

## Diary, Papua New Guinea (11<sup>th</sup> May to 6<sup>th</sup> June 2008)

Sunday 11<sup>th</sup> May 2008, Port Moresby, Papua New Guinea

I've been in Port Moresby, PNG for 14 days exactly now. That's quite a lot more than originally planned! We were supposed to leave for the field area last Monday (5<sup>th</sup>), but because of logistical delays, the departure was delayed for a week. Now, Port Moresby is not the nicest place to stay. It's a large sprawling prison of expat flats and apartments, where social interaction happens entirely in clubs, invitation only. Actually, I've already figured out that having a white skin earns you the right to most clubs, although I think that more long-term expats after some time feel too guilty doing that and sign up anyway. Interaction with PNG people is limited to the guys at work. From what I've seen, most seem bright and funny, and they all have a good sense of humor. I'm quite keen to be in the field with the bunch.

Wednesday 14<sup>th</sup> May 2008, Mauwol village, 16:30 hrs.

Yesterday evening, the helicopter finally arrived, just as we were taking the road with all geologists for a warm up session in the field. Bernhardt, an old German geologist who has been with the project from the beginning, was driving the front car, while Christopher, the German geologist who just joined the programme, drove the second car. The plan for the day was to see the Kana volcanics and associated intrusive units just east of Kumbareta Mission (also known as Bayer Mission). Putting our skills at work together As a team, we'd be able to discuss and streamline our methodologies so that every geologist would "speak" the same language. The road we had to take was in quite a poor condition, with as a result that the front car limped back to camp with a flat front tire, and a dislodged engine guard. At the camp we were greeted with the spectacle of the helicopter: a white and blue machine with the name "Islands" on it. The company is owned by a former minister in PNG government, who is now active in opposition. We were told that, even though the helicopter was on site now, we still would not be able to use it for lack of kerosene, which is en route by truck from Lae. With the landslip on the highway, and no contact with the truck, we were unsure if it would arrive anytime soon. As a result I decided to try and plan a series of short traverses in the region of the mission, to cover for the eventuality we would not have access to helicopter transport. The problem with that, I was told, was that two communities, that around Kumbareta, and one just north of us, are at war. Reports claim two people killed by machete, and one critically wounded by shotgun, currently fighting for his life in a hospital in Mount Hagen. The recommendation, therefore, was to stay away from these communities, and stay out of trouble. That immediately ruled out a few possible outings, while the road we just took for our reconnoiter, has a few broken bridges and one landslide, which would prevent access to the NE of the mission for some other work. In short, without helicopter we would not be able to do anything meaningful.

All our planning efforts were shortcut when, just before dinner, the truck with kerosene arrived. I immediately put out the maps again and convened the geologists to discuss our new options. We soon reached agreement on a series of traverses up north, starting with the highest priority targets. Dinner tasted a lot better now that all our equipment was in place to allow the start of our work. Fritz, the German project manager, made his “start of season” speech, spelling out rules of conduct and referring to the Geomap team as a “family”. Very inspiring stuff indeed, but his idea of a 25 Kina default charge for food in that camp did meet with some resistance. If anything, it will make sure most guys will prefer to stay in the bush overnight to save some money, hopefully resulting in more samples and data.



*The house we were allocated at the base camp in Kumbareta (Bayer) Mission*

After dinner, I get together with Eniko, and we start making our list to get ready for departure at daybreak. Eniko seems to know exactly what we need, so I leave him to organize stuff, but because of some weird dichotomy of the mapping and sampling efforts, the geology teams seem to be short of equipment. Fritz has organized the work such that an expat geologist has a “patrol-box” with all essential field gear, for which he takes responsibility together with his assigned counterpart. This would have worked well if there would not have been this turnover of geologists during the project, but as it stands, I am a new geo, as is Eniko, and so we do not have a “patrol-box”. Fritz now tells me that Eniko had been assigned everything, and that if we are missing stuff, it is his fault. This kind of bullshit just drives me crazy, as this seems to be the way Fritz explains

everything away, by blaming other people. He then goes on and says that Sayam, another PNG geo has a patrol box from which I can get material, but Sayam was told back in Hagen not to take his box, as it was meant for the geologist that would replace me after this season. I had to spend a few hours trying to get equipment together (and so did Christopher, who was fuming as well at this situation) and beg pieces from left and right. At the end I finally got a lamp and a bush-knife (machete) from a PNG geologist who had an entire box sitting there, but did not want to share that material because he had “signed” for it with Fritz, and therefore was responsible! This is what happens, when you give that responsibility to each team, sharing material becomes difficult. I also had to ask a bush stove from Knut, the German geo responsible for geochemical sampling, who first gave me a sermon about that it was his equipment, and that I was not supposed to use that. Granted that he had organized his season meticulously for the geochemistry, but this separation of the two, to me, is totally preposterous, as we are all funded under the same programme, sharing the same camp, and working on the same area. By the time I actually get that bloody stove the helicopter is landing on the field, so I only have time enough to stuff the thing in my bag and board the chopper.



*Eniko and me just before departure on the first traverse*

The chopper is a six-seater, but we are only two people in it (plus the pilot). The pilot is a Papoe that speaks Pidgin, which is handy, I guess, when you work in PNG. I only have to indicate on a map where I want to go, and the next thing, we are off! Flying over the terrane north of the mission it becomes overly apparent how remote and inaccessible this

region really is. Below us is a deep canyon, carved by the Bayer River, and then we fly over some more flat-lying ground around Ruti Mission, underlain by younger volcanics related to the eruptions of Mount Hagen and its ancillary domes. North of that the real highlands start: from 300m near the Yuat and Jimi rivers, to 3000m on the top of some mountains. This is really rugged terrain, with rainforest all over, speckled with a few small-scale banana plantations and small villages. As we move towards our target area, the villages disappear almost entirely, leaving only rugged mountainous terrain with the occasional 2-3 hut village. Why people choose to live in these remote locations is beyond comprehension. After about 15 minutes flight we reach the junction near our planned exit, and the pilot makes a few turns to survey the area for potential landing spots. Then we locate the river we want to work down from, and move up the valley in search for a suitable landing area near the headwaters. I switch on my GPS to make sure, and we are dead on target. The pilot has a better eye than me and spots a few potential landing sites. My preferred one is a small village of 5 huts, perched on a ridge in between two impressive waterfalls. The pilot makes a slow approach to get a better look, and we see about 30 or so villagers already waving in excitement, pointing at an open area on the ridge suitable for landing. Mist is rolling in, so the pilot decides to make another circle and wait for the air to clear. On second try, we set down, and we quickly get ourselves and our luggage out. Immediately as we cleared the helicopter, I give a thumbs up and the chopper leaves with a wave. Hopefully we'll see him back in three days at our pick up point. We are both hemmed in by the villagers, who are almost beside themselves of joy. I literally get embraced by scruffy old men with red-brown teeth, and have to shake hands all-over. The villagers are mostly dressed in vegetation. A string, made of some bark, is used as a belt, in between which leaves are put to cover their privates. Some have pieces of carved wood or bone in their noses, and some have painted their faces, or decorated their hair with flowers or green moss. I feel like I am Robinson Crusoe meeting so many Fridays in a deserted corner of the Earth. As the commotion dies down a bit, Eniko start chewing a betelnut and explains the reason for our visit. He gets the undivided attention of everyone, and I give a few printed folders explaining our work, one in English, which nobody read, and one in Pidgin, which at least a few can read. Most people here, men and women, are smoking cigar-like contraptions. Most are also chewing the betelnut with lime, which results in some serious spitting of deep red spit all-around. The colour of their teeth attests to the continuous use of tobacco and betelnut, resulting in some serious tooth conditions for everyone here.



Eniko's discussions lead to the allocation of a house with three rooms for us. The house is built on poles, and inside there is a central hearth, while around the sides there are reed mats to sleep on. I get a small separate room, opposite the entrance. The house can actually be locked with a small padlock, so we can safely leave all our stuff in the hut while working. Eniko has explained our plan and we get allocated two guides to do some work N and NE of the village. We set out from the village, and are accompanied by some 20 people for the first kilometer, until, after two outcrops, they get the idea of what we do. Then our entourage dwindles to a handful of people, who accompany us up the streams and valleys. As I choose more and more inaccessible routes, the bush knives come out, and the guides have to begin hacking a way through the bush. The terrain is excruciatingly difficult, both steep slopes, dense vegetation, and slippery muddy paths. When we finally make it back, our small loop looks pathetically small on the map.



*Our first hut, Mauwol Village, and me in a small stream just north of the village*

Supper consisted of a multi-course meal. It started with some roasted mais, after which I was given a sort of soggy “biscuit” made from taro-roots and leaves, which tasted alright, although I would probably not have eaten the whole thing if I had been able to see it. Then came a cucumber, and then the main course, rice (ours) and a village chicken which I bought. The end-result was a totally stuffed geologist, and a well-deserved night-rest. I slept on the floor itself, not wanting to bother about the mattress. In fact, I slept so well that I decided to leave the mattress in the base camp on future trips.

15<sup>th</sup> May 2008, 09:00 hrs, Mauwol village

We slept in the house with some ten or so people. It rained heavily during the night, and I am glad we had the shelter of the house. The dawn is accompanied by a slowly increasing volume of both the people and the animal life outside (birds). I get up and am shown the “toilet”, which is, as expected, a hole in the ground, but perched down the slippery slope, in between the dense and wet vegetation. Judging from the poor state of the cabin, with a collapsed roof and an active wasp nest inside, I think it has not been used for some time. Having been shown the toilet, I have to use it, and crawl in to take a dump. One in, and once the wasps are settling down, the toilet is OK, but I am glad to not have to use that on a daily basis. When I get back to the house, I notice that they are keeping a Casuari bird chick, which is sheltering underneath the house. As we are packing up to get ready to leave, a guy shows up with his girlfriend and a guitar. I can’t not take a picture of that!



*Casuari bird (chick) sheltering under the house*



*A guy posing with his guitar and girlfriend (wife), his most prized possession.*

We'll be setting off soon, after lunch, downstream, perhaps to reach the Yuat River. Eniko expresses his doubt we'll be able to make it that far (13 km direct line on the map), and thinks we'll be sleeping in a village somewhere half-way this evening. We get four porter/guides from Mauwol, and take the slow trip down, occasionally cutting through the bush where the path gets obscure. Because of the hard work, steep muddy slopes, and slow progress, we make regular breaks of 20 minutes or so to allow the guys to chew some nuts or smoke a cigarette/ cigar.



*Two guides, one armed with a bow and arrow*



*The combination of high-tech rucksack and low-tech clothing is striking*

At the end of the day we finally reach an open area with a large coconut tree, which appears to be the abandoned site of a village. The end-destination is still a kilometer or so away, but we decide to get a short rest and sample some of the coconuts. One guide clambers up the 20-m-tall tree, and drops a few large nuts, which eagerly get chopped clean and opened. The brown nuts have ample coconut meat inside, but less juice, while the green ones are full of juice, with little soft meat. After that welcome break we walked another hour to reach the village, just a few hut in among the rainforest.



*This was our second sleeping place. To the left of the tree is the part of the house reserved for pigs.*

It was getting dusky as we arrived, and we greeted the owner and his family. They had just cooked their evening meal of sweet and Irish potatoes, plantain banana and pork meat, which we were served without question. The hospitality in these remote communities is really phenomenal! It started to drizzle, and we were invited inside, and it was then that I realized that half of the house, which I thought was quite big, is actually occupied by the pigs. Luckily there's a wall between the pig- and man-house, and the pigs are situated at the lower end, so that any effluents actually run down slope away from the main house. Eniko and I got an elevated spot on the far side of the pig-section, and we brewed some tea and cooked some fried rice and corned beef. We only ate a little of that and passed the food to the hosts. The number of people had by that time swelled to some 21 people, of which eight kids. The sugary- milky-tea was passed around, and I could clearly see from the faces of these guys that they had not tasted that before. The rice, also, went down very well, especially with the kids who were scooping handfuls of it from their banana-leave plates. It was a joy to watch these kids lick the greasy rice from their banana leaves and sip from the sweet tea. I was very tired, and as most guys started lighting up their cigars and chew some betelnut, I dozed off.

17<sup>th</sup> May 2008, 07:40, village next to airstrip of the Baptist Mission.

Yesterday took us through lots of poor tracks in the rainforest, and via two villages to our exit point near a small airstrip we had spotted from the helicopter on approach. Along the

way, we lost two of our porters from Mauwol, as they felt unsafe entering the area of another Wantok, especially during the council elections. We replaced them easily in the first village we passed, and added another guide from another village further down the slope, who knew the people of the villages near the airstrip well and would act as our negotiator and guide. This kind of situation seems rampant in PNG, where free movement for people across the various tribal areas is simply not possible because of all sorts of “political” reasons. I am unsure whether this is due to ancient rivalries, or because of the inherent feeling of ownership of the land, much deeper than that experienced for people outside PNG. What I do know is that this inbred xenophobia stifles local economies, and makes the trade between various regions or Wantoks near-impossible. This is the reason, I suspect, that here in PNG, one does not find small grocery shops in every village, because the supply chain needed for that kind of economy is hampered by these land issues and right of passage. I bought a small bilum (Hessian bag) in the second village (Ilu village) from a woman called Jennifer (30 Kina or 5 Euro).



*Negotiating for a bilum in Ilu Village*



*The village elder all dressed up.*

In each of the two villages we passed we had to spend some time to explain. This also is the customary thing. When planning for work, the loss of 30 minutes at least every time one passes a village has to be calculated in. Each explanation takes Eniko at least 10 minutes, and in most cases we were sat down and offered some cooked bananas or groundnuts or something. What is nice to see is that most people understand what we are doing to some extent, and are excited by it. I guess they all realize that our information may in time improve their situation when exploration or mining companies come in.

The last two kilometers we descended into the stream leading towards the Yuat River. When we arrived at the main river, we took a short break. The Yuat sources its water from all small and large streams draining into it from the highlands, and with that much rainwater has swollen to enormous size. At this time of the year it is, really, a big brown torrent, screaming along. I cannot fathom anyone crossing that easily, as where we were it spans at least 100 meters across. After the rest, we backtrack up the valley and cut a path to the west, towards our planned pick-up point. When it gets close to 16:00 hrs, however, it becomes clear that we will not make it in time, so we set down our packs and make a flat clear area for the helicopter to land. Hopefully, when it arrives we will be able to signal the pilot using smoke. But when I give a satellite phone call to the base I

get the news that the helicopter has had a problem and has not returned from repairs in Hagen. Apparently a bird crashed into the front screen early yesterday, but thankfully no-one was hurt. We decide to carry on to the village near the airstrip anyway, and possibly spend another night in the bush. The helicopter, we hope, should be ready to pick us up tomorrow. The path to the airstrip is not all that clear, and the “guide” falters on several occasions before selecting his direction. Anyhow, after another hard hour walking we finally reach the outskirts of the village, and see the airstrip; an immaculately straight and clean stretch of short grass that can land a small plane. As soon as we enter the village itself we are greeted by a colourful group of people, some 100 or so, each one shaking our hands, smiling broadly to show off their brown-red rows of teeth.



*Various colourful head dresses, Papua style.*

We get overwhelmed by all that and sit down on a tree until the commotion has died enough for Eniko to make his introduction. This time, for some unfathomable reason, it only takes us some 20 minutes to get a house allocated, elevated on long stilts, with three rooms. Eniko and I will share one room, while the five porters will move into the remaining rooms. On the walk to the house I notice a lot of pineapples, so I ask Eniko to arrange a few for a short snack. As we sit down for our pineapples I finally have the time to look at the colourful display of attire these people display. Most men have elaborate head dresses of feathers, moss and flowers, and some have also taken to painting their faces colourfully. I take the time to snap as many as will allow me (which is almost all), and get to hear that they are dressed up because of the council election this week. Apparently there are meetings all over the place, and they are all getting ready to vote. Voting seems to be a very important thing to these people, and they take it all very seriously, and in a festive mood. Even so, Eniko does tell me that during election times

this festive mood can sometimes turn into violent rage. Here, in this village, everyone is enjoying himself, and the display of decorations is truly a feast to the eye. Later in the evening we spot a guy with a “Geomap” cap, who explains to us he has just guided Christopher and Sayam, who were picked up two days ago. This may explain why our explanation this time was a bit briefer, as this guy probably already made the introduction earlier, before we arrived. As I was getting hungry, I ask Eniko to try and find some food (chicken or porc), and he sends one of our porters away on a discovery tour. Within five minutes he returns with the back half of a pig that will set us back only 10 Kina (2 Euro). Apparently there have been a few mou mou’s prepared for the council election, and cooked meat is in plentiful supply. We settle inside and start carving of nice juicy slices of porc meat to fry. A bit later, the house owners’ wife comes in with a full pot of banana, sweet potato (Kaukau) and greens, which makes our meal complete. With a full stomach I retire to bed, knowing tomorrow we will be picked up by helicopter. Sometime in the night I get half awakened by some music and laughter, and find out in the morning that there has been a small party in the village. It’s a pity I did not fully wake up to join the fun, but then again, I was seriously tired.



*More Papua Head dresses*

Just this morning, we had a breakfast of sweet potato and banana’s cooked by the house owners’ wife. Then we moved to the airstrip with our luggage and I made a call to base to see whether the helicopter would be ready. At ten, we got confirmation we’d be picked up in 30 minutes, and we were all excited. The guys were playing some touch rugby on the airstrip, but they assured me they’d clear away as soon as the chopper would arrive. Meanwhile I started talking with a ferociously decorated bloke who spoke a bit English. He explained to me that the airstrip was made by the Baptist Mission, and that every Monday a plane arrived to bring medical supplies for the medical post here. There was also a small Baptist church, but no school. Children would have to move out to Ruti Mission, some 35 kilometers away, which would take a solid three day walk. I talked to him about the idea of community schools, and that he for instance could teach children some English, Pidgin, writing and reading skills if he wanted to. He understood, but said he’d think about it and discuss. I said that the council elections would be a great time to promote such ideas, as education is the cornerstone of society. He simply laughed and thought I had made a joke. So, even though election time is important to them, they seem to give little credit to the value of a councilor. He said to me that the bloke who stood for

election here, does not speak Pidgin or English himself, so would not be interested in putting up a school.



*Council elections result in a festive mood in the remote villages*

Suddenly the thud-thud of the helicopter becomes audible, and in a flash, the rugby stops, the field gets cleared, and the dressed up throng moves to the sidelines to watch the helicopter. In fact, there are so many people gathered that I clearly don't stand out enough for the pilot to see me, so to my surprise, rather than landing, he turns around and sets off to the village where we started. Everyone, not the least me, is astonished that I am left. We move the bags onto the strip and decide to stay there for when he will return after not finding me up in the village either. Sure enough, five minutes later he's back and hovers a bit trying to see whether we are there. Luckily for us, he spots us, and finally lands, immediately apologizing for not seeing us the first time. We get in, and I ask him whether we can take two of our guides, both with damaged feet, to the village. He agrees, and the excited guides get in the back and get strapped in. This must be the moment of their life, flying of the terrain we just walked, amazing as it is, to land in their village. The mix of terror and excitement is great to see. Where we land, the villagers have made a helipad, which is great. The guys get out, and we warmly shake hands with them and the villagers that took care of us three days ago.

When we finally get back to Kumbareta Mission, Christopher and Sayam are ready and packed and hop on the chopper for their 4-day tour to the far NE of the map. Eniko and I

settle down for lunch, and then I want to have a wash, but Knut discovers that he does not have the key to the house. Christopher probably has it! I find a carpenter at the hospital and somehow break into the house, and can have my shower and bed. Nothing beats a hot shower after four days in the rainforest!

### Monday, 19<sup>th</sup> May 2008, Kumbareta Mission

We are ready and waiting for an available chopper flight to take us to the starting point for our second traverse. We sit on the grass of the landing area of the chopper in Kumbareta Mission, soaking up some sun. There is quite a lot of low mist in the valley, and the chopper pilot decided that it was not safe enough to fly and land the machine with this limited visibility. Since we have planned our trip way up in the high ground, where the visibility conditions there will take the most time to clear up, and since we are going a lot further than all other teams, the pilot has decided that he'll do all the other teams before he'll get to us, to make sure we can get dropped safely. So, it looks as if we'll have a bit of time to kill, as from 10 onwards we see the chopper spring into action to deploy team after team of samplers to their respective closer locations. Our traverse is planned for three days starting from a small locality called "Fankafank", at an elevation of ~1400 meters, and descending through the rainforest to the triple junction of the Lai, Jimi and Yuat rivers (at 300 meters), where there is a small airstrip called Mamusi, that provides an excellent pick-up position. We should traverse a few interesting lithologies, that should connect up with the rocks we have seen in our first traverse.

We finally can leave at around 12:00, and it takes us a good 20 minutes to get to the spot. As before the terrain looks precipitous, with a few high waterfalls and deep gorges that will make life difficult, but look fantastic from the air. Fankafank is positioned on a long ridge, partially cleared to make space for a couple of huts, a small church (also just a hut), and a small elementary school. Because of the school there is a good landing spot where the pilot puts us on the ground. In contrast to before there are hardly any people to welcome us here, which is later explained by the fact that the morning after there will be local council elections here. Almost everyone was higher up the slope at a sort of meeting to discuss the impending elections. Only two blokes and a few kids turn up as we are pulling the bags from the chopper, and take us to the head teacher of the small school, who seems to have preferred staying out of politics. He welcomes us with open arms, and Eniko explains what we will be doing here. Rumours have reached this remote village already about us, so he is not at all surprised that we have come. As we are being allocated a hut to sleep, more people turn up from higher up, and we have to explain our presence again. Since it is only 13:00 hrs, we decide to do a small traverse up the slopes, before settling down for the night in the hut. We get allocated a few enthusiastic guides, but as we depart, are followed by three kids and four extra adult guides.

The walk takes us through a stretch of rainforest, where we come across a stream of which the riverbed is covered in travertine (limestone) rocks. I ask where the water comes from, and they say it simply appears from within the mountain. They seem surprised that I would know that from looking at the riverbed, but I explain that the travertine means that there is a lot of dissolved carbonate in the water, which only occurs where there are limestone and karst phenomena (dissolution of limestone in "acid" water). I say that I want to see the source, so they take me upstream. The travertine is

very easy to walk on, providing an excellent non-slip surface, so we make good progress, and discover a few very picturesque travertine falls. After climbing some 100 meters, the guides take us off the stream and we start following a small track parallel to the slope to reach a hut where an old man lives. From the way everyone greets the man, I suspect he is the father of a few of those guides, and that this is just a courtesy visit we are making. We take a short break, and I am urged to take a few “snaps”, but then we press on to see the source of the small stream.



*Guides from Fankafank village and weaponry, posing with me*

They take us along a small path climbing up the slope, and sure enough, we find a place where an impressive volume of water simply appears from under the ground. Above the source there are the remnants of an earlier stream, indicating that the karstic source must have sprung higher up the slope at some time in the past. When asked, the guides do not remember when the source could have shifted from higher up to this lower level, so it must have happened quite some time ago. A bit further we find a similar, but even larger source, with a larger fossil stream indicating this water once sprung from significantly higher up the slope. I explore a few small cavities in the limestone, but they all end in muddy rubble, indicating that cave-ins have closed access to the underground caves. As we walk further along the path, the front guide looks down into a small crevasse in the limestone, and then back at me. I also look into the hole and am surprised to find two human skulls and an assortment of bones. Eniko, who is less startled than me, tells me that long ago the people would do that to deceased relatives, simply deposit their bodies

in caves, rather than burying underground. He asks the guides if they know who the bones belong to, but they say they don't know and that they have been there for as long as they remember.



*Travertine waterfall*



*Human skulls and bones in a crevasse in the limestone*

When we get back to Fankafank village, we stumble upon the election team who has just arrived. These guys have the unenviable task of walking from village to village within the voting district to organise and collect the votes from the people. They are proudly standing next to their two election boxes, and tell me that they'll be spending the night here in Fankafank to organise the elections tomorrow morning. They promise to come by later to where we sleep so that we can tell stories.

Supper comprises rice, sweet potato, plantain banana and some greens. After that the pastor comes in with a guitar, and a bit later the six election officials. We talk a bit in English, but as the conversation goes into Pidgin, I take the guitar and play a few tunes. The guys discuss things long into the night, talking politics I think, so I doze off long before they take their leave.

In the morning, after a breakfast of sweet potato, banana and leaves, I go up to the election ground to see what is happening. The officials have erected a circular arena with a piece of string, with a clearly marked area within it for the observers. There is also a makeshift election booth, made out of cardboard, and a registration table and another table for handing out the voting strips. I get shown around proudly by one official, and see that the electoral roll for the district has 306 eligible voters. There are six candidates, whose name and number are posted at the entrance of the arena. The way this will go is that when voting starts, each name on the voters list will be called, and then that person will be accompanied by a witness who can read and write. Then the finger of the voter gets painted, and the name ticked on the list. The voter then gets one voting card, which is brought to the polling booth, where an official records the choice of the candidate. The witness must see to it that the official records the wishes of the voter correctly. Then the voter and official exit the arena, and that vote is cast. The observers simply make a tally and look on to see there are no irregularities. As we wait for more eligible voters to turn up, there is some commotion at one side of the field. An old man has turned up, painted

white with ash, and carrying a spear and bow and arrows. He shouts some words and makes threatening gestures and gets calmed down by an official. One of the guys explains to me that this old man is the son of a previous traditional leader who always makes a theatrical entrance to make a good impression, and, perhaps, to honour his father.



*Voting arena in Fankafank village*



*An old man that made a dramatic appearance at the voting field*

When the election itself starts, it starts with a prayer, then a speech, translated in local tokless, explaining the importance of the election and how it will be conducted, and then voters start, one by one, to stream through. I decide to go down to the house and wait out the voting there. We will need a few porters/guides to accompany us, but will have to wait until they have cast their vote. In the house I start talking to the pastor, who tells me a story of a young man who lives in the area and at one time in the past was sought by the police. He climbed up to a cliff we can see from the village, and went down into a hole below the cliff, using a rope. He found first one cuscuss, killed it and put it in his bilum. Then as he descended further he found another cuscuss, killed it and put it in his bilum. He then started a fire with a torch and went deeper inside, where he found a road. He stayed there, building a small fire, and surviving on his caught cuscuss, and only came out again three days later. This story tells me that there are caves in these cliffs, perhaps worth exploring.

Slowly the voters descend from the field, and we get ready to depart towards the next village down the slope. The painted old man actually lives close to that village, and tells Eniko he can escort us all the way down to the airstrip. The day now consists of an arduous walk down to the stream at 1200 meters, followed by a slow climb up the slope to about 1800 meters. Luckily, half way up that slope, we can take a break at the hut of the old guide, who introduces us all to his wife and many kids. Two of his kids have sores on the legs, called “one kina sores”, as they are perfectly circular. Especially the sore on the smallest child of perhaps a year old, is very nasty. Eniko digs out our medical gear and treats both kids with antibiotic and antiseptic creams and bandages. The old man prepares us a village chicken and greens, which we share among us all (7 people). His house is fenced by a wooden barricade, outside of which he keeps some 20 or so pigs. Old as he is, that guy still grown all sorts of stuff in the field and raises pigs. After lunch we climb again and reach the summit at 1800 meters around 17:00 hrs. Just below the

summit, the two front guys suddenly drop their gear and rush off the slope. They have seen a wild bush fowl, which they fail to catch, but have found the nesting mound. By the time I get there they have started digging into the nest in search of the eggs. Sure enough, some five minutes digging produces one large reddish brown egg. The guide tells me that sometimes these nest can contain more than ten, and that they are just not lucky this time.

We carry on, down the slope now, to reach out village. As suspected, light has all but faded by the time I arrive with the lead guides. I sit down, exhausted, as the guide sets off in search of the people, as everyone is obviously already in the hut, perhaps even sleeping. After a few minutes, sounds start to emanate from the direction he disappeared in, and I am soon engulfed in a mass of curious and excited people. It is fully dark now, and the villagers have thoughtfully brought a large plate of cooked bananas and some eating bananas, which get eaten rapidly by our team. We then get allocated a hut again, and settle in to brew a large pot of tea. Everyone is tired, and we soon go off to sleep.

Wednesday 21<sup>st</sup> May 2008

Morning comes and we set about making some breakfast of rice with corn beef. Outside, the village has gathered, and banana, sweet potato and greens get cooked as well. I walk about and take a few snaps, and then sit down for a late breakfast. Then we assemble our goods and start off again to Mamusi airstrip, some 5 kilometers away. A lady has decided to join our team, and walks the entire way with a baby in her bilum. The path is flat now, and we make easy progress, at one point crossing a large stream on a bamboo bridge. Because we are so close to the Yuat river, outcrop is very poor, and we don't stop very often to record observations. When we come at a small clear stream, we stop and everyone takes a bath. After that we only walk another hour or so and reach the village of Mamusi, next to the airstrip. It is 15:00 now, and I call to see if we can get picked up. The chopper will have to go for service tomorrow, so we elect to be picked up today. We walk to the airstrip where I pay all our helpers, and within an hour the chopper finds us, and we fly out, back to Kumbareta for a hot shower.



*Bilum baby*



*Eniko on a bamboo bridge*

Sunday 25<sup>th</sup> May 2008, Unnamed locality northeast of Rurisau

Yesterday we started at around 10:00 hrs, and were dropped off by the chopper near three huts, close to a small unnamed village. The village itself did not yield itself to a safe landing, and the small house we did land next to, actually also did not yield itself to a chopper touch-down. The pilot communicated to me that he'd simply hover just above the ground, and that we could hop out. As we approached the owner of the house had walked out and was pointing to a "safe" place to set us down. As soon as the pilot gave the word go, we jumped off, and dragged our nags out onto the near-flat grassy area. The owner of the hut, a young man, seemed very pleased to have us drop in, and helped drag the bags clear of the chopper as it took off and left us. The landing did do some damage to the nearest hut, but it did not look to serious and could easily be mended. We were immediately lead to the house and installed ourselves inside. Apparently hospitality in PNG is a given, and when we arrive in a village, the huts are open to us by default. We explained briefly why we were here, and told the man that we'd like to start work immediately. After a few minutes sorting out our packs, we were off, down to the stream we had selected to give us a good cross-cut of the geology. As we were describing the first outcrops, we were joined by several groups of people, swelling our entourage to some 15 or so. These people followed us in the bush, and as we moved deeper and deeper, more and more seemed to materialise from the jungle. Eniko had to explain in bits and pieces what we were doing, and finally decided to make a short stop and give a detailed explanation once and for all so that all these guys would be aware of what we were doing. He sat at the base of a tree, ordered the people around him, chewed some betelnuts, and started explaining.



*Eniko explains our work to interested villagers*

After that short explanation, we carried on, but found that the majority of people still wanted to follow us. That was all fine as we were collecting quite large samples which were automatically carried by the young boys with a lot of enthusiasm. We turned back quite late, mainly because we were held up at a small village with a region elder who also wanted to talk to us about our work. His words, translated by our guide, were that we were very welcome, and that the people would assist us in all we were doing and look after us. He had a lot of pigs, and I asked him if he'd be willing to sell us one for a moumou. I managed to negotiate a good price (200 Kina) for a reasonable size pig, which we'd have picked up in the morning. Because of this delay, we arrived at the hut at dusk. This, and I suspect the fact that they knew there would be a moumou, meant that quite a lot of our followers actually decided to stay rather than march back to wherever they came from. There was an open house just for that occasion, so that everyone found a place to sleep. We made a large pot of tea with sugar and milk, as usual, and everyone joined in that, talking about the exciting day we had had. Supper was composed of sweet potato and cooking banana, as we were too tired to actually cook up a more substantial dish.



*Cooking the sweet potato (kau kau)*



*The central room of each hut has a central fireplace*

This morning we woke up quite late and had a breakfast of banana and sweet potato, courtesy of our landlord, and rice with tinned fish, courtesy of our mapping team. We then found four helpers and explained our plan for the day. The father and wife of the landlord were given the task of preparing the mougou, which meant getting the pig from 2 kilometers away, and then digging the hole, chopping firewood, slaughtering the pig and prepare the vegetables to go in with the meat. The father left the hut, and after the sounds of bashing outside, came back in with a large bundle of cooking bananas to go with the mougou. After having settled our mougou, we left by 9:30 and were joined, as yesterday, by 15 or so people over and above those we had asked. One guy, Matthew, who had joined us yesterday as well, and speaks good English, Pidgin and Enga, mediated for us and made all understood that only the four guys we indicated would be paid, but that everyone was welcome to join us if they were interested, but that they should not expect to be paid. This did not dampen their spirit one bit, and we went down the valley with the entire group. This time we follow another stream, which is littered with small waterfalls. This slows our progress, but makes the entire walk quite a pleasure. By the time we get back, with several bags of samples, the mougou is nearly ready, and rather than go straight to the hut, we stay next to the fire and the steaming mound that marks the mougou. Everyone settles down for small talk, and some start playing cards, while we give the meat another half hour of cooking. Then, the mougou is slowly opened up. The heap of leaves gets thrown away, and under it are several layers of banana leaves, which get arranged on the floor next to the mougou. Under those leaves sits the nicely cooked pork, cut in roughly six pieces. It has been placed in the mougou with heaps of wild ferns that provide the vegetables. Once that is transferred to the carpet of banana leaves, the next layer of leaves is removed uncovering the layer of vegetables. They have placed the cooking bananas and manioc, as well as more ferns in that layer. The entire mougou is then transferred in two large metal basins, while two large pieces are cut up for consumption straight away by our porter/guide team. We move with our basins of food to the hut above, where we have a quiet meal next to the central fire. It is all topped off with milky tea, which is shared among us all. While everyone starts smoking or chewing betelnut after the meal, I get in my sleeping bag and doze off.



*The moumou in the forest*



*Carrying our pork meat and bananas up for supper*

Monday 26<sup>th</sup> May 2008, unnamed village, northeast of Rurisau

I woke up this time through some calling across the valley. Without telephone or email, shouting from one hut to another, across the valleys, is the way things get communicated. Matthew's wife has been calling out from three valleys away, but the content of the message has been lost on the way. What is clear is that Matthew needs to go back home to see what is going on. Luckily our traverse passes through his area, so we can march together. As we are waiting for breakfast (kau kau and the left over pork meat from the moumou), Matthew points out our destination, and the location of his house. Looking at the landscape like that gives me the false impression that it's all close and within reach. We can actually see the final destination, eight kilometres away, but several valleys are between us and that village (Rurisau). Matthew explains that we can climb the main hill behind us, perhaps a three hour walk, and then simply follow down the crest to that village, a further two or so hours. His house lies along that track, and we should reach it by lunch time. He invites us to eat at his house, and we gratefully accept. Two of our porters of yesterday have to be left behind, again because of some possible disputes with the other village. We get two new ones, and pack up the remaining moumou and our (many) samples for transport. Some bags now weigh quite a lot, so a few porters are in for a rough day. They don't seem to mind too much, as we will share the pig meat with them, and they can look forward to some pay.



*Matthew and his son*



*The view from Matthew's house on top of the crest*

The climb only takes us a good two hours, after which we traverse a river, where Matthew finds his wife and newly born child (two weeks). We rest a bit, as we are facing another hour's climb to reach Matthew's place. Then we move on and reach the top where we are treated with a glorious view over the valley and out to the plains of the Hagen Volcanics, where Kumbareta lies. We are invited inside Matthew's house and get our lunch of the final bits of mougou, while Matthew cuts sugarcane and offers us ground nuts. He will take along his wife and two kids to Rurisau, our intended destination, where there is a small medical post to treat a cough of his small boy. The remainder of the trip follows the crest of the hill-range, and we make very good progress together, reaching Rurisau after two more hours. There, we meet the sitting councillor, who is most delighted to invite us to sleep in his house. He has quite a big house, as he has three wives and 12 children (he proudly confesses). We get treated with a meal of kau kau and pumpkins, which we spice up with our own supplies of canned fish and rice. Because of the serious climb this morning, we are all tired and doze off quite soon after supper. We skip tea this time as we have finished all sugar and milk the last time.

#### Tuesday 27<sup>th</sup> May 2008, Rurisau

In the morning, it becomes clear that the councillor also has a prime spot with a magnificent view over that valley. The morning mists provide me with a wonderful scene of the rainforest, which we will soon be entering again for a final traverse before going back to camp. The councillor is keen to join us himself, probably also as a calculated move to gain popularity for the impending Local Council voting session planned for within two weeks. The trip today goes all the way down to the stream, which we intend to follow for a few kilometres to then climb out again. The climb down is treacherous because of the nightly rain, making the path extremely slippery. In the river itself, we are also faced by quite a lot of obstacles, and are often forced onto the banks where we cut ourselves a way through the jungle. Outcrop is good, and we find some very interesting features that will allow me to improve the map. By 13:00 we've had enough of the river and start climbing up. Matthew suddenly stops and points at a leaf and says "that leaf

smells terrible”, with a screwed up face. I must have looked incredulous, as he rips of a leaf and passes it under my nose. I recoil from the absolute stench of faeces, which makes him and the other porters laugh. He then says that they call it “dogshit leaf” in Enga language.



*View from Rurisau*



*The group that joined us in Rurisau. The councillor in red-blue shirt*

We arrive at the hut around 14:30 and I call the chopper. I am told it will probably be able to make a pick-up at 16:00, so I take a short siesta before packing everything up. We have collected quite a large collection of samples, making this trip a particularly successful one. When the chopper announces itself through the thud-thud noise, we quickly move all bags to the helipad and wait. Matthew takes a ride with us, as he is planning to get some supplies and new clothes for his newborn in Hagen with out pay. As we lift off, the village of Rurisau is waving us goodbye from the ground.

#### Thursday 29<sup>th</sup> May 2008, Lakamanda village

Today we waited for the arrival of our Chief Geologist, John Aspden, to plan out our next traverse. When he arrived, around 11:00 hrs, I had a chat with him, showed him what we had been doing these past three weeks, and then took lunch and prepared for my next outing to Lakamanda Village. When we boarded the chopper, John and another new geologist, Frank Timm, joined us to get a first impression of the terrain from the air. We flew some 15 minutes to our target area, and were dropped next to a few huts near the community of Lakamanda. John dramatically shook my hand wishing me good luck, having seen the area to be traversed from the air now. The people from the hut welcomed us with open arms, as was usual in these parts, and we explained what we were planning to do. We set off with a few guides to do a short exploratory walk up a creek and immediately found some significant sulphide mineralization, raising the spirit of our guides who were already dreaming of the future mining in their village.

Back at the hut we had some time to survey our future home. The hut was a three bedroom affair, with a nice lawn in front. We installed ourselves in the “living room”, where I spread out a reed mat and my sleeping bag. Outside, a larger casuari bird was stalking around, occasionally chasing the dogs around the lawn. At sunset a spectacular

rosy coloured sky lifted my spirits as I was sitting on the lawn chewing some sugar cane and occasionally patting the casuari bird as it trotted around, pecking at the people. Dinner was rice and corn beef, and sleep came quite rapidly after that, with the fire slowly dying out and darkening the room.

#### Friday 30<sup>th</sup> May 2008

In the morning, a large group of people had gathered outside the hut, to discuss who would get to go with us on our day's work. We cooked rice, which I ate with powdered milk and sugar, while Eniko added a tin of mackerel fish. An older man was taking the lead in the discussions, loudly proclaiming all sorts of stuff, while everyone else was respectfully listening. Eniko had said that we only had a budget for three workers per day, so the discussion centered around who the chosen ones would be for today, as well as sorting out who'd be going tomorrow. A conclusion was finally reached by 9:30, and we left with three men, three boys and three dogs. We followed river courses the entire day, slipping on the wet rocks and fallen logs, until, in the evening we reached a spot of the river where three guys were preparing a traditional fishing exercise. They had dammed off a part of the river, and poisoned the water upstream, and were waiting for the fish to get disoriented enough for it to be possible to simply pick them up from the water. We settled down on a few rocks and watched the spectacle. Sure enough, after some 20 minutes, the fish started to get "drunk" and kids started to pick them up and throw them in a pond for later collection. Sizes ranged from 30 centimeter fish down to small 3-cm-long yuppies, but all were collected for eating. The dogs we brought also had a field day, jumping around the river course pouncing on the now partly floating fish.

Back home, I was surprised to find food ready for us. Eniko had bought a quarter of a pig yesterday, and ordered it to be cooked with banana for our return. There were also assorted greens, which made a very palatable dish. The meat was shared among all the guys present, our guides and boys, and the family of the house as well as the neighbours, and soon everyone was smacking away on the pig meat. There's nothing more satisfying than seeing everyone enjoy a good meal, with especially the kids smacking their lips as they chewed the pork.

#### Saturday 31<sup>st</sup> May 2008

Kau kau is boiling, as is the rice. Outside, I hear the same old man giving his, apparently daily, lecture to the gathered crowd. When we get outside to put our boots on, three new guides are ready for departure, and unsurprisingly, the old man is one of them. The day then consists of quite a lot of solid marching, as I want to reach some far-flung area of interest north of the village. Most of the trek passes through secondary forest, some of which needs a bit of trimming with a machete. The river courses, when we get across them, are all treacherous slippery affairs, and we fail to cover large distances within them, so often leave the course to try and cover some distance before rejoining the river to look for outcrop. It is quite later, and dusky, by the time we get back to the hut, but luckily, banana and greens are cooked and ready when we arrive so that we can immediately cook some tea and eat our meal. We're all knackered, but sit outside for a

while to reflect on the traverse. I call base and arrange for the chopper to pick us up tomorrow.

In the morning, Eniko and I cook up all the remaining food from our bags. Our food supply consists of two kilo of rice and a few tins of fish. Breakfast therefore caters for our neighbours as well, and is well received. Banana leaves get brought in, and some twenty or so “plates” or rice/fish dished out. Soon everyone is smacking away and drinking pots of tea. Then I call base to find out when we’ll be picked up and am told that it’ll be around 11:00. We move our stuff to the landing area, which has been cleaned up yesterday by a guy, and wait for the tell-tale “chuck-chuck” sound. The chopper arrives on time, and I signal him using my mirror. The pilot dishes out candy to all kids, and we offer a lift to two blokes, one with a large bag of coffee. Then, off we go, to Kumbareta Mission, for a hot shower and some well-deserved rest.



*The last views of the Jimi map sheet from the helicopter.*