

# Expedition report of the mapping expedition Tianschan 2002

(2 August – 13 September 2002)



"Therefore the First purpose of the enterprise was scientific work. Only so is it probably explainable that somebody owes the most delicious content of its life days to the mountain sport, the enthusiastic dedication to the alpinism, departed not without ulterior motive, its love to the mountains also on a new field by measurement of the old-trained force in never from human foot embarrassed, never before from human eyes seen summits, as well as to open a scope of work unknown up to now, if at all possibly, by new victories for the alpinism and to take home detailed knowledge of it."  
(Der Tien-Shan oder das Himmelsgebirge, Dr. Gottfried Merzbacher, 1906)

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*Dresden (Germany), July 2003*

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## **1. Foreword**

*(by Sebastian Wolf)*

The mapping expedition Tienschan in 2002 was part of an official project from the Institute of Cartography of the Dresden University of Technology, with the aim of the production of a new mountain climber and trekking map of the central Tienschan in the scale 1: 100 000. Like everywhere in the former Soviet Union only the maps in the scale 1: 200 000 are officially available, all others are defeated by the severest military secrecy and are not accessible for the public. However, the demand for accurate maps, above all for mountain climber and hiker, has increased during the last years enormously, more and more people travel to the country.

Project manager was Professor Dr. Manfred Buchroithner who holds the chair of cartography in this institute. Around this first western mapping expedition to Kyrgyzstan, in a border region to China, had to be approved quite difficult negotiations, which project manager Prof. Buchroithner did before the expedition. The expedition covered the majority of the data acquisition for the new map, satellite pictures and aerial photographs are another source.

I myself came to my assistance in the project by previous surveys and mappings, as well as by a bit of coincidence. As a geography student at the Dresden University of Technology I study cartography as a minor subject, however, the project itself had to do nothing with my study and was accordingly voluntary. Same applied to all other participants, it was more working within an interesting project than earning money - finally it has cost us even money ..... From the Institute were not available nay money for the expedition apart of some copies and urgently necessary telephone calls, we had so to speak almost an zero budget. We could execute various large-size color copies of old maps only about different private connections free of charge. Without this it would have been much more difficult, if not even been impossible.

Only our expenses in the country were covered mainly by the project partner Tien Shan Travel (the biggest travel agency of Kyrgyzstan). All other expenses (flights, visas, outdoor food etc) had to be paid by the participants, including me of course.

In my function as organizer and expedition leader I was responsible for the complete logistics and execution of the expedition. This means only the pure data acquisition in the ground - not the map production. Main point of the mapping were infrastructure (streets, ways, buildings, camps etc), trekking routes and alpine routes. The quality of the map should correspond to the standard of an German Alpine Club (DAV) map. There is also the idea to publish the map with the German Alpine Club, however, this is not fixed yet on account of already other running map productions (Ojos del Salado, Chile) of the Institute for the DAV.






After organization and administration of the Dachstein cave-expedition in 2001 and the participation in the Mapping expedition in Chile in Feb./March, 2002 this project was the next big challenge for me. It is beautiful if one can connect hobby and science with each other, not everybody has the possibility for it.


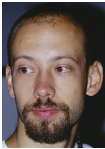









## 2. Participants

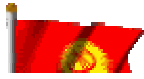
### Expedition team



Sebastian Wolf	logistic administration and expedition leader, leader of the "height team", geography-student from Dresden	
Axel Grußer	deputy expedition leader, "height team", "survivor" from Dresden	
Günther Prasicek	team leader, geography student from Vienna (Austria)	
Robert Koschitzki	team leader, economic engineering-student from Dresden	
Paul Saß	"height team", physics-student from Dresden	

Markus Kautz	"height team", geography-student from Dresden	
Thomas Becker	"team Robert", geography-student from Dresden	
Anja Maatz	"team Robert", does FÖJ (Free ecological year)	
Claudia Gedrange	"team Robert", cartography-student from Dresden	
Andreas Bergemann	"team Günther", teaching student of geography and mathematics from Dresden	
Mareike Eberlein	"team Günther", geography-student from Dresden	
Richard Binner	"team Günther", geography-student from Dresden	
Stephan Schön	Leading editor for science / college with the Saxony Newspaper in Dresden	
Prof. Dr. Manfred Buchroithner	Project manager, Professor at the Institute of Cartography of the Dresden University of Technology (did not take part in the field work)	

### 3. Mapping area



Kyrgyzstan belonged till 1991 to the Soviet Union and became independent only this year. With approx. 4,8 million people on 200 000 km<sup>2</sup> the country is settled relatively thinly, only 15% of the surface of the country is situated lower than 1500m, approximately one third higher than 3000m. Approximately 6800 square kilometres are glaciated. Kyrgyzstan is a country strongly characterised by high mountains.

The Tienschan ("celestial mountains"; designation comes from the Chinese) mountains consists of several chains in Central Asia which to itself are extended more than 2500 kilometres from west to east. The westernmost spurs of the chains reach to Tashkent (capital of Uzbekistan), the most eastern till the border of the desert Gobi in China. The north-south expansion amounts to only approx. 300 km. Strongly glaciated Combs of the Tienschan feed numerous big rivers of Central Asia but no drop of this water ever reaches the ocean.



The highest summits are the Pik Pobeda ("victory top"; northernmost 7000 meter peak on earth) with 7439m and the Khan Tengri ("ruler of the sky") with 6995m. Both are in the central Tienschan which belongs mainly to the republic of Kyrgyzstan and is situated in the east on the border to Kazakhstan + China. This part is situated southeast of the Issykkul lake ("warm lake"; name is caused by thermal activities), which belongs with a height of 1624m, a width of 50 km, a length of almost 200 km and a depth up to 700m to one the world-biggest mountain lakes.

The scope of work enclosed mainly the complete, almost 100 km long Engelschek-valley with its big glacier, as well as directly northerly and southerly of it situated valleys.



#### **4. Preparations**

The preparations for the expedition have begun in November 2001, however, the main part has taken place from April 2002. Main partner in the country was Vladimir Birukov, the chief of Tien Shan Travel for us. His daughter speaks very well English and translated everything for him, so that almost everything was organised by E-mail and also by a meeting of him with Axel Grusser on the ITB (International Tourism Exchange), which took place in March 2002 in Berlin.



## **5. Working principle of the mapping**

It was a purely thematic mapping that was based on the old Russian 200 000th maps. In increased copies was put down the (to 1: 75 000) information collected in the ground. Farther we used hand-receiver GPS for the determining position. With the mapping were mainly the infrastructure (roads, camps, buildings etc) as well as climbing and trekking routes. Besides, important information was collected to icefalls and



crevasses on the glaciers, because these are partly absent in the existing maps either completely (above all the ice breaks); are wrong or not existing there any more (above all crevasses). Native mountain climbers and mountain guides represented another important source of information. They know the area like no other person and we purely couldn't map every valley itself during the expedition.



Main requirement for the mapping work is weather with a good visibility. On account of the typically unstable and bad weather in the Tienschan this point was so from the start our potential main problem. But we had quite a bit of luck, there had not been a summer with such stable weather like in August 2002 for years.



To covers the approximately 100 x 60 square kilometres area for the new map with heights from 2500 to 7440 meters we worked in 3 teams with 4 people each. Two teams worked mainly in the non-glacier areas, the third team in the glacier regions till heights more than 6000 meters.

## **6. Expedition course**

*(main point on height team; chronologically - not entirely)*

02/08	journey via Berlin and Moscow to Kyrgystan
03/08	2.30 o'clock at night arrival in Bishkek (Kyrgyzstan); transportation to the base camp Maida Adyr (2600m)
04 - 06/08	mapping exercises, acclimatization trips, ascent of the Pik Akklimatisator (4087m), departure team Robert to the first big mapping tour
07/08	height team flies to the glacier camp (4100m), team Günther starts to Merzbacher meadow
8/8 - 11/8	height team maps all around glacier camp and does acclimatization trips; far trip to Dikkipass (5111m) as well as summit above that point (5264m) and mapping of the asterisk glacier
12/ - 14/08	height team maps the main valley up to Merzbacher meadow and meets there team Günther
15/08	common trip of both teams from the Merzbacher meadow to the Merzbacher lake; team Robert back in Maida Adyr
16/08	team Günther starts again to Maida Adyr, height team to glacier camp
17/08	height team mounts Pik Becherovka (4905m), likely first ascent
18/09	return of the height team in the glacier camp; team Günther back in Maida Adyr
19/09	day of rest for the height team; team Robert starts again too other mapping to the south of the Engelschek-valley
20/09	height team - ascent of the camp mountain (4369m), first ascent of the complete north face
21/09	height team arises to the camp 2 (5400m) on Khan Tengri / Pik Chapajev
22/09	height team ascent to the camp 3 (5900m) and mounts the Pik Chapajev (6125m); team Günther starts again
23/09	descent of the height team back to the glacier camp
24/08	day of rest for the height team
25/08	ascent of the height team to the camp 2 on Khan Tengri
26/08	height team - ascent to the camp 3
27/08	summit success of the height team on Khan Tengri (6995m)
28/08	descent of the height team back to the glacier camp
29/08	day of rest for the height team, return of team Robert and team Günther to Maida Adyr
30/08	height team - wait for helicopter
31/08	dismantling of the glacier camp, a part of the height team flies back to Maida Adyr
01/09	day of rest for the height team, departure team Robert and Günther to other mapping tours in different regions to the north of the Engelschek-valley
02/09	abandonment of the glacier camp, height team completely back in Maida Adyr
03 - 07/09	height team divides and sets off separated for mapping tours to Utschat-group and Atschailoo-pass region



08/09	all teams back in Maida Adyr, day of rest and wait for return transportation
09/09	trip from Maida Adyr to Cholpon Ata on the Issykkul lake
10/09	day of rest and bath day on Issykkul lake
11/09	return trip to Bishkek
12/09	working meetings with Tien Shan Travel in Bishkek and city inspection
13/09	return journey to Dresden

## 7.1 Team report "Team Günther"

(by Günther Prasicek, Mareike Eberlein, Andreas Bergemann)

The members of our team were Mareike, Andi, Richard and Günther. We were, together with the second group in the camp accommodated in "Maida Adyr". Here we should return in each case after our approx. one-week mapping tours and take food for the next trip after a short rest.

The camp lies 2600 meters high in the Engelschek-valley and "is" fitted out" with kitchen, warm water, a sauna, accommodations and throughout the summer with a fixed camp staff. „Tien Shan Travel“, a Kirghiz trekking agency that sponsored us and supplied therefore with free dinner, free march food and accommodation, pursues it. We were well lifted during our camp stay, the remaining time we were placed on ourselves.



Together with the height team and the second Maida Adyr - team we arrived in the evening 3rd of August after trip of almost 15 hours with a converted TRUCK in the camp. Only few days before had been finished some small bungalow, and we had to be allowed to spend the honour our first nights in them (before there had been for guests only tents as accommodations). In the same evening there was after the plentiful supper still a short introduction in the approach with the GPS-devices.



The both next days stood in the mark of test mappings to accustom us a little to the special circumstances of a mountain mapping and to the thinner air. For this we used the combs convenient to the south of camp. In second of these days we mounted, together with the height team, in the next convenient 4 dew broadcasting station, which, because still nameless, from now on "Pik Akklimatisator" should tell.

Finally, on the 7th of August, our team started to get, along the Engelschek - of river and about the glacier of the same name to the Merzbacher lake.

In this connection, it is about a likely unique phenomenon, a lake that forms on the glacial ice of the northern Engelschek-glacier. Once a year a drain inside running the glacier empties this lake. By the water masses the Engelschek-river rises at this time up to five meters. With a choice of the resting places caution was offered. To be able to recover from the day before still a little and to be able to pack in peace, we started only after the lunch.

After it had been sunny during the acclimatization days mostly, now the weather overturned and us marched under clouds and with occasional drizzle this running Engelschek-valley flattens in east - west - direction along. We strove ourselves in this afternoon 10 km and granted our spoiled back then a night's lodging with plentiful supper and campfire.

Next day we came in the midday to a farm. She looked essentially better than our far accommodation and was pursued by an English speaking (far not of course) Russian whom, according to own information, her court as a Lodge for mountain climbers and hunters understood wanted to know. She entertained us very friendly and very much plentifully and supplied us with important information. The barrier in the drain of the



Merzbacher lake was already broken how she reported, only few days before our arrival, a reason for these, at the moment, high water level of the Engelschek.

Although we were only a day on the way, we were glad very much about fresh dinner and the guest's friendliness and called the farm "Borschtbude", after a Russian national dish.

In the afternoon we started again to bring still some kilometres behind ourselves, to the

empty lake against. We brought our first river crossings - we had to overcome a tributary and some branches of the Engelschek - behind ourselves. The water reached to us rarely about the knees, but the strong movement complicated underpin now and then. However, in the evening we arrived all dry in the resting place been advisable by the friendly Russian. The drizzle ruling in the afternoon had posthumous and we sat cosily in the campfire, the rushing of the close waterfall in the ears.

In the following morning we let ourselves time, because we wanted during this day only up to beginning of the south Engelschek-glacier, a distance of just ten kilometres. Besides, the weather was extremely well, the sun appeared and it was completely beautifully warm.

By afternoon we discovered a gorge that had eaten the water in the steep cliff faces of the Engelschek-valley. We exchanged the climbing boots for sandals and penetrated approx. 150 meters into the gorge. The water had worked the way up on only three meters of width through over hundred meters of rock. The riverbed took the whole ground, and we had only little opportunity to warm up our freezing toes. Finally, some enormous boulders obstructed to us the other way.

Back in the main valley we reached after a short lunch break the beginning of the south Engelschek-glacier. He was, from rubble bury to distinguish hardly from the sandbanks and grit benches of the Engelschek.

Before the glacier we broke the camp and did still an excursion the mouth of glacier to visit the origin of the enormous Engelschek. In the evening joined two Frenchmen with

a guide and two porters who had come about the "Tus-pass" to the Engelschek-valley, to us in the rest place. We asked the guide for a way about the glacier to the famous "Merzbacher meadow". She was already legendary among the mountain climbers and the guides, a meadow, in the inhospitable glacier landscape that should be in the south border of the moraines, here, in which northern with the south Engelschek-glacier flows together. Not far



from this crossing is in the northern glacier the Merzbacher lake.

To our joy we found out that there is a stamped out path in the glacier border along up to meadow on the south side of the valley on which we had also been up to now on the way.





Next day we wanted to create cumbersome fourteen moraine kilometres in spite of the difficult rucksacks to avoid a night's lodging on the glacier. We were ten hours nearly without break on the way, up and down about the stone to get from the 2800 meters high convenient mouth of glacier to the approx. 3400 meters high convenient Merzbacher meadow. With our arrival we could hardly keep on the legs and got with the latter force the water around ourselves supper to cook.

Only some kilometres of the mouth of glacier up the valley a southern side glacier unites with the Engelschek-glacier. There we struggled more than two hours through the ice turmoil, because no generally usual way existed. We used the following day to rest we walked a little, explored the surroundings of the meadow or read and enjoyed the delightful weather. On the 12th of August we crossed the south Engelschek-glacier to its smaller northern counterpart to get and to call a visit on the Merzbacher lake. Mareike wants to write her diploma thesis about this lake. Therefore we tried to approach so near as possible to the bizarre ice formations that towered from the washbasin empty now.

After well two hours we had approached on approximately hundred meters. Farther we wanted to venture forward only after arrival of the height team which stations high Khan Tengri to us, in the base camp of 6995m, on the Merzbacher meadow should hit. The team around Sebastian became from Stefan, to an editor of the "Saxony Newspaper" accompanies. His return flight was booked for 21st of August. To



be in time again in the capital of Bishkek, he should change of the height team to us and go with us back to the camp Maida Adyr and go from there to Bishkek. However, before he also wanted to shoot some spectacular photos of the Merzbacher lake.

On the 13th of August arrived Sebastian and Co. on the meadow and in we started the second time to the Merzbacher lake, with the aim to penetrate this time with support of the height team up to the last water rests of the lake. This task turned out in spite of the good equipment as essentially more difficult than thought.

Nevertheless, only after long search Paul and Günther still succeeded in reaching the lake. Finally, on the way back to the camp it began to rain and in the evening to snow.



In the early lay 10 cm of fresh snowfall.

Both teams entered upon the march back to their respective stockages during this day.

In our team Richard had problems with his ankle, he did not overrate himself it to master the three-day-long march. Luckily, two geodesists were also on the meadow and carried out measurements. They left that very same day with a helicopter the camp and were flown back and agreed to take Richard. The rest of the team decided

to cover the distance, nevertheless, on foot, on the one hand to complete the Mapping, on the other hand to show Stefan also this part of the mountains. After the glacier world of the Khan Tengri the grass-covered Engelschek-valley with its numerous river mouths would be an interesting alternation.

Downhill we passed the weather cleared again on, the glacier essentially faster, showed Stefan still the mouth of glacier and did on meadow camp, with breathtaking look on north face 5600m high Pik Nansen. When we constructed the tent, it was already getting

dark. Because we had disposal firewood at last again, we enjoyed naturally also the obligatory campfire. Next day we passed the arms of a river in reverse order, showed to Stefan the gorge discovered by us and, finally, arrived in the afternoon with our Borscht-stall.

Originally we wanted to put back after a plentiful time still some kilometres, then, however, decided to us, on the house own "campsite" (even and dry meadow) to break our tents to spend the evening with entertainments and to put back remaining twenty kilometres to the camp during the tomorrow's day. So it came that Stefan and me, from the pleasant sit together drawn, placed in the middle of night our tent in the grass (Mareike and Andi had possessed so much foresight to be based of theirs already before burglary of the darkness).

On the 18th of August we had breakfast still extensively on the farm and opened us shortly before afternoon to reach the camp. In the afternoon we still inserted a longer break and reached, finally, at 18 o'clock Maida Adyr. We had blessed the whole way back, with the circumstances of the familiar surroundings and by lighter rucksacks, correctly enjoyed.

Two days remained we in the camp, had dinner so much we could and thought over our stack order. We left some equipment at home and tried to save weight where it only was, we had learned some of the last trip. Andi had got a sort of intestine infection and had difficult stomach cramps and fought against them with antibiotics.



Our next trip should lead us to the Tus-pass. However, moreover we would have the Engelschek must cross or the valley on the south side up to glacier up and on the north side of the river again down up to toe of the pass go. The river proved to cross how we proved in a daredevil attempt, as impossible, he simply led too much water. Up we did not want to do the same way the Engelschek-valley one more time, we decided to penetrate about a 3900m high pass into a south side valley and there one, from the second Maida Adyr team already tried to mount 4000 meter.

On the 21st of August we opened. From the camp at the beginning of the ascent to the pass it was away only a short piece. In the morning Andi also felt completely passably and the weather was delightful.

Unfortunately, got worse the opinion Andis, as well as these of the weather. Andi turned in the afternoon few hundred height meters under the pass and turned back to the camp to cure himself.



By the delay occurred from it we left only essentially later than planned, against six o'clock in the evening, the pass height. A thunderstorm gathered and we tried to come as fast as possible to the valley. Against seven o'clock we set up in flowing out rain our tents.

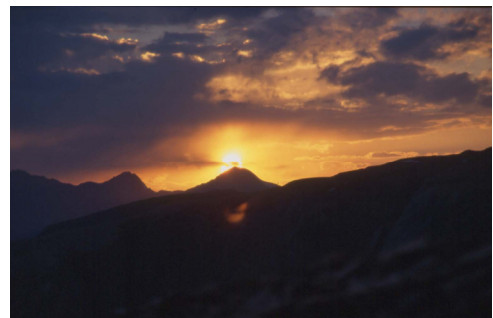
In the next morning the weather was delightful again, we walked the remaining way down in the next big valley. From

now on it was approx. fifteen kilometres after east, up to foot of the nameless 4000m peak, which was the aim of our trip. In a small brook on approx. 3000m we broke our camp.

Richard looked to the mountain and thought that mountaineering is actually not his thing at all. He would wait here, since we would come back. Now only two persons were left. We decided to divide the ascent into two days. Tomorrow on approx. 4200m where the first snow lay, we wanted to break a night's lodging and reach the summit during the following day.

On the 23rd of August broken Mareike and I on and worked the way up about the difficult grit runways up to the ridge. Against three o'clock in the afternoon we found actually a flat place on the ridge which was suitable extremely well for a night's lodging. The next snow was removed only approximately three meters. We protected the tent with big stones and "climbed" the slope some hundred meters farther to receive an image of our tomorrow's stage. We cooked plentifully supper and went sleeping surely early. The weather was delightful, cloudless, and it also remained for the next days.

During the summit day we didn't get up before six o'clock, because we were already surely high at the top. Since we had melted ourselves prepared, snow and had had breakfast, it had become eight o'clock, when we opened. From approximately 4400m the rocky ridge was covered continuously only by snow and then by glacier.



When we stood, finally, on the supposed summit, to 4760m high geodetically measured point, we saw that a strongly corniced ridge still continued to a higher point. There we still time had decided to overcome still, also this. Finally, we failed after other two hours march only few meters before the summit because of a short, rocky steep step, which was covered rather ramshackle, and with loose frozen snow. Here we turned back and trudged by now already surely give way to putrid snow back to the rocky ridge and, finally, to the tent. Then we diminished this and slipped about the numerous grit fields down to Richard.

Meanwhile, he had decided, not to take the same way again back to the camp with us, but already earlier, to return by a small connecting valley in the Engelschek-valley. Because his way was longer in the final effect than our, we left to him the cooker and most dinner, because we had discovered away a farm near the pass on for which we hoped to receive something to dinner now on the way back.

So Mareike and me walked on the 25th of August the side valley again back, but we did on half a way night's lodging, because we wanted to start from here in the next morning to an one day tour on another 4000m peak. Already at six o'clock early we were again on the legs and on the way to the summit. But also this mountain probably did not want to be mounted by us, because we had to turn back on approx. 3900m, because by the steep faces surrounding the summit plateau, as feared, no route was to be found.

During the same day we went still farther up to said farm where we, after some waiting period (the whole family was just repairing their car, an Lada Niva) we were very friendly invited and so agreed plentifully to dinner that we feared of not to being able to keep at all everything with ourselves.

Here we rented in the next morning two horses and a guide who should bring us with baggage on the pass. Farther one could not go with the horses, because the other side of the pass we had slaved a week before up, of steep grit fields consisted.





On the pass height we said goodbye warmly to our guide and slipped and tripped the north-sided mountain slope down in the Engelschek-valley. From there it was only a stone's throw till camp. To our surprise Richard was already there, he had in the Shailoo-valley by which he had marched some riders met who had brought him to horse till camp. Actually two days camp stay were planned again, but this time I was in the row to receive a decent

intestine infection and we still suspended the third rest day, before we opened to our last trip.

Our way led up to us again the Engelschek-valley, over on the north bank of the river and on the almost 4000m high Tus-pass. Naturally an extensive time might not be lacking with the Borscht-stall. Unfortunately, it caught just at this time in come streaming along to rain, a good reason for us, to spend the night also immediately there. We allowed ourselves a visit in the internal sauna and afterwards spent the night free in one of the farm huts, an offer broadminded really of Tatjana, our lady of the house.

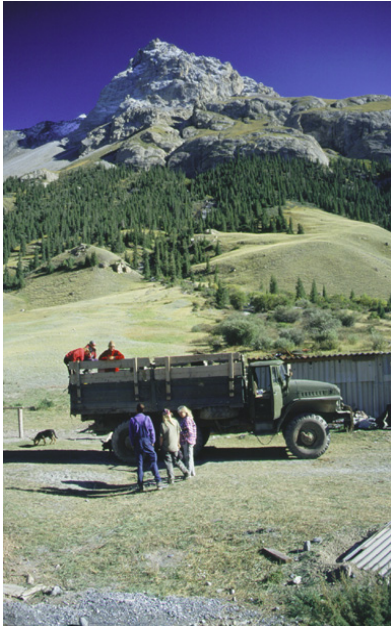
In the next morning the weather was delightful again, we rented horses and a guide who should bring us in a rode of 4 hours about the river and to the foot of the Tus-pass. It was already September and the Engelschek less water led essentially than in the previous month. So we were able to return by the river crossing one and a half day journeys, to the glacier and on the north side again, save. In a small hunting lodge we said goodbye to our guide, and asked him to fetch us at this point in six days again.

During the same day we still arose to approximately 3500m. We wanted to go on actually still and do rest on an approx. 4000 meters high convenient glacier of the pass a little bit orient, to a good starting point for some light summit ascents, but the weather overturned again and it began to snow violently.

So we broke a came prematurely night's lodging, fortunately, because in the next morning we were found in a white and cold snow-fog-landscape shifts. It was still snowing and we walked with rope, pike and crampon fitted out to the glacier up. From there we mounted in the stronger growing snowdrift still small of 4000th and then returned to the tent. We had planed here mount still a few summit and also some looks interesting for the Mapping at the valley adjacent northerly to get. We agreed to wait still a day and, the weather should not improve itself to go immediately to the Tus-pass.

In the next morning gleamed to our joy a little bit Blue by the cloud cover and we started to the summit of a close 4050m high snow hill convenient to the tent, from there we descended in a notch and then up to the 4500m high Pik Kat (like he later from Andi which celebrated here height record, was designated). Meanwhile, the sun appeared again with full force and melted the snow. When we to the camp came back we walked already again about green meadows. We used the beautiful weather as good as possible, diminished our camp and marched to west up to way on the Tus-pass. Here we spent the next night, we placed the tent on a small even surface in the dropping slopes.

The Tus-pass is used from, for the relations of the region, to a lot of agricultural tractors that get from the northern areas in the Engelschek-valley. Therefore there is actually an alpine steep path to up. We reached him in the morning of the next day with delightful weather. We still mounted two 4200m high mountains, which stand to both sides of the pass. Then we started again to our tent and from there we marched immediately farther down in the valley of the Engelschek.



In the already mentioned hunting lodge we spent the following two nights. We spent the "free" day with dinner and climbing in boulders, in the morning 7th of September an assistant of the Borscht-stall fetched us as promised. But we had to teach him only awkwardly that we were also the "tourists" to be transported.

On the farm we met Sebastian and Axel of the height team, who had come down already again. The both had still also mounted some mountains in the region and now swamped together with us with Tatjana the belly. We had, the big luck that afterwards a cattle vice of the farm went to Karakol which could take "Maida Adyr" to us up to camp. After clumsy, almost one-hour trip, we arrived there in time to the supper. We still spent two days together in the camp and then went to the Issykkul lake around there to stretch something in the "Kirghiz Riviera" and to enjoy the "beach life".

## 7.2 Team report “Team Robert“

(by Robert Koschitzki, Claudia Gedrange, Thomas Becker)



At last after 2 days the camp stay we spent with mapping exercises, GPS-installation, day trips in the surroundings and nocturnal card games, our team, consisting of Anja, Thomas, Claudia and Robert wanted to start. Problems, how the kerosene procurement, the desperate attempt to test successfully the cookers as well as the composition of our equipment for the 10-day trip delayed our start. The choice of the food, which sponsored partial Tien Shan Travel, turned out more difficult than expected. When everything was distributed and we were departure-ready, we could hardly lift the rucksacks never mind heave on our backs. In the final effect we started about 14.30 o'clock leading east, loaded like 4 donkeys. 10 km we dragged ourselves on in the Engelschek along to fall in a suitable resting place fixed and all in the grass.

After the collective tent construction and devouring our spaghetti and tomato lettuce we relaxed with an extended massage and fell tired in our sleeping bags.

Against 8.30 o'clock the first adventurers from the tents and crawled after a short breakfast with bread, we continue cheese, salami and tea our march. We reached 14.30 o'clock a camp of Günther's team of late borscht-stall called which was not far from the At-Shailoo of valley. Our backs burned like fire, even if the community massage of the day before still circled in our heads. Robert had sat during the massage completely in front, behind it Claudi and then Thomas. Anja had likely been too silly the orgy. Thomas had moaned after some time and thereupon us had exchanged the row consequence. What you think how relaxing such a cure can be under starlit sky? - Back to the borscht-Bude, an older woman expected us who called us warmly welcome and invited us in the camp. She offered everything what the camp had to offer and fetched, finally, a few Guides, which gave us nearer information for the other way. Because it looked after rain, we couldn't be asked quite long and accepted their invitation. For just 3 Euros we ate like God in France. The homemade "Quarkkeulchen" with vanilla sauce formed conclusion. Mmh, nicely! A French couple told to us from their failed attempt the mouth of glacier in the Engelschek to reach and two Swiss women gave us helpful information for the other way. We constructed our night's lodging on a hill at the beginning of the At-Shailoo of valley.



When we began in the next morning with the ascent in the valley, we were of full hope to reach the lakes on 3600m still during this day. But our slow making headway promised something else. Instead of planned 900m we created only 600 height meters. By a glacier river to be crossed we reached against 15.00 o'clock, the

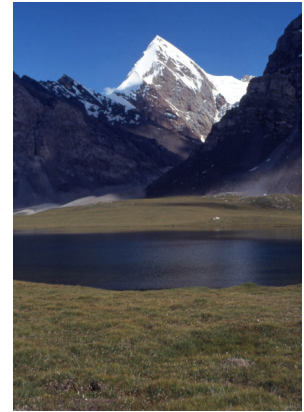
French couple of the day before waited for us. A crossing of the river with baggage seemed unthinkable at this time of day and we decided an aerial ropeway to build. To be able to construct the aerial ropeway, a team member had to venture the jump. Who was been suitable for it better than Robert, the team leader - with the long fish bones? We had just furnished the distance, when suddenly a storm went down on us. In no time it was raining one and after short staying we broke a makeshift bed on a hill. Cooled down and soaked up to the bones we crawled in our sleeping bags.



With radiant sunshine in the next morning, we dried our clothes and crossed together with the Frenchmen the river by means of aerial ropeway. Against 14.30, the remaining ascent another river crossing behind ourselves let, we reached 3 lakes. We enjoyed the sun - Thomas, Claudi and Robert tested the Outdoor soap in the clear cold mountain lake and against 16.00 o'clock we pulled ourselves together for the last time for today. With the lakes we had reached the 3600m high pass and walked from now the very wide valley down. On the way by the river along, there circled now and again eagles about our heads and we found skeletons of enormous Capricorns. The laying around horns had sizes from up to a meter - we were to be had run gladly this animals not in the living condition about the way. Shortly after 18 o'clock we threw on approximately 3400 m of height the rucksacks in the grass.

Like every morning the boys waked the girls. After short breakfast we went on a beaten path in the At-Shailoo along down into the valley. After 2 unspectacular river crossings the weather overturned against 14 o'clock. Blablabla - tent construction - sleep!

You will not believe it, but our team had got 6.30 o'clock to get up and to break open 1-hour late gene Kaindy-valley. With the first sunbeams in the valley we fried the long yearned "Quarkkeulchen". The dough in the pan did no institutions only in removed to the gold-brown snack on the packing to resemble. At last a light hunger feeling forced to us to eat the half-brute dough decorated with raisins. Already here the day seemed to hold ready nothing of property for us, because only after 2 hours cooking egg and a still continuous hunger feeling with Claudi and Anja and an excessive full feeling with Thomas and Robert it went on. In a waterfall the water reserves were filled up one more time, it should be the last time for some time. Against 12 o'clock we crossed the At-Shailoo and constructed our camp something above Kaindy to climb a summit important for the Mapping with light baggage. It was planned from above from a look at surrounding valleys to get. Already on 3400m a thunderstorm surprised us who forced us to make a bivac. An hour later, the weather had improved itself, we had to continue our ascent to reach one according to map in the side valley present watercourse. This turned out as difficult, because the brook led water in the upper reaches likely only underground.



against 20 o'clock to retreat. In the light of the forehead lamps we tripped with uncontrolled steps a grit slope down. After 1,5 hours and just 1000 height meters we found a saving brook. Bottled with icy melted snow and ice we rose in our sleeping bags.

After an uncomfortable night we feasted on milk pudding with banana taste. The following cheese "Spaetzles" rounded the breakfast. Against 14 o'clock we reached after some mapping breaks the tent. Also the radios were used during this day the single time

during 6 weeks, when we practiced ourselves with drizzle in the short distance spark between the tents.

After reinforced recipe prepares, we spooned our gruel with dry fruits and walked after experienced camp dismantling direction west. With beginning rain we reached a decayed shelter and fried "Kaiserschmarrn" - you remember the disaster with the "Quarkkeulchen"? To us are conscious that in the same packaging with other label no miracle would be. After another



hour we came to a passable bridge (rather atypical for this region) and an inhabited farmer's farmstead. We were received hospitably and after some negotiations one offered to us to lead ourselves with horses on the pass to the Engelschek-valley.

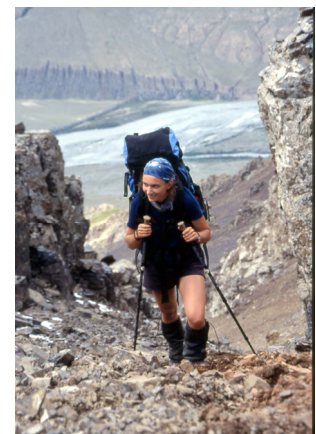
By Stracciatella-milk pudding with oatmeal we rode direction Maida Adyr. On the pass in 3800m arrived a steep grit field lay before us, which the horses could not descend. We paid 500 Som (12 Euros) to our guide and descended the steep inaccessible steep



piece. We could already see the camp, when a military post stopped. The young fellow gesticulated with his Kalaschnikow around and did no instructions to us to allow happening. After some wild radio messages we could our way continued and came close to the camp astonishingly, when a uniformed intercepted again. He quoted us immediately in the guarded military complex. We waited in an area decorates with relics of the socialist past - the walls were hanged on working plan and mass heroes - simply bit nice! After a quarter hour of the speech and answer of stop we were dismissed in the freedom. In the camp arrived we enjoyed all comforts, how warm dinner, own tableware, a rest room and the sauna.

7.15 o'clock crept Thomas and Anja from the tent, they had lost the crucial card game in the evening before and had

qualified with it as the kitchen service. The other course of the day drew itself by linen wash, read, being lazy and diary write out. Only about evening movement came once more to the tired round, when the news of the high tide disaster reached us. Also during the following day the pictures of the flooded ones shocked us home apparent the home remained followed concerning river crossings in nothing. Apart from material losses it went well to friends and relatives relatively how we got to know with the help of the satellite telephone. After Richard (from Günther's team) with the helicopter had returned in the camp we exchanged the newest gossip and gossip in the Tienschan. Apart from Pik Akklimatisator (4087m), the Claudi and Robert from dear long while a visit called the rest of the team loafed around again in the camp around. Next day the attempt of the crossing of the Engelschek stood on the plan to save a 6 day's march Günther's team. To cross the 50-60 meters wide river after three hopelessly failed attempts, we left it, besides, and completed our mapping. Shortly before the supper approximately 4 neglected did not fall, from the sun burned and from the hunger driven forms in the tents on. Team Günther had 20 km to walk back to the camp itself from the





borscht stall. How you can introduce yourselves sure, there were plentifully topics and to the ascent of the day Peter Ivanowitsch had heated up the sauna. We rounded the evening with the fact, that we ate our holiest supplies with system. Günther gave a chocolate, we countered with Gouda and of a salami and thereupon, this could leave Günther's team not on itself, they conjured almonds and biscuits out. Jam-packed and all round contently we dozed off.



The next day began with a hectic stack action, because for our furious reporter Stephan the day of the departure had come and we used the opportunity to accompany with him up to ghost town Engelschek. The former mining industry city had granted at times SU approximately 10000 people to accommodation. After the independence and the ending of supports of the mining industry

the inhabitants disappeared up to few families. There our ways and us separated walked with our rucksacks packed again direction south till Kaindy-valley.

The next day we followed the route along the river past abandoned farmer's farmsteads and old military barracks. Against 16.30 o'clock we reached an inhabited farmhouse which was in the set aside to the Utschat-pass. We were invited warmly on a dished plate "Kumüs" and in the evening a goat herdsman of the farmstead brought us, we had broken our camp nearby, a bread and "Zmetana".



In the next morning we enjoyed in the most beautiful sunshine our available snacks together with cheese, sausage and honey. Look gene China directed we walked with light baggage 800 height meters to the Utschat-pass. After a cool night we descended in the next valley to penetrate still farther direction China. Claudia and Robert amused the rest



of the team, their noise likely still was to be heard of many miles, with all to the known travelling comic tales begun from "My hat he has 3 corners", "now on the wall on the tepid a small bedbug" about "we cross about the lake, about the lake" as far as "3 Chinese with the contrabass". Early in the afternoon we established the camp. Apart from Anja we decided without baggage also the 2nd and 3rd pass to explore. Just 10-12 km before the

Chinese border removes, we reached (approx. 3200m) last of 3 passes. On same way, a route that was renewed to the moment for settler by bulldozer, we reached against 19 o'clock our camp.

We dedicated the next day to the way back in the Kaindy-valley. After some extended breaks we accepted already on the Away available invitation in the farmer's farmstead. With bread, "Zmetana" and tea we got an impression of the Kirghiz mountain life. Just 200m of the farmstead we placed the tents and it Claudia and Robert with their mattress before the tents under the starlit sky made comfortable.





From the first sunrises woken we allowed to concern it quietly. We used the morning around fuse and recovery colleges of technology to freshen. Begun from the fix knot as far as pulley with loose roll we exercised everything by. In the midday heat we crept away in the shade, dozed around and read. In the afternoon, Claudia, Thomas and Robert met by the cool river, degenerated a few water spatter between Robert and Claudia to a violent mudslinging in which also Thomas did not remain spared. After the cleaning ceremony, the stuff stuck everywhere, we tried a stunt bar - the strains of the last days were unmistakably! Still in the afternoon we opened after discharge and farewell photo to the known farm upstream. There arrived, a majority of the kinship had flown out, we agreed for the following day on the departure the girl by horse.



After Anja and Claudia had left, because they had to return rather to Germany, - sob - we packed up our rubbish and At-Shailoo did to us on the way direction to tackle again the mountain. After the river crossing we met by chance Günter and Mareike. The both we did not expect here at all, had tried themselves also in the ascent of our approximately 4760m high summit. Andi had returned because of disease in the camp and Richard trudged on his own initiative in the At-Shailoo direction camp. After an hour in which we had gossiped with Günter and Mareike the both few height meters had to turn back under the summit because of inadequate equipment, we said goodbye and visited a suitable bivouac place for the night.



After we had crawled 6.30 from the feathers, we started 1 hour later. Shortly after half past twelve we had overcome the endlessly appearing grit field and reached a geodetic measurement point on the ridge (4408m). We constructed something below the tent and got in the internal glacier pond water. We spent the stormy afternoon in the tent and cooked noodles with fungus sauce. In the evening the sky burst and we could get some breathtaking views from the pre-summit. After the property-night-tea we crawled against 21 o'clock in the tent.

After a cheerless night and some tea we trudged shortly after 4 o'clock direction summit. With the first sunbeams we were on approximately 4771m high pre-summit. After we had devoured Claudi's summit cereal bar we tackled the summit. We followed the traces of Mareike and Günter along the corniced ridge past enormous ice formations to the preceding gendarme. Here Mareike and Günter had turned back. After a 30m long climbing passage on the gendarme we descended in a saddle before the summit head.

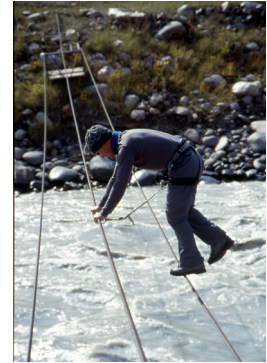


After we had failed here in a corn snow wall we crossed in a cliff passage and reached on this way the 4871m high summit. At the top arrived, we enjoyed the view and entered upon a half an hour later the way home. Already against 13.30 we reached the tent and descended some time later till Kaindy-valley. Shortly before the reaching of the bivouac of place tripped Thomas and rumbled with sack and stack approximately 20 height meters the grit field down. With the frights and small grazes got away we gormandised in the evening according to package insert mashed potatoes for 12 persons.

When we during the following day against 14 o'clock the At-Shailoo reached led this essentially more water than expects.

While crossing Thomas had lost the hold and was carried away well 6-7m with the movement, before he could turn on the back and packed Robert to him in the rucksack. With it our next summit aim had fallen in the water, the knee had damaged Thomas. Also it was direction Maida Adyr - after a forced march we reached the horse farm and clarified these rode away for the tomorrow's day. After a sumptuous Communion we crawled in the bed.

In the next morning spent Robert some time on the hut, the „Kumüs“ of the previous evening showed effect. After the breakfast we rode against 10 o'clock direction pass, said goodbye to Ulan, our guide and descended once again in the Engelschek-valley. When we arrived shortly before 15 o'clock in the route after Maida Adyr, we had luck, because a TRUCK took us till camp. There arrived, again our passes were checked, we did not trust to our eyes. Nevertheless, there possibly the gathered pack did not squat begun from Günther's team as far as Anja and Claudi? Actually we had expected to find an empty camp, something probably failed by the management! We spent the evening with it mutually our experienced adventures to tell to fall asleep late at night under the most beautiful starlit sky. About afternoon of the next day we said goodbye the second time, to the tears near, to Anja and Claudi which flew now, nevertheless, by helicopter after Karakol to go on from out there after Bishkek and to fly gene home. We spent the day with the evaluation of our Mapping, enjoyed the camp life and finished the day with vodka and



"Skat". During the next days the height team arrived in bits and pieces at the camp and the teams thrown together again opened one after another to the last mapping tours. Now our team consisted of Thomas, Robert and Richard who was changed from Günther's team to us. He should take over virtually the role from Anja and Claudi in the team, at least concerning the cookeries he followed to those

the girl in nothing, on the contrary...! By minibus we were taken by the camp leader in direction to Karakol to reach the Tez-pass from west. After a ventured river crossing by aerial ropeway and some travelling hours in complete solitude we reached the 4140 m high pass and became within few hours snowed in. Apart from an investigation trip in the close surroundings, we spent most time to free the tent from the snow masses and in pleasant Round „Skat“ to play. With the most beautiful sunshine we received after 2 days, nevertheless, still the chance a close summit to mount to map from out there the surroundings of the Tez-pass. Back in the camp, the remaining teams also shuffled gradually, we went on the 9th of September, no we flew formally, about the grit runways of Kyrgyzstan direction Bishkek - a hell trip on a TRUCK similar monster which will still be cling a long time in the memory. After short stay in the capital with visit of the Osh-market, 10 starved half Kyrgyz people flew after 6 weeks in the Tienschan back home.





### 7.3 Team report “height team“

(by Axel Grußer)

The work of the height team begins with the helicopter flight of Maida Adyr, up to the base camp between Khan Tengri and Pobjeda. How in both other groups, we were also 4 people - Sebastian, Paul, Markus and me (Axel). We possess high-alpine experiences all, an important presupposition for the demanding glacier ground of the Tienschan.



The helicopter brings us after breathtaking flight in the camp what will be our base for the next 4 weeks. It is on one of the big border moraines, the enormous Engelschek-glacier, in the inlet of the asterisk glacier, which runs down here from the just 7500m high Pik Pobjeda. Up the valley dominates, the immaculate pyramid of 6995m high Khan Tengri. This place is without a doubt one of the most amazing which we have ever seen. The off-putting steepness of the flanks and the exposure of the surrounding summits

are forming a high mountain scenery of the superlative.

Friendly the camp leader Micha greets us; in the eating tent are tea, coffee and pastry. Actually the staff is a magnificent troop, it is to be refrained already during the first day that we will spend a delightful time here. We receive tents placed at disposal, which stand on even wood documents and have even light if the generator runs. In the high season are here altogether up to 150 mountain climbers who want for the most part to the Khan Tengri, only a few try the higher, and far more dangerous Pik Pobjeda. Till the 80s in there was in the Pobjeda a 50/50 relation of people who reached the summit and to those which left their life on the mountain. The smaller summits find nearly no attention.



We use the fantastic weather of the first 3 days immediately for mapping and smaller acclimatization trips all around the camp. Besides, the enormous glacier turns out quite fast, as an impassable, when thinks. What looks far away like a smooth white surface, emerges from cocoon from the nearness as a mountain railway and valley road with innumerable columns. The dimensions are enormous what we estimate purely optically as an excursion of 1-2 hours, is in the final effect a tight half-day trip. Ideal this ground is for the ice climbing, in the wavelike steep crevasses innumerable possibilities are found.

The first bigger mapping tour brings us under the north face of the Pobjeda, to the foot of the Dikki-pass. Us are in threes, Paul, Markus and me. Sebastian and Stefan (who accompanied 3 weeks to us from the SZ) have to cure still smaller stomach problems. 3:15 o'clock of the following day we get up, Markus remains lie, he has not become acclimatized obviously yet enough. We want to reach the Dikki-pass and receive therefore looks at the valley convenient to the west. The early departure is necessary because in the increase to the pass an ice break is which should also be crossed in the descent before the solar radiation. We already reach 6:45 o'clock in a fiery red sunrise the pass height (5111m). We use the possibility and mount from out there, about a steeper corn snow ridge, a small summit in the ridge course (5264m). The fast descent runs problem-free and thanks the fixed ropes in the ice break which were

attached by Pobjeda-aspirants there, we already stand 9:30 o'clock again in the tent and can wake Markus who still sleeps and dreams of beach and palm trees.

In the evening we enjoy after the long march back in the base camp together with the other the kerosene-pursued tent sauna and this, how always excessive Kirghiz dinners. We must recover quickly, because already during the consequence day it goes off again, to a 7-day glacier trip to the Merzbacher lake.

We are all together again, everybody is in good shape. The Merzbacher lake is approx. 25 km to the west, down into the valley, in the confluence of Northern and South Engelschek-glacier. 3 days advance are approaching by this tiring, dull ground to be



gone. In spite of all that the surroundings and the glacier are extremely impressive. We disappear as tiny flies in the gigantic size of the landscape. After hours the flanks seem to have passed on the right and on the left still no piece farther us. And always when one means, now the moraine is well passable for the next kilometres, then opens immediately again a big across column which must become laboriously walk around.

Gottfried Merzbacher who was exactly 100 years ago here on the way, describes this ground as follows:

*"Therefore, the excess of these rubble mountains develops uncommonly difficultly and time-consuming, one climbs high loose ridges and must immediately again down in a deep ditch, or funnel and on the other side again as well up what will be rather unpleasant particularly when in the pendant shiny ice comes to light. With all effort one is able in such terrain during a day hardly more, than to cover 6 to 8 kilometres."*

Bright spots for us are, the enormous glacier funnels emerging again. Like a crater with up to 50m of depth, these enormous giant's holes break off nearly vertically from the glacier covered with rubble suddenly downwards. Now our aim consists in throwing down very big rocks of the funnel border. In the mostly invisible reason of the hole there is water, so that the stones hit substantially with noise. The record copies are so big that they can be pushed only with a lot of effort in fours to the demolition edge.

During the third day we arrive in the Merzbacher meadow. Here already wait Mareike, Günter, Andi and Richard who have come from Maida Adyr from here. With them we want to go to the lake. The Merzbacher meadow lies above the big border moraines and represents a real oasis, in the midst of the rocky-icy mountain world.



The Merzbacher lake embodies the most unusual contrast to the meadow, just if as well as now the water has run off and nothing as wild on top of each other piled up ice pieces are rest. A real lunar landscape in which already with the got on a progress





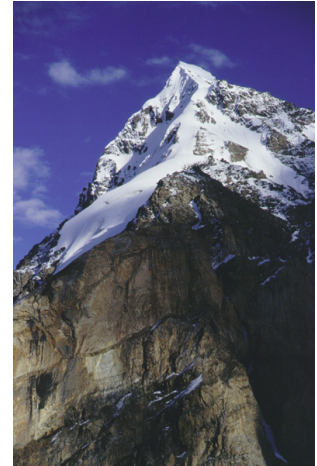
is possible only extremely laboriously. Gigantic across columns obstruct the way and the bursting ice, which is constantly in movement, make the final reaching of the water rests impossible.

On the way back to the tents bad weather and snowfall surprises us again starts. In spite of all that we can be satisfied so far very much with the weather, outbalance the good days.

With our arrival in Maida Adyr a Hungarian team reported to us that they had no day without snowfall in 3 weeks. Nevertheless more astonishingly that most people from the base camps disappear, the high season is over according to calendar, although the conditions are very still good several weeks.

A 4905m high mountain stands on half distance on the march back of the Merzbacher meadow, we select these as an alternation to the "stone everyday life" for a mountain tour. From the 3800 m high convenient glacier enters, mostly snow-covered ridge to the summit. This line inspires us. The summit is interesting as a climbing aim, as well as a mapping point with a good view. We place our tents to the foot of the ridge and want to start an attempt during the following day. Whether the mountain was ever mounted, or whether this ridge was already committed, we do not know in which Karen he has only this height information and no name.

We manage the ascent about the northwest ridge, in spite of snow very deep here and there and after 11 hours we are back in the tents and can let in the sun the day end.



*(more in the experience report of Sebastian, see also diary extracts + first ascents).*

After another day on the moraine we reach about evening the base camp. Good dinner there and the sauna bring us quickly again on person in front. In the camp is a young Pole, from Warsaw, he was still alone this year first on the Pobjeda and in addition, an unthinkable performance, because the main problem is the big amounts of precipitation and the deep snow connected with it. As separate person up there tracing is nearly impossible. He spent 4 nights on 5 km hand 7000m high convenient ridge after a sudden fall in temperature. When his tent was ripped into pieces by the wind, he built a snow cave and created after the inferno even still the descent. The strains have drained him obviously and it makes him really glad, together with us, again in company to enjoy the sauna evening.

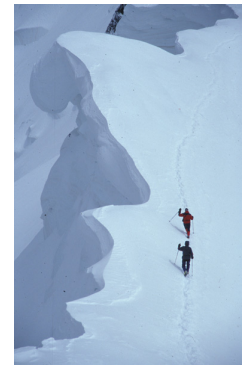
After a complete day of rest in the camp we want to try "Camp Mountain". Besides, it is about approx. 200m high preceding cliff summit, which stands directly near the base camp. Sebastian and Markus try the left limitation ridge of the valley-sided wall and Paul and I, we want to try to climb directly by this wall to the summit. Unfortunately, there comes Markus on a steep ice slipping in this and has to go back with a graze in the hand to the tents. After Sebastian has performed the first help, he ascends about an ice channel on the east side of this mountain, while Paul and me succeeds in climbing the route by the wall. With climbing places to V+ there appears a rope length trip 7, in even rather reasonable cliff. *(Note to first ascents)*





For our mapping results still a look is in the area of the Northern Engelschek-glacier of poverty, in addition we want to mount the 6125m high Chapajev-north summit. To reach this mountain we must go the south route to the Khan Tengri up to camp 3. From there it is not any more far to the summit. Certainly, the south access to the saddle is light between Khan Tengri and Chapajev, than the northern, but he is much more dangerous. For us this is called: if 23:15 get up around the increase to the camp 2 possibly completely at the night to master. Only so the stone and ice blow danger remains a partly calculable risk.

The first piece, up to camp 1 lasts only just 2 hours and there is hardly increase, because one crosses only the glacier more, or less. Then one turns into a steep, close valley. Markus is not feeling really good, he turns and goes back to the camp. In this close glacier valley, which is limited on the left by the steep walls of the Chapajev and on the right by the Khan Tengri one, receives an intense impression of the violence of the ice avalanches. About several hours walking time the glacier is covered with ice fractions which hit somewhere from far at the top in the form of ice blow falling down and on the glacier. The dispersion of the parts lets expect which gigantic sizes the avalanches reach sometimes. When we reached after the glacier break (it usually give fixed ropes) flat ground and the camp 2, it is already light, but there are no more dangers.



We use the day to recover ourselves from the tiring night, we sleep and cook. It has become lonely in the mountain, only two other portions still are on the way, but the weather votes. Next day we reach the snow caves of the camp 3 in just 5900m of height. We are started early around farther to the Chapajev to go. It is bitterly cold and we need for a while to receive our feet again in one of the caves warmly. Then the increase itself

is rather pleasant again, because the sun shows their strong effect. We must pay attention only to the giant's cornices to the north side, the ridge stretches otherwise regularly and easily up to north summit. We can overlook big areas of the northern Engelschek-glacier and the look at the directly opposite Khan Tengri is breathtaking. After another night in the snow cave we rise from namely very early, because also in the descent there exist the dangers. Actually we immediately want to do an attempt in the Khan Tengri, but our acclimatization is not yet enough. So we must bite in the sour apple and go the dangerous distance twice again. The following day of rest is enjoyed to the full once more, we sleep and eat almost the whole day. For this last big attempt, which is already an addition, because we have already reached our mapping aim, we need one more time full application. It is difficult particularly for me slowly to raise the corresponding motivation because I was 6 weeks in South America to the mountaineering directly before this journey. Again we break open midnight, the distance is known to us, but tiring it remains and the fear of the avalanches also becomes with second not smaller. As well as with the first approach we sleep the whole





day in the camp 2 and then rise in peace to the snow caves of the 3rd camp. The temperatures seem to sink with every day, the autumn moves inexorably nearer, but the weather remains stable astonishingly, only with the increase to the camp 3 there falls snow. It would be just well possible that the final snowfall breaks which stops then often for weeks, finally, it is already at the end of August, unusually lately, for so good weather. But we have luck and we are alone in the mountain, only Sasha, a mate of the camp leader Micha is with us on the way.

The weather seems to become good during the next day, we are tightened therefore and hope that the cold and he, in the ridge will be very strongly a blowing wind bearably. A hard piece of work waits for us, because 1200 height meters by this height are no children's game. 2:30 o'clock the alarm clock rings to start the hot plate for which thaws and this have breakfast we need so our time. Markus has luck, he "may sleep on because he goes today "only" to the Chapajev.



*"It is starry, the almost full moon seems bright, but it is cold for logical way. Up to saddle this proves itself, then from Basti yesterday appropriate fixed rope, leads the way on the first flat ridge well about snow and grit, till the first ridge paragraph where also immediately fixed ropes hang. Then still a flat piece, to it follows finally stepper again. Here begin fixed ropes, which lead nearly completely to shortly before the summit, but partly lousy conditions show.*



*The feet and us get soon cold must fling regularly. Everybody goes his own tempo, because with short waiting breaks the cold is unbearable. Sebastian has deaf feet about hours, so that for him with 6500m, unfortunately, only this turn back it remains. The higher we come, the more tiring it becomes. After every steep step one has the feeling, it would be wide still infinitely and not to work, this goes hours so. Before the big couloir it goes easily in to the right, away from the ridge and then about an almost vertical wall step to the couloir. In spite of that one there from very steep limitation rocks surround there is, is to astonishing way nearly no rock fall. At the end the ropes lead to the right to a small, exposed*

*snow shoulder. Here the first time is for sun today and therefore time for a short tea break. The shoulder is 6700m high something about. Still shortly it is by rock, then the force-robbing, time-consuming summit snow slopes begin. Sometime, after a corn snow ridge there stop the fixed ropes and it goes on in the snow between rocks. Then emerges completely suddenly, faster, than expected the summit measurement stand. With the last steps almost the tears come there to me because I had not believed actually, really in creating it and because it was so sow-tiring, in addition it forms the perfect conclusion by 3 dating back mountain months.*



*An improbably sharp, cold wind blows it, so that one can hardly do photos, I still rise the last 15 meters on the summit cornice and enjoy the enormous great insight on the Engelschek-glaciers. Unfortunately, it is too cold to wait in the summit for Paul and Sasha, I meet both approximately 100m deeper, only farther below in the ridge I can do in the sun a longer break, so that we can go together, in threes the descent and the way back to the snow cave. A lot of steep passages still require full concentration in the exhausted condition also in the descent. We diminish the fixed rope in the saddle and reach the camp after approximately 12 hours, against*

*17:00 o'clock. Out of a soup and a little dinner we receive nothing more on the row. Fortunately Basti entertains us, so that we can rest beautifully."*



The descent during the following day holds still ready a special surprise for us. When we are in the morning against 7:00 o'clock, already in the a little bit safer ground, comes undone in the walls of the Chapajev an enormous ice avalanche that falls with loud thunder on the glacier and moves in an enormous cloud of dust on us to. We start simply running, across country about the glacier, only Sebastian sits down behind a

big block of ice. Out of a thick powder snow cloud and two separate ice pieces nothing arrives with us, luck had! With the frights in the limbs we descend further.

Now temperature-moderate the autumn has also entered in the base camp. The tents are diminished, these are no more guests there. After 3 waiting days the helicopter gets us, only Sebastian remains for reasons of space still 2 other days with the camp team at the top. Below in Maida Adyr we hit on both other teams, it is beautiful to see again healthily all.

We, as the height team divide one more time for 5 other days in two groups around in the rest time here still remaining unknown valleys to map. Paul and Markus even still succeeded her, probably 3rd ascent of 5040m of high, disk-shaped summit in the isolated Utschat-group.



## **8. Diary extracts**

⇒ Extracts from the diary of Sebastian:

17/8/2002, first ascent of the "Pik Becherovka" (4905m)

"Sometime at night around 3 o'clock I dream of height exactnesses, suddenly somebody calls Bast'l, I understand Markus - only with the 3rd time it is no dream, getting up is announced. Outside it is starry and bitterly cold accordingly (approx. -10°C). Markus and I put on our clothes and go over in the tent of the other two for breakfast. I will start the stove, but just in the most uncomfortable moment the gas is empty and I must refill. Afterwards we have cereals for breakfast and some tea on top of that – afterwards we fill all thermos bottles. Sharp at 4 we start in direction to the undesignated summit with 4905m of height, our camp is on 3780m. ....

..... It is permanently with frontal points technology and an ice device + stick in the steep corn snow upward, the calf muscles burn dreadfully with overloading. Hack now and again an across step to the resting, otherwise fighting is announced .....

..... Farther it is about short steep steps and a corniced ridge from which we hold 2-3m respectful distance, to the summit of the 4905m high mountain - also this is strong corniced. Around 10 we stand after 6 hours ascent completely at the top, it is a beautiful, however also very tiring and not really harmless mountain. With the GPS I measure 4883 m, from now we do several photos for the Mapping. The look at the frozen mountains and gigantic valley glacier is simply brilliantly, from now at the top everything looks totally in a different way. We recognize our tents only as small points on one of a lot of moraines covering the Engelschek-glacier. When Axel screws his mug of the thermos jug and does not pay attention, it happens - the mug slips him from the hand and slips approx. 1000m down to the glacier in the depth - shit happens. Because the summit still has no name and we know not even whether we are the first up here, we have thought about a name. On account of the accident with the mug quickly arises an idea, we name him Pik Becherovka (because mug means "Becher" in german.....) and the route should be called Devil's Ridge. We do not stop eternally on the summit, half past ten we begin 1100m descent. In the high part it is only a little bit unsteadily, nevertheless, the descending widths in 50 ° steep snow with 1000m of air under the ass force us to some kind of caution .....

22/8/2002, "Pik Csapajev" (6125m)

".... The cliff pyramid of Khan Tengri (6995m) reaches breathtaking upwards in the sky, even the simplest ascent is far away from looking easy. Somehow the rocky ridge reminds me of the Matterhorn with his Hörnligrat, only we are here about 3000m higher and somewhere else. Northwards we see a mountain range, which is snow-covered and glaciated, behind it becomes flat and one sees the spurs of the Kazakh Plains .....

I notice already that I am quite tired, which is connected certainly also with the height. Accordingly slowly am I and must rest again and again.... Quarter to 1 we stand on the summit of Pik Csapajev and give each other the hands, what for a success that we are on this 6125m high mountain. With the GPS I measure 6112m. The sun is shining and the wind whistles quite a bit, nevertheless it can be endured up here. I take photos all around, from here we can overlook as expected almost everything totally well for the mapping. With the reaching of this summit we have reached our own and the planned mapping aim, now everything what comes later is in addition .....



## 9. Selected mountain tours / first ascents

(by Axel Grusser)

During the expedition two first ascents were done, which are described in the following section. Furthermore there is a trips description as well suitable acclimatisation mountain in the chain to the south of Maida Adyr.

### PIK BECHEROVKA “North-west ridge“ or “Devils Ridge“ (4905m)

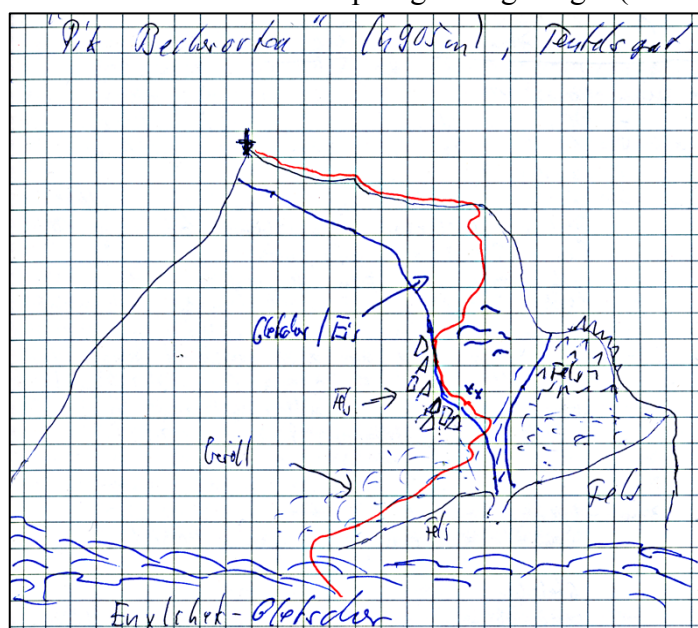
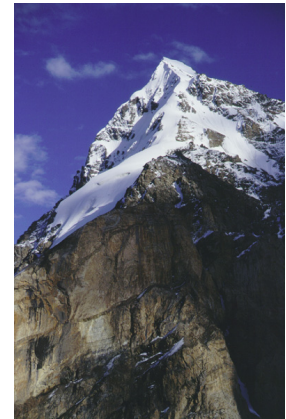
Probably 1st ascent, on 17/08/02 by Paul Sass, Sebastian Wolf, Markus Kautz and Axel Grusser.

**Characteristic:** Steep ice ridge directly above the Engelschek-glacier, danger of avalanches shouldn't be underestimated! In the lower part variant possibly (but with loose rock)

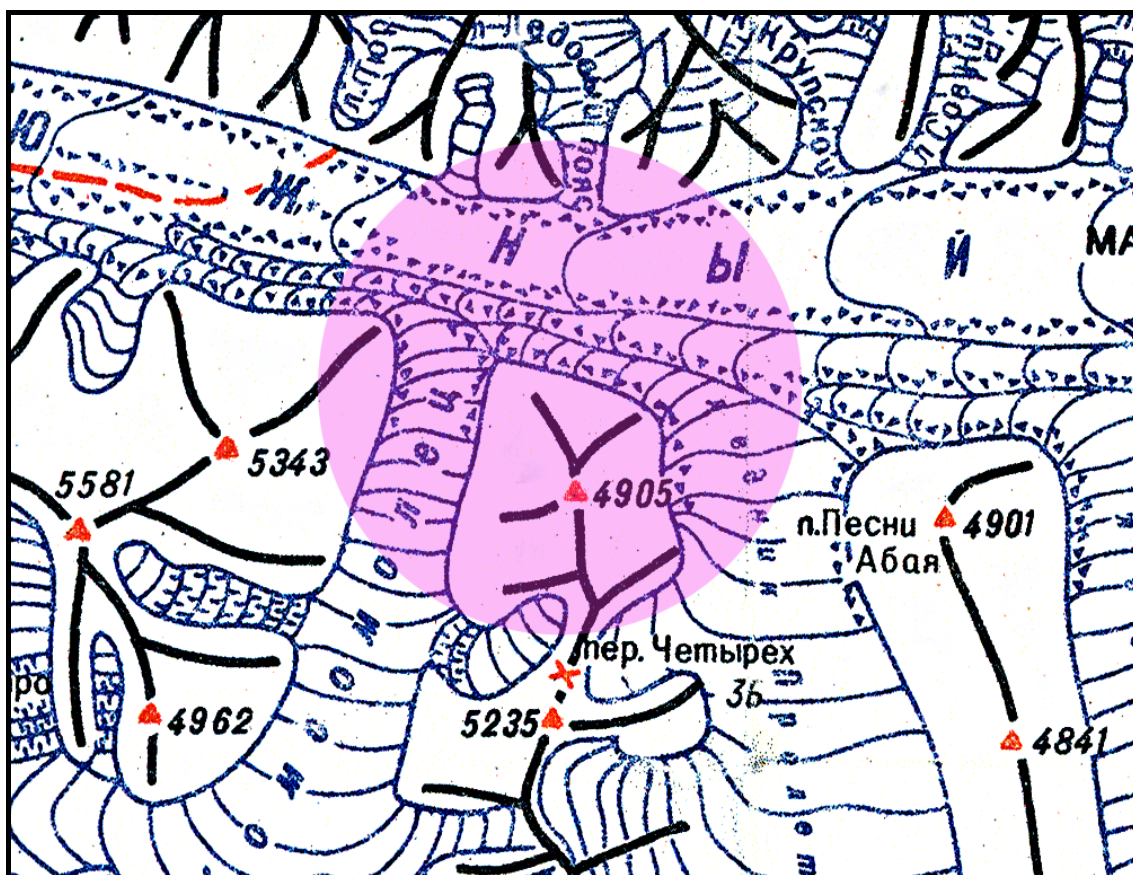
**Difficulties:** Snow / ice up to 60 ° (parts), in the variant easy climbing, but dangerous because quite loose

**Height difference:** From Engelschek-glacier approx. 1100m

**Description:** A suitable camp can be established on the south border moraine of the Engelschek-glacier, which is based before the mountain. The ascent leads first from the left here about grit fields to a running out glacier arm that must be entered on the left border. Now one keeps to this left border, past a serac (short touch with rocks - combined ground). Farther in the snow / ice, with approx. 50 - 55 ° to a bigger firn-terrace (here we found very deep, tiring snow). The ground steepens again (to 60 °) and one reaches the sharper growing ridge (on the right) shortly before a salient shoulder (rocky).



The steepness lies back, short steeper pieces with flat paragraphs change each other. Finally it leads over corniced, but flat ridge to the highest point. For the descent it is advisable to avoid the lower glacier part to the west in the loose rock, because the danger of avalanches can be substantial in these slopes, in particular in the afternoon.





**PIK POPERZE "Complete north face" (4369m)**

Probably 1st ascent of the north face in the cliff triangle before the Trychglavich, on 20/08/02 by Paul Sass and Axel Grusser.

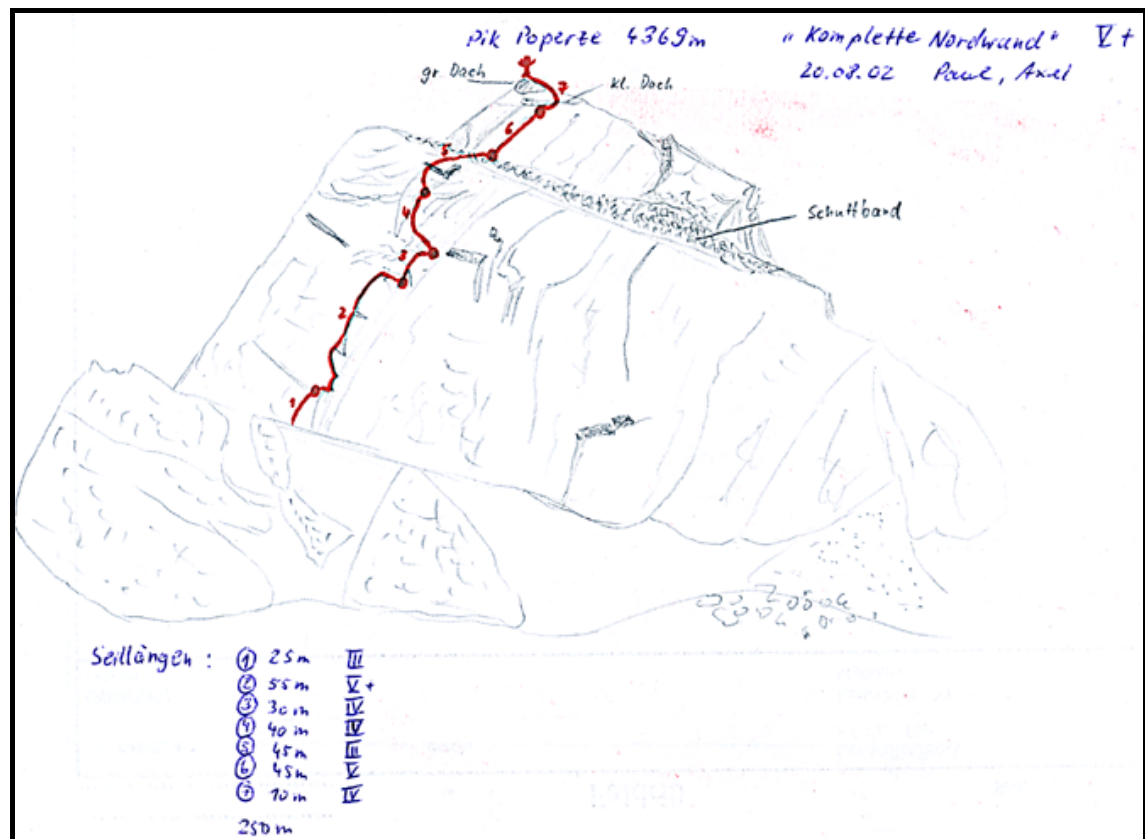
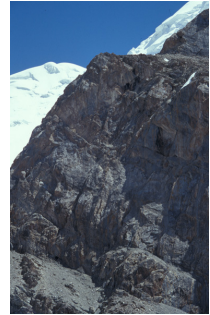
**Characteristic:** Short, alpine rock climbing, directly above base camp

**Difficulties:** one place V+, otherwise mostly IV; pay attention to rock fall danger!

**High difference:** 200m, 250m climbing meter (7 pitches)

***Description:***

From the base camp in few minutes to the start on the left part of the wall. Now about one, little bit loose wall step to a paragraph. On the right hand fist crack dihedral (V+) and dihedral farther to pillar. Wall, later easily right heading to big ledge with debris. From this via cracks (V) to small roof, above this and on the right in the big roof past to the summit. For the descent one chooses best the stone slopes aimed to the west. Hasten rock fall!!!



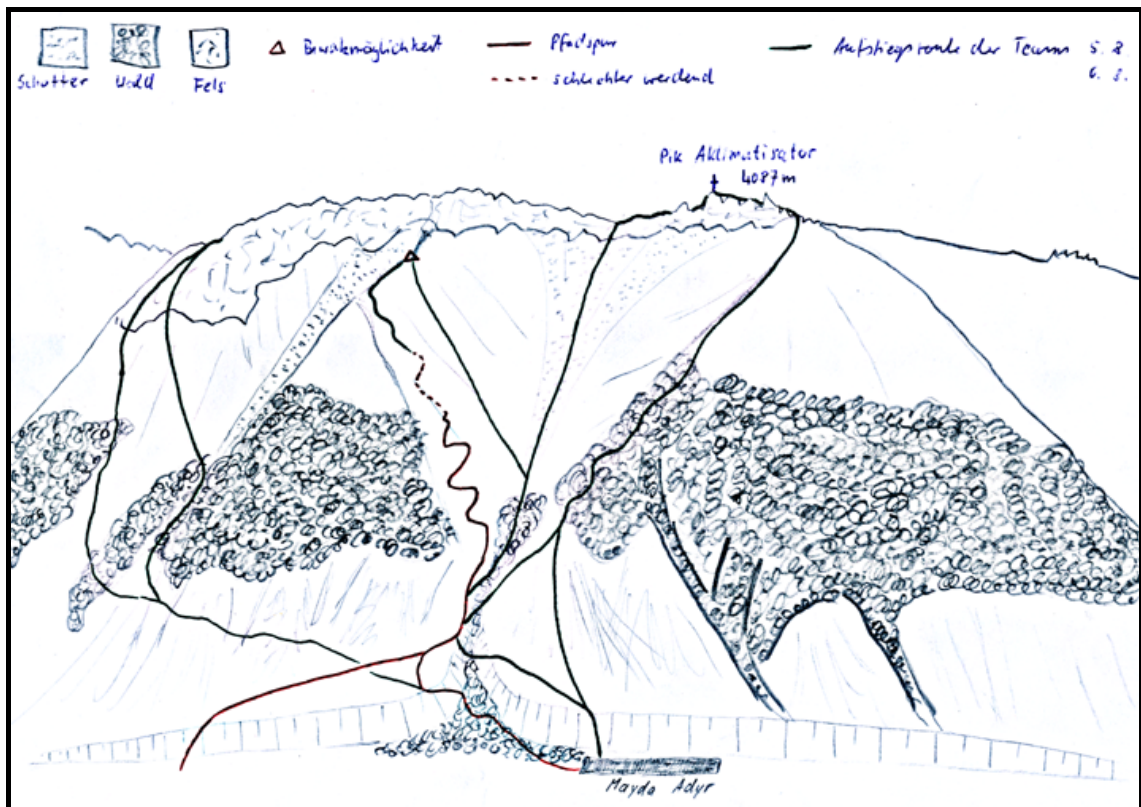
**PIK AKKLIMATISATOR (4087m)**

**Characteristic:** A simple mountain tour, ideal acclimatization trip from the base camp Maida Adyr

**Difficulties:** Meadows and forest slopes, late stony with easy, short climbing places

**High difference:** approx. 1500m

**Description:** On the left, behind the camp goes a hollow up to the comb. In the back, which limits this hollow on the right, runs the ascent. At the top mostly on the right of the ridge, see topo for more information.



Ascents from base camp Maida Adyr, Pik Akklimatisator (4087m)

## **10. Useful information**

*(by Sebastian Wolf)*

### **Glacier camp on the south Engelschek-glacier**

- Glacier camp is situated on 4100m and is constructed every year from about the 10<sup>th</sup> of July till the end of August (however – these is only valid for the big camp of Tien Shan Travel, there are also some smaller other camps nearby)
- Phone is possible for 3 \$ a minute via satellite telephone, farther the dispatch of E-mails via a Laptop + satellite telephone for approx. 3 \$ per E-mail
- Tel.-No of the satellite telephone in the glacier camp Tien Shan Travel (state summer, 2002): 00996-522-700005
- Approximately 250 people come per year only for Sightseeing up to here with the helicopter, but they do not stay here

### **Khan Tengri**

- According to a new official measurement in summer 2002 the previous height of 6995m is confirmed. As a summit is seen the highest fixed and always-existing point on the mountain, which means about the place where the tripod stands on the summit. Occasionally there is one up to 15m high snow cornice on the summit by which partly the information 7010m comes from.....
- Permit for the mountain approx. 100 \$
- Per season approx. 100 ascents (very dependent on weather), However it is led no statistics about this!
- Ascent record lies with approximately 10 hours and was set up by Alex Lowe within the regularly taking place Khan Tengri race (base camp - summit - base camp)
- Camps 3 are the almost always existing ice caves on approx. 5900m of height, approximately 50m southerly below the pass between Pik Csapajev and Khan Tengri
- Camp 4 is usually left out
- Average ascent time with acclimatization amounts to approximately 15 days
- Because of icefall danger one should go the distance between camp 1 - camp 2 only at night!

### **Pik Pobjeda**

- northernmost 7000-meter peak on earth
- To compare from the claim and the demands to those of an easy 8000m peak
- Till 1980 the ratio of people who reached the summit to those who have died was approximately 1:1 (is probably connected with the kamikaze-ascent style of the Russians by that time)
- In 2001 only 2 people were on the summit, in 2002 approximately 10 people
- Ascent record lies with 21 hours, and was set up by a Russian (camp 1 - summit - camp 1)
- Permit for the mountain is approx. 100 \$

**Maps**

- Officially available are only the Russian maps in the scale 1: 200 000, best at the Geodetic and Cartographic Service of the Kyrgyz Republic in Bishkek
- On the black market (e.g. probably in Almaty/Kazakhstan) there are probably also the maps in the scale 1: 100 000 to get, but to high prices and certainly difficult
- The Russian comb sketch map of the central Tienschan from the year 1989 in the scale 1: 150 000 is also available in the named office in Bishkek or at some alpinism agencies. Still better is the new English edition of this, from the year 1996, which is the same in content - but better readably and above all with English designations. One can get them at several websites in the Internet for approx. 20 \$, in addition there is mostly a small short guide of the region.

**Miscellaneous**

- helicopter flight Maida Adyr - glacier camp costs approx. 100 \$ one way and per person
- Merzbacher meadow is a perfect place to camp (like an island in the glacier world...)
- the most stable weather is usually from the middle of August till the middle of September, but it is already quite cold above all at night. However, most people come from middle till the end of July (accordingly high season) where actually almost always is bad weather - we couldn't find an explanation for it.
- A Trekking permit for the region costs approximately 50 \$
- Because the area is a border region to China, military posts are everywhere and an permission for the region is necessary. This is procured surely unproblematic with the travel agents (must be done a while before the trip, for it takes a while...), completely without their help it might be quite difficult and time-consuming.
- With English one comes not far in Kyrgyzstan, at least one person should have some basic knowledge in Russian

**Useful addresses**

- Tien-Shan-Travel  
127 Tscherbakov str.,  
Bishkek, 720042 , Kyrgyz Republic,  
Tel/Fax: +996 (312) 270576  
[www.tien-shan.com](http://www.tien-shan.com)



## **11. Press reports of the Dresden University of Technology (TUD)**

### **⇒ Press releases of the TUD**

#### **02/08/2002: Students of the TUD map the Tienschan in Kyrgyzstan**

At the last night a group of students of the TUD on the way has done to itself to Kyrgyzstan to create a qualitatively high-quality mountain climber and trekking map of the central Tienschan in the east of Kyrgyzstan. Up to 13th of September 13 expedition participants will collect thousands of data to create for the first time a map of this area in the scale 1:100.000. Up to now available topographic maps of the Tienschan are present in the scale of 1:200.000, are for mountain sportsman and geologist pointlessly. In the east of Kyrgyzstan the expedition participants must count first of all on snow and cold. Not without a reason is the Tienschan considered as one of the coldest high mountains richest in precipitation of the world. Very cleft and glaciated the area is only hardly accessible. Till few years this border region to China was a restricted area. The expedition of the TUD is the first western expedition, which has got the approval to the mapping of this area from Kyrgyzstan. The expedition is a project of the institute of Cartography of the TUD. Sebastian Wolf who studies geography in the 6th term leads the expedition. The 23-year-old is considered as an experienced mountain climber. Since 1995 he works in an honorary capacity at the Saxon mountain climber's union. About two years ago he led the roof stone expedition of the TUD.

#### **19/09/2002: Expedition of students from Dresden in the Tienschan successfully finished**

Meanwhile, all 13 participants the Tienschan - are an expedition to Dresden returned. The students of the TUD were six weeks in Kyrgyzstan on the way to create a qualitatively high-quality mountain climber and trekking map of the central Tienschan in the east of Kyrgyzstan. The leader of the expedition, Sebastian Wolf, is satisfied with the whole course and the result of the expedition: " much better it could not have run! " On the basis of the atypical beautiful weather the expedition participants could map more and collect data, than was planned originally. Now in hand of the collected data an officially accessible map of the Tienschan can be constructed for the first time in the scale 1:100.000. Up to now available topographic maps of this area are present in the scale of 1:200.000, are for mountain sportsman pointlessly. With the completion of the new map is to be counted according to estimation of Sebastian Wolf, however, at the earliest in two years: " the area is very big, the ground very diverse and it are enormous amounts of data which must be processed. " The expedition of the Dresden University of Technology was the first western expedition, which has got the approval to the Mapping of this area from Kyrgyzstan. The expedition is a project of the institute of Cartography of the TUD. She was led by Sebastian Wolf who studies geography in the 6th term. The 23-year-old is considered as an experienced mountain climber. Since 1995 he works in an honorary capacity at the Saxon mountain climber's union. A year ago he already led the roof stone expedition of the Dresden University of Technology.

#### **20/12/2002: NATIONALLY GEOGRAPHIC Germany publishes the first results of the TUD-expedition to the Tienschan**

The Khan-Tengri, the central summit of the Tienschan, is low than up to now accepted. " Only thanks its white cap from ice and snow he comes just about the magic border of 7000 meters. But this does not belong. ", So the magazine NATIONALLY Germany GEOGRAPHIC in their January issue. The exact height of the Khan-Tengri was determined together with Kirghiz geodesists and is only a result of the expedition Dresden students in the Tienschan. During six weeks the students of the Dresden University of Technology were in Kyrgyzstan on the way to collect data for a qualitatively high-quality mountain climber and trekking map of the central Tienschan in the east of Kyrgyzstan. Now in hand of these data an officially accessible map of the Tienschan can be constructed for the first time in the scale 1:100 000. The expedition of the Dresden University of Technology was the first western expedition, which has got the approval to the Mapping of this area from Kyrgyzstan. The expedition is a project of the institute of Cartography of the TUD.

⇒ University journal of the TUD from the 15/10/2002 (page 3)

## Ice, stones and high mountains - on the way in the sky mountains

From the 2nd of August to the 13th of September this year 12 students of the Dresden University of Technology were within the framework of a Mapping expedition of the institute of cartography in the Central Tienschan (Kyrgyzstan, central Asia) on the way and have collected data for the production of a new map.

It is a 2nd of August, early 6 o'clock. Twelve forms meet at a time rather atypical for student on the Dresden central station. They are all participants of a 6-week Mapping expedition of the institute of cartography of the Dresden University of Technology which open in the Tienschan in the east of Kyrgyzstan (central Asia) to collect data for the production of a new map. The majority of you studies geography, but, besides, these are also students of the cartography, physics and the economic engineering.

Load with 40-50 kilograms in each case of baggage (30 kg are allowed) it is by train after Berlin-beautiful field. There we need to pay only thanks a nice airport-office worker no cent to excess baggage. He calibrates the balance without further ado again and all of a sudden all 10-20 kilograms is light. About Moscow with its well-known and "exciting" airport of Scheremetjevo it is after Bishkek (formerly Frunse), the capital of Kyrgyzstan. There we arrived at night around 3 o'clock, we meet another participant, Günther Prasicek from Vienna - also geography student. He has already arrived some days before and has on the spot clarified with project manager Professor Buchroithner (Institute of Cartography) which had come back just from a 10-day preparations trip from the Tienschan, already several organizational things. Outside before the terminal a bus of the trekking and alpinism agency of Tien Shan Travel (one of our project partners already waits in Kyrgyzstan) which brings us fetched and directly in the Central Tienschan. After 650 kilometres and 13 hours trip we reach the 2600 meters high convenient base camp Maida Adyr. In the last light of the sun we see the mountain world which for the next 5,5 weeks ours "at home" will be....

But why Germans go in the Tienschan around a map to create, the Kyrgyz cannot and there are not already enough maps?

- High mountain mappings are a main point of the Institute of Cartography, it was not the first project of this sort. By the preparations of a symposium it came last year in Kyrgyzstan to conversations between professor Buchroithner, the Geodetic and Cartographic service of the Kyrgyz Republic and the biggest alpinism-agency of the country, Tien Shan Travel.

The demand for accurate maps, above all for mountain climber and hiker, has increased during the last years enormously, more and more people travel in the Gus's-government. How everywhere in the former Soviet Union only the maps are in the scale 1: 200 000 officially available, all others are defeated by the severest military secrecy and are not accessible of the public.

So the plan appeared in co-operation with the Geodetic and Cartographic Service of Kyrgyzstan and Tien Shan Travel for this international project. In its consequence very extensive and delicate negotiations with ministries and armed forces were to be led by the project manager in Kyrgyzstan to receive this first western Mapping expedition in the former government of the Soviet Union (since 1991 independently) approved. Aim is the production of a high-exact mountain map in the scale 1: 100 000 approximately 100 x of 60 square kilometres area with heights of 2500 to 7440 meters. Also in the age of the satellite technology one does not come around ground works around, not everything is with full elite pictures detectably. If these are now alpine routes or infrastructure and their meaning - one must see something simply on the spot and have seen it.

The work took place in 3 teams and two were of it in the mostly non-glacier ground to 4500 m on the way and one mapped in the glaciated ground to over 6000 m. By the helicopter the height team flew in the 4100 m high convenient high base camp on the south Inyltschek-glacier, a small tent city every year in summer there is constructed. It is to be taken very difficultly the glacier landscape there at the top in words, best the still current descriptions of the famous German geographer, mountain climber and discoverer's Dr. Gottfried Merzbacher probably meet this which investigated the Tienschan toured and exactly 100 years ago: " So a chaos of giant's blocks lies, e.g., to the Inyltschek-glacier, mixes with smaller boulders, all one thickness of more than hundred meters... With all effort one is able to cover on such terrain during a day hardly more than 6 to 8 km. " (Dr. Gottfried Merzbacher: Der Tienschan oder das Himmelsgebirge, 1906). Already he called this central (high) part of the Tienschan at that time one of the coldest and highest high mountains of the earth, a statement also nowadays again is taken up. In contrast to remaining part of the Kyrgyzstan, which is strongly characterized arid, very strong precipitations fall here in about 7000 m high mountains above all in the spring and autumn, mainly in the

form of snow. In winter on the contrary it is caused by strong thermal continentality (bigger year variations in temperature inside of the continents, than in the oceans - because landmasses warm themselves up faster and cool than water) very coldly (-30 to -35 °C) and it there hardly fall precipitations. In summer it is snowing usually almost every afternoon or every night, but there are also the rather rare beautiful weather phases, which up to 2 weeks can stop.

For weeks the "glacier-team" with difficult rucksacks moved by this partly rather difficult ground, always in search of important information for the new map. If these were with the lower teams to wild river crossings, the height team with enormous crevasses had to fight - the progress was never really simple actually. Always, besides, and in use were seat belt and rope, without it would have been too dangerous. The registered data were put down same in the ground on increased copies of old maps as well as on extra ones forms prepared for it. Another very important source of information was revealed by questioning persons (mainly to mountain climbers) in the ground. First of all natives and the camp staff know many of the public not known details and also have very current information. Besides, particularly so-called "tourists" (pass hiker) from Russia turned out good source, they go namely just where, otherwise, nobody is on the way.

Near the mapping work the assistance also belonged in the camps to our tasks. One or other long evening spent so each in the kitchen and, besides, trained its Russian knowledge or learned with hands and feet again some words in addition. However, without our physics student Paul Sass and his "interpreter's arts" we would have been sometimes completely stuck, he has grown up in Moscow and speaks liquidly Russian.

After five, partly very adventurous weeks in the ground, we met us back all healthily in the base camp Maida Adyr. Then in 2 days it was, part on the loading area of a big TRUCK, back after Bishkek. Have enjoyed in the biggest lake of Kyrgyzstan, which Issykkul (so to speak of the "Baltic Sea of Kyrgyzstan") have still inserted we a short stop and the lake limited by high mountains with its unique panorama and the pleasant temperatures. Then after a day in the capital with its famous Osh-bazaar it was on Friday 13th of September back in the home - in spite of the unhappy date we arrived all again healthy at home.

Now a majority of the ground-data-collection is concluded with the return to Dresden, but now the luxurious evaluation and processing of the data begins. However, this lasts essentially longer, with a completion of the map is to be counted at the earliest in 2 years. The expedition a full success was considered altogether, what concerns the course as well as the result. On the basis of the atypical stable weather in the Central Tienschan in August of this year a bigger area could be mapped and we collected more data than before was planned. Also what concerned the work with each other, the expedition and went off smoothly successfully. Although most did not know themselves before yet, good mood ruled mostly, and it was a pleasant co-operation. All participants were engaged very much and have fully helped to pull. Naturally there were one or other "motivation holes", but to whom mapping and rucksack trains does not go with 6 weeks in the extreme high mountains so?

What is, however, the most important actually: all participants are, apart from some bubbles and smaller grazes, well and healthily home returned.

Pity is only, we haven't actually seen much else of Kyrgyzstan than mountains. With the big area, which was to be mapped, no more time has been simply for "Sight-Seeing". But, finally, we were not to the pleasure there - even if the part has done rather tiring work all enjoyment.

*Sebastian Wolf*  
(Leader of the field teams)



## **11. Sponsors / support**

**Herewith we would like to thanks once more our sponsors and partners for their support:**



TECHNISCHE  
UNIVERSITÄT  
DRESDEN

Dresden University of Technology, Institute for Cartography

⇒ Project administration and initiator



Tien-Shan Travel

⇒ The head-project-partner who has taken over almost all expenses + the organization in the country



Saxony Mountaineering Association, Section of the German Alpine Association

⇒ For lending gear and material to us



DREWAG – Town department Dresden GmbH

⇒ For the lending of 4 short distances-VHF radios



GPS GmbH Gräfelfing

⇒ For the lending of 3 GPS hand-receivers



⇒ Within the International year of the mountains in 2002 this project was only one of many .....