being the leader in matters concerning the North. We had Canadians and Americans coming here to learn from us. But now they have taken the initiative in many areas and foreign interest in opening up the Northern expanses is growing rapidly.

G. Agranat: From an economic point of view the North presents two different faces. At first glance, it is very inexpensive. By universal national standards a

hectare of tundra or forest tundra "costs" not more than 10-100 roubles. But what is to be found there? Snout beetle nests, reindeer pastures, puny little trees. Maybe some cranberries. There is no production to speak of. By comparison, a hectare of Kursk chernozem costs 15-20 thousand roubles. Hence, penalties for destroying the nature of the North are very small. This noticeably lowers development costs. However, no one considers the damage being done to the biogeochemical equilibrium. The North, together with the tropical forests, acts as a pair of lungs for this planet. I am convinced that the system for determining the value of high-latitude regions must undergo a radical change in order that the value of these regions correspond to their role in sustaining life on Earth.

V. Kotlyakov: In the non-Soviet North there are some clear-cut laws: during the summer, heavy all-terrain vehicles can only use certain, well-defined routes; during seasonal migrations of reindeer and nesting periods of birds, specific districts are completely closed to traffic including that of low-flying planes; when laying down pipelines, the harm done to the environment of the North is taken into account, and right of way is determined to be two times narrower than it would be in a temperate zone. In 1984, we also had quite a good order issued by the Presidium of the Supreme Soviet of the USSR, dealing with intensifying nature conservation in the Far North. It unfortunately got lost in the bureaucratic maze.

I believe that what we need is a territorial, that is, geographical, basis for action, proceeding from a knowledge of the economics, people and nature of the North. For example, very large

territorial-industrial complexes, while effective in moderate latitudes, cannot, in principle, be justified in the North. Decentralization is needed.

G. Agranat: Following M.S. Gorbachev's Murmansk speech, the North is looking towards Moscow. Everyone understands that the key positions of the USSR are to be found here. They are waiting for us to open up the Northern sea route for world trade - with great profit for the Soviet Union of course. Ways of exchanging scientific information are being discussed. Without this, both Soviet and world science is hindered. Great changes are drawing near in world policies regarding the North. An age of resource conservation is upon us and at the same time, prices for resources from free territories and an ecologically clean environment are going up sharply.

V. Kotlyakov: I would state my position in the following way. The global role of the North is changing before our very eyes. At the same time there is the growing threat of losing this last ecological and territorial reserve forever. We are in need of a new concept vis-à-vis the use of Northern lands. Until such a concept does come into existence, it would be better to concentrate on revitalizing the Center, the non-chernozem, while keeping bureaucratic activity in the North at a moderate level. No doubt such an approach will provide objections from many of the Ministers. For them the North represents one of the last possibilities for billion-dollar investments and new mega-constructions.

A broader perspective is needed here, however. A foundation must be prepared for coping with progress, roads and housing must be built,

comprehensive scientific research must be developed. The revival of the universally-respected school of Soviet studies of the North is long overdue. We are the world leaders where the opening up of the North is concerned and it is not fitting for us to proceed haphazardly.

Pravda

9 May 1989

Page 3 (full text)

SOCIOLOGICAL ISSUES

Why is it Cold in Dikson?

Recently it has become acceptable to write about Dikson in exceptionally rosy terms. To talk about the romance, about the people with interesting professions, and of course about the polar bears. And one involuntarily forgets the fact that four thousand such citizens live here, people like you and me. People whose needs and wants differ little from those residing in the usual cities of the mainland. But is it enough to worry about them? Is a tolerable climate created here for human existence, a climate that makes life easier for people in the Arctic climate?

Today in the Arctic one can frequently hear regrets about the fact that at some point the Chief Directorate of the Northern Sea Route was dissolved - the only authority over not just Dikson but over the entire Soviet north. "Sevmorput" brought lodgings, polar aviation, research stations on islands, hospitals, building organizations, ships, trade enterprises, and more.

Now this vast region feels the full force of bureaucratic disconnection. Here the interests of a few dozen Ministers and bureaucrats collide. Administratively, Dikson belongs to Krasnoyarsk territory, but most of its businesses belong to Murmansk, Leningrad and Moscow. It follows that there are numerous problems and difficulties.

For example, the cold of the past years again brought home to the residents the fact that they live on the coast of the Arctic Ocean. Often in the settlement an emergency situation arises with the

supply of heat to residences and industrial buildings. Breakdowns occur on a daily basis in the boiler plant of the naval port. And this started over five years ago, when the first interruptions in heating services began. It is true that the Diksonites were able to convert one of the boilers from coal to oil; this temporarily solved the urgency of the problem, but the situation is aggravated by the fact that the boiler cannot be completely shut down. The heating season in these parts runs the entire 365 days of the year.

The difficulties with heating remain. It is futile work to repair the old holes and call it reconstruction. Dikson urgently needs a new, contemporary boiler, designed for the long-term development of the settlement.

The homes in Dikson have all the conveniences. Nevertheless, on the streets one often sees vehicles delivering water. People cart the water to their apartments in pails - some on the fifth floor, some on the second. The ocean is next door but there is a "drought" in the settlement. Towards summer the water in the dug-out reservoir runs dry and residents must wait for July - when the snow begins to melt. But the snow is from the sea and naturally it is salty. The colour reminds one of the coffee prepared in the settlement's cafeteria. The doctors do not recommend using this water. There is still no modern cleaning installation. A large amount of waste materials flows directly into the Kara sea.

Most of Dikson's problems are characteristic of the entire Arctic, i.e. caused by a lack of concern for the people. Firstly, there is an acute shortage of comfortable apartments. In the aviation

business alone, out of 500 workers, one-third are on a waiting list for living quarters. The only hospital in the settlement belongs to Murmansk Naval Shipping and for some time now the hospital has not responded to contemporary requirements: it serves the entire settlement and is financed only by sailors.

The question of questions is leisure time. There are simply no leisure facilities in Dikson. The Old House of Culture was used to its limit, and there are no plans for a new one in the immediate future. And it will again be the sailors who build it. Does the rest of the population not require leisure time? Two sports halls have long since ceased to meet the needs of the settlement. There are no swimming pools, no sports complexes, no regular hockey rink, etc.

Recently we hear the invitation to "come face the Arctic." Here we now have nuclear-powered ice-breakers, satellite channel connections, powerful naval vessels ... and yet, in relation to the inhabitants of high latitudes progress had been halted. I remember how, a few years ago, the captain of the ship "Monchegorsk," A. Mayatskiy, showed me his album containing photos of the northern settlements of Norway, Finland and Canada. They looked like Christmas cards! It was as if their -40°C is much warmer than ours.

But maybe the matter is in the warmth of relationships. This is why northerners are waiting, not for a change in the weather, but for a rise in temperature in the social climate on the peninsula.

Stroitel'naya Gazeta

4 June 1989

Page 3 (full text)

TRANSPORT AIR

Land Frozen to Provide Airstrip

It was the former commander of Turinsk Airlines, Oleg Krivonos, who first began "pushing" the idea. He maintained that an earth airstrip wasn't needed. It would mean a lot of earthwork, and it would be expensive. We need an ice runway! What's the problem?

Near the Evenkiya settlement of Chirinda, the "Yeniseyneftegazgeologiya" Geological Production Association's Tuvinskiy team is prospecting for oil and gas. A decision was made to set up a drilling rig. But to do that around 1,500 tonnes of cargo had to be brought in. But how, if there are no normal access roads? The only other way is by air. And that's how the problem of constructing an airstrip arose.

The request of the Krasnoyarsk aviators was answered by the "Lenaeroprojekt" Institute and local scientists, who sent their specialists to the Chirinda Lake region. They arrived at the end of November, and on 24 March an IL-76 with 30 tonnes of cargo on board made the first landing on the ice airstrip.

Specialists used a new method of artificial hail-formation for the first time. Using special machines they pumped water from the bottom of the lake and "shot" it into the cold air. It's a good thing there were no fowl in the lake. This was kept up until there was no water left --- just a solid 1.5 million m³ block of ice.

Now the main task facing the "Yeniseyneftegazgeologiya" Geological Production Association is to move all the equipment into the Chirinda region.

Pravda

25 April 1989

Page 3 (Slightly abridged)

A new Route Anadyr'/Palana

One of the paradoxes of our centralized system is that ties between neighbouring regions are weak and sometimes completely non-existent. Sometimes it is easier to get from one region to another through Moscow than through the main cities of those regions. At the same time, more often than not the need for direct communication between them is great. One example of this is an agreement signed recently in Anadyr' between the aviators of Chukotka and Kamchatka that establishes an air route between Anadyr' and Palana -- the centres of Chukotskiy and Koryakskiy autonomous regions.

The pilots from Kamchatka have undertaken to serve the route, and a YaK-40 will link the two regional centres. Appropriate departments within the enterprises involved are currently working out fares and schedules. Flights will begin in a month.

Vozdushniy Transport

30 April 1989

Page 3 (Full text)

TRANSPORT LAND

According to the Laws of the Taiga ...

The statistics of the Tyumen State Automobile Inspection resemble reports from the Front during the days of heavy battles. Judge for yourselves: in the past year 622 people died in the oblast in traffic accidents on the roads, four and half thousand were injured. Nor has the beginning of the present year inspired any hope.

"Recently it has become terrifying to buy a ticket on a bus or to sit behind the steering wheel," write the workers of "Nizhnevartovskneftegaz" ("Nizhnevartovske Oil and Gas") corporation to the Tyumen correspondence centre of "Pravda". "When will order be brought to the roads, and where is the GAI (State Automobile Inspection) looking?"

These questions I also addressed to the head of the Tyumen State Automobile Inspection, G. Smirnov.

"I too fully share the anxiety of the residents of the oblast," answered Herman Borisovich. "Of course, the growth in accidents on the roads does not enhance our record, but is it right to blame only the inspectors of the GAI for all the troubles?"

Who or what is responsible for the loss of life?

Statistics provide the evidence: the greatest number of accidents occur in the zone of the major industries of the West-Siberian oil and gas complex, in the Nizhnevartovskoy, Surgut, Nefteyugan and neighbouring regions. On the so-called

departmental roads. These span about 12 thousand kilometres. They belong mainly to oil-producers, gas-producers and geologists.

The roads were constructed as a temporary measure and for use within the industry. Their width is 6 metres, but according to the standards governing the transportation of people and freight, the width should be no less than 8 metres.

In the summer of 1982 the average number of vehicles on the most heavily loaded sections of the Samotlorskii field comprised a thousand automobiles. At the present time the average is close to 10 thousand. It is not just that such growth was not predicted earlier, but even now nobody has the time to concern himself with rebuilding the roads.

On the other hand, under pressure from the management of the industrial regions, the Minnefteprom (Ministry of the Petroleum Industry) has hastened to transfer more than 700 kilometres of departmental technological roads to the Minavtodor (Ministry of Automobile Roads) for permanent exploitation. And the Minavtotrans (Ministry of Automobile Transport) has opened up a regular bus service along these incomplete "highways".

One did not have to wait long for the results of this haste. In only three recent bus accidents 20 people died and 50 were injured.

The subdivisions of the "Tyumen'avtodor" (Tyumen Highway Authority) are clearly not carrying out their responsibilities. Not only are the former departmental routes of the oil producers in a deplorable state, but so also are the old Siberian automobiles highways, such as the Tyumen-Tobol'sk and

Tyumen-Ishim roads. Here you will find no highway marker-lines, resulting in the risk of driving on to the collapsed and deteriorated shoulder. Directional information signs have not been set up everywhere. The question of the construction of rest-stops for the drivers has not been resolved.

A segment that has been forgotten by all, in the huge network of roads in the West-Siberian oil and gas complex, comprises the winter roads. Along these roads tens of thousands of tons of important freight are delivered to remote industries and geological parties. The total span of the winter roads is about 20 thousand kilometres. And these gigantic transport arteries are controlled neither by the GAI nor by the executive committees of the Soviets; they exist, as it is said, according to the laws of the taiga and they contribute their own not inconsiderable "percentage" to the accident statistics.

The question of setting up a patrol service for departmental winter roads has been under discussion for several years. Moreover, the Glavtyumen'neftegaz (Main Tyumen Administration of the Oil and Gas Industry), the Glavtyumen'gazprom ((Main Tyumen Administration of the Gas Industry), the Glavtyumen'geologiya (Main Tyumen Geological Exploration Administration) and other departments are prepared to help share the cost of such a service. However the Ministry of Internal Affairs of the USSR and the Ministry of Finance of the RSFSR can not come to a final understanding among themselves. With its modest local resources, the GAI is in no condition to assume responsibility for such huge sections of the road.

The executive committee of the local soviets have been called upon to be the coordinators in resolving the problems of the roads. In each of these Soviets special traffic-safety commissions have been established and, according to reports, "are actively operating". In the meantime, the road transportation situation continues to get worse. Where is the demand and the concern of the executive committee of the Oblast Soviet of national deputies? Is it possible that this body is counting on the laws of the taiga?

Pravda

22 May 1989

Page 2 (Abridged)

TRANSPORT WATER

Down the Big River

Irtysk steamship navigation transport workers opened navigation in Omsk on the eve of May Day. The honorary right to raise this year's navigation pennant was awarded to L. Sokolov, USSR State Prize laureate and captain/mechanic of the towboat OT-2024, A. Likhachev, captain of the tanker TN-673, and V. Gonin, captain of the dredger "Portovyy-5".

The crews of the tanker "Lenaneft-2023" and Gri-goriy Usiyevich" have set off on their first trip down the Irtysk, and delivered the first shiploads of oil products to the workers of Sargatskiy and Bol'sherechenskiy Rayons.

Six "belomorki" (ships of a class presumably named after the White Seal (Canal)) are heading for Pavlodar for gravel and crushed stone. Grain and coal are being shipped on the Omsk-Cherlak route. By the end of April the wharves at the northern ports of Tara and Ust'-Ishim had also begun working.

During the coming navigation season, Irtysk river transport workers must ship more than 19 million tonnes of various national economic cargo, as well as almost one and a half million passengers and tourists. The basin's longshoremen also have some difficult tasks ahead of them. Success will be guaranteed if all the links in the transport chain remain disciplined, and the new methods of economic management are improved.

Vodnyi Transport

30 April 1989

Page 1 (Slightly abridged)

Ships Have Started Plying the Yenisey

Krasnoyarsk. Navigation on the Yenisey River has begun a week earlier than usual. Scores of ships -- passengers, cargo tugs -- have begun plying the traditional routes on this Siberian river. Their crews are already supplying the enterprises of Krasnoyarsk Kray with badly needed cargo. The first barges carrying roundwood have been towed from their moorings at the Pridivinskiy Timber Industry Enterprise to the Krasnoyarsk Pulp and Paper Plant, where the reserves of raw material have long since been depleted. Shipment of rafts from riverside timber industry enterprises to the woodworking enterprises of Lesosibirsk began almost at the same time. And since the second half of April, river transport workers have also begun transporting tie and lumber products to the Krasnoyarsk Lumber Transshipment Complex.

"The beginning of spring was very warm on the Yenisey," noted V. Rukosuyev, the director of Yenisey steamship navigation traffic and transport services. "We have put a large part of the fleet into operation, and exceeded our plan for April. We shipped 1.2 million tonnes of national economic cargo and earned a profit of almost 2.9 million roubles. Ships' crews and longshoremen quickly began preparing cargo for delivery up the tributaries of the Yenisey; based on forecasts, they assumed the smaller rivers would open up earlier too. But unfortunately the forecasts were not accurate. The cold weather arrived again, along with snow and frosts. To avoid lost time, we had to change our tactics quickly, and now we are actively loading diesel ships for delivery of cargo to the Bol'shoy Pit, Podkammenaya Tunguska and Vel'mo Rivers."

In the steamship navigation control room we were told that all the sovkhozes situated on the banks of the Yenisey, and all riverside timber industry enterprises are fully supplied with bulk oil. And that means that the commencement of field work and the unloading of roundwood will not be delayed. More than 120,000 tonnes have already been shipped, by the way. Extraction and shipping of mineral and building materials for the enterprises of Krasnoyarsk Kray are going well. The collectives at the posts of Krasnoyarsk, Lesosibirsk and Abakan, which have already unloaded more than 1,100,000 tonnes of cargo, have actively involved themselves in work.

Yenisey river transport workers still have much to do in May. Around three million tonnes of cargo must be transported. The above-mentioned programs will make it possible to earn a profit of more than six million roubles.

Vodnyi Transport

7 May 1989

Page 1 (Full text)

Time for a Decision

An article entitled "At the Limit", which appeared in the newspaper "Water Transport" on 16 August of last year, aroused an enormous amount of interest among the Lena River transport workers, and understandably so, since the issue raised by the newspaper is a highly urgent one, having to do not only with marine passenger transport but equally, if not more so, with the country's inland water transport.

For quite some time, problems concerning passenger transport by water were customarily dealt with only after yet another tragic incident. Following such an occurrence, all sorts of resolutions and formidable orders would immediately be issued, and committees would be sent out from the "centre" to investigate. Numerous consultations and meetings would be held, and generally quite good measures would be mapped out, but then the fuss would die down and we fearfully waited for a new incident to occur... It was clear that the half measures being taken from time to time would never solve the ever-increasing problems with passenger transport by water. And I agree with the newspaper, which holds that we cannot manage without active assistance on the part of the government.

The Lena United Steamship Line, just as the Black Sea sailors, has entered into a period where the increased need for passenger transportation is completely disproportional to the availability of ships. This is most evident on the Osetrovo-Yakutsk Line, where a mere three passenger ships, built in 1958, work a 2,000 kilometre stretch. Over the past few years however, a great increase in the flow of passengers has been observed. From mid-June until the end of August the ships are 120-150% full. Frankly, it's embarrassing to look people in the eye when children and elderly persons are forced to travel on the decks and promenades for six to seven days. And they don't do it because they were lured here by some romantic travel notion; their situation is desperate since, aside from water transport, there are no other forms of transportation in the Lena River Basin.

An even more depressing state of affairs can be found on the Yakutsk-Tiksi stretch, where a

1,700 kilometre line is serviced by ... only one model 646 passenger ship, built in 1952, and known as the "granddaddy of the Russian fleet."

What is the reason for this? At one time, when working out a program for providing steamship lines with a modern passenger fleet, officials at the Ministry of Inland Water Transport of the RSFSR did not get around to considering the shallow river basins of the west. As a result, ships were designed with so-called "depths" in mind. The Lena River Basin, however, is very limited with respect to large passenger ships because of the size of its waterway: some years water depths in the middle of the Lena fall as low as 170 centimetres. In addition to this, it must be noted that we cannot afford a modern fleet. For example, the passenger ship "Dem'yan Bednyi", obtained by the steamship-line three years ago, is 45 times as expensive as a model 737 passenger ship. This is indeed a "golden" ship!

The problem of replacing the large-capacity passenger fleet on the Lena River was raised at the highest levels more than once, yet it remains unsolved to this day. There is no shallow, large-capacity fleet to be found in this country, nor is one being built. True, the Passenger Transport Laboratory at the Gor'kiy Institute of Water Transportation Engineers came up with a design for a shallow vessel, but once again, this was a tourist class ship, whereas vessels are needed here for the development of a regular passenger service in a region having no other transportation network! Furthermore, according to preliminary estimates, the new ship will cost from 6 to 10 million roubles.

It must be noted that there has lately been a significant increase in the cost of all types of

fleets. This may be explained, in part, by increasingly expensive materials and machinery. This, however, only partially accounts for the increase, while the designers, who literally "tie up" the project with artful designs calling for expensive equipment, must bear responsibility for the increase in the cost of ships. This is particularly evident in the large-capacity passenger fleet. The Leningrad Central Technical Design Office of the Ministry of Inland Water Transport has exclusive rights for designing large-capacity passenger ships. So what happens? Even if we were to look at the "Dem'yan Bednyi" once more, for all of its outward splendor, its speed of 20 kilometres per hour leaves something to be desired. Instead, it is equipped with automatic doors in its salon and corridors while lacking living quarters for the crew and storage space for bed linens.

Nor can we leave untouched the problem of replacing the high-speed fleet. The passenger lines in our Lena, Kolyma, Yana and Indigirka River Basins cover more than 34 thousand kilometres, but 90% of the more than 320 stops do not have special moorings. The Lena-Steamship Line clearly needs ships which can travel at high speeds and which are also capable of mooring at shores lacking the proper facilities. However, the Ministry of Inland Water Transport does not possess such vessels. The air cushion motor ship "Luch", in our estimation, is not capable of working under the conditions found in the Lena River Basin. So, what does this leave? Of all the ships being built today, the most suitable is a motor vessel equipped with hydrofoils, of the same type as the "Poles'e", constructed by the Gomel' shipyard, but even that ship requires special moorings. Once again we have been done out of our fair share. It is obvious that in order to even try

to bridge the gap between the availability of a high-speed fleet and the requirements for passenger transportation, we would have to receive 3-4 "Poles'e" motor vessels a year, for the next two to three years. The Ministry of Inland Water Transport, however, coolly rejects all of our requests, pointing out the limited production of these vessels. For this reason, we are once again, through our newspaper, earnestly requesting that the Ministry reexamine its fleet supplying program taking our needs into consideration.

Vodnyi Transport

13 May 1989

(Full text)

On the Northern Route

Arriving in the roadstead of the Murmansk seaport was the second-to-last convoy of ships comprised of the "Kandalaksha" and "Kapitan Danilkin" motor ships, escorted by the nuclear ice-breaker "Rossiya". They delivered their usual cargo of products from the Norik'sk mining and smelting plant.

Along the Northern sea route connecting Murmansk and Dudinka the short spring "break" is drawing near. The reason for this is the approaching flood on the Yenisei. With the ice-cover now broken up, the mighty Siberian river will flood a vast territory in its lower reaches, including the moorings in the port of Dudinka. For this reason the Yenisei dockers are hurrying to unload the Murmansk ships which are moored there, including the motor ships "Kola", "Norik'sk", "Tiski" and others. Hundreds of containers filled with cargo and metal structures have to be removed from the moored

vessels, gantry-cranes have to be moved to a safe location and railway and crane tracks must be covered with slabs of reinforced concrete in order to prevent their being destroyed by the flood. The last convoy is scheduled to leave Dudinka on 20 May unless the ice on the Yenisei breaks up sooner.

The summer navigation season has begun on the White Sea route. The dockers at the Kandalaksh commercial sea port received the first motor ship of the "river-sea" class, the "Volgo-Balt-15", which delivered a cargo of coal to the port.

Pravda

16 May 1989

Page 6 (full text)

The Ship Convoys have Left

It took the icebreaker "Moskva" four days to clear a channel for the motor ship "Vasilii Burkhanov" through a 180-mile stretch of ten-point ice. On board the ship were hundreds of heavy containers of cement for northern construction projects.

Following the first convoy of ships, the diesel ship "Vasilii Golovnin" broke through the ice and approached the port's mooring ropes in the morning. Thus began, two weeks earlier than last year, the operations of the transoceanic container line, linking "Vladivostok, Vanino and Nakhodka with ports in the eastern part of the Chukchi Peninsula.

The express delivery by Far Eastern seamen was quickly unloaded by local longshoremen. The

Egvekinot dockers had already done a full day's work unloading the containers by the end of the first night shift.

Sovetskaya Rossiya

12 May 1989

Page 1 (Full text)

The First Voyage to the Arctic

Yesterday the motor ship "Taiganos" which is equipped to travel through ice, left on a voyage to the Arctic coast of the Chukchi Peninsula carrying construction materials, prefabricated residential and commercial buildings and various equipment.

The navigation season in the Arctic is fixed - BAM (The Baikal-Amur Line), as the gateway to the sea - the port on the coast of the Tatar Strait - is called, is only open until September. During that period, more than 100 thousand tons of cargo must be sent to Pevek, Tiksi, Cape Smith and other points along the coast of the northern Arctic Ocean.

Pravda

25 May 1989

Page 1 (Full text)

Navigation in the North

The motor ship "Shadrinsk", accompanied by the ice-breaker "Magadan" has arrived at Beringovskii. Here it took on board five thousand tons of coal, produced by the local miners. The fuel is intended for coastal settlements.

Navigation has also commenced on a major river highway in the North-East of the country, on the Lena. In the port of Lensk the motor ships "Kurgan", "Biisk" and "Pevek" were being unloaded, having delivered for the northerners about 70 thousand tons of provisions, building materials and various kinds of machinery.

Sotsialisticheskaya

Industriya

24 May 1989

Page 4 (Abridged)

MISCELLANEOUS

Reikh's Flag at the North Pole

Moscow, 10 May. The flag of the Russia painter Nikolay Konstantinovich Rerikh, symbolizing the painter's call to the nations of the planet: "Peace Through Culture," was placed in the centre of the North Pole where it flapped in the wind. And thus ended the skiing expedition, fraught with difficulties, that had left Shmidt Island (Severnaya Zemlya Archipelago) on 4 March.

In difficult weather and ice conditions, fully self-sufficient, using only the food and fuel they could take with them, a handful of daredevils skied approximately one thousand kilometres and set a new record for the history books of Arctic conquest. Though spring was approaching in the Arctic, temperatures at times dropped to minus 45°C. Blizzards, crevasses, hummocks, frequent ice movements, strong drifting headwinds -- all this strained the resources of the expedition to the utmost.

"The progress of the expedition was very stressful and even dramatic," Vladimir Churakov, staff leader of the expedition, explained to our TASS correspondent. "Unpleasant as it is to say, I must report that in the final stages of the expedition, tragedy occurred. One of the members of the expedition, Aleksandr Rybakov, an experienced adventurer, who had participated in northern expeditions on many occasions, died. According to preliminary medical reports, the cause of death was lung and heart insufficiency.

"I must emphasize again the great stress that expedition members endured. Already during the first stage of the journey we decided to send back two of our members and an individual who was accompanying us, for whom the extreme cold and physical stress had been too much. Suffice to say that at the beginning of the journey each member of the expedition was responsible for carrying a load of almost 80 kg. I should also note that expedition members did not have even a single day of rest during the entire journey but moved continuously towards their goal.

As planned, for almost two months the expedition received no assistance from outside -- no fuel, supplies, or food. Never before in the annals of history has there been such an expedition. Was it all merely for the sake of adventure? Apparently only partly. The expedition performed tasks and scientific work for a number of organizations -- medical and biological research, as well as observations for Goskompriroda (USSR State Committee on the Environment). Experimental models of new primus stoves produced by the Orgeyevskiy Machine-Building Factory, quartz wrist watches manufactured by the "Zarya" Research and Production Association in Penzenskiy, domestic cine and still cameras, and new types of Arctic equipment, were tested, and food rations for high latitudes were developed.

Apart from sport and scientific goals, the expedition, organized by the Moscow branch of the Geographical Society of the USSR Academy of Sciences and the weekly Ekonomicheskaya gazeta, also had peace-making intentions. This too was what motivated the "Arktika" expedition to take the flag of our famous painter and fellow-countryman with it to the

North Pole. This symbol of good will, which is kept in New York's Rerikh Museum, was given to the adventurers before the expedition began by representatives of the Nikolay Konstantinovich Heritage Committee in Moscow.

Ekonomicheskaya Gazeta
May 1989
Page 24 (full text)

Fires in the Taiga

Major forest fires have destroyed a significant area of the Tuva Taiga. The dry, hot weather that has set in here is serving to fuel this natural disaster. The area of smouldering ruins is already estimated to be thousands of hectares. The government reserve "Azas" has been ablaze for several consecutive days.

Despite the preventive measures that have been adopted here recently, the damage caused by fire continues to increase. An urgent session of the Council of Ministers of the Tuva ASSR acknowledged that many of the serious consequences could have been avoided. Unfortunately, effective measures to contain the fires were not taken in time.

Gudok
1 June 1989
Page 3 (Full Text)

Beverages ... From Horns

Who has never felt tired after a heavy shift, especially in the north?

"One glass of this tonic, made from reindeer antlers, and fatigue melts away," assures us N. Osintsev, candidate of biological sciences and head of the laboratory for antler studies at the Scientific Research Institute of Agriculture of the Far North. A tasting of the unusual non-alcoholic beverage was held not long ago. The drink is intended primarily for the metallurgists and miners of Noril'sk.

Sotsialisticheskaya
Industriya

7 May 1989

Page 2 (Full Text)

A Reagent from Waste

A new product, an emulsifier for the treatment of drilling and mud, has been developed by a collective of the "Azot" (translation "Nitrogen") industrial corporation in Cherepovets. The first batch have been sent to oil producers in the Tyumen oblast. This valuable chemical reagent was developed from industrial waste.

Sotsialisticheskaya
Industriya

14 May 1989

Page 2 (Full Text)



LIBRARY E A / BIBLIOTHÈQUE A E



3 5036 01029276 4

