

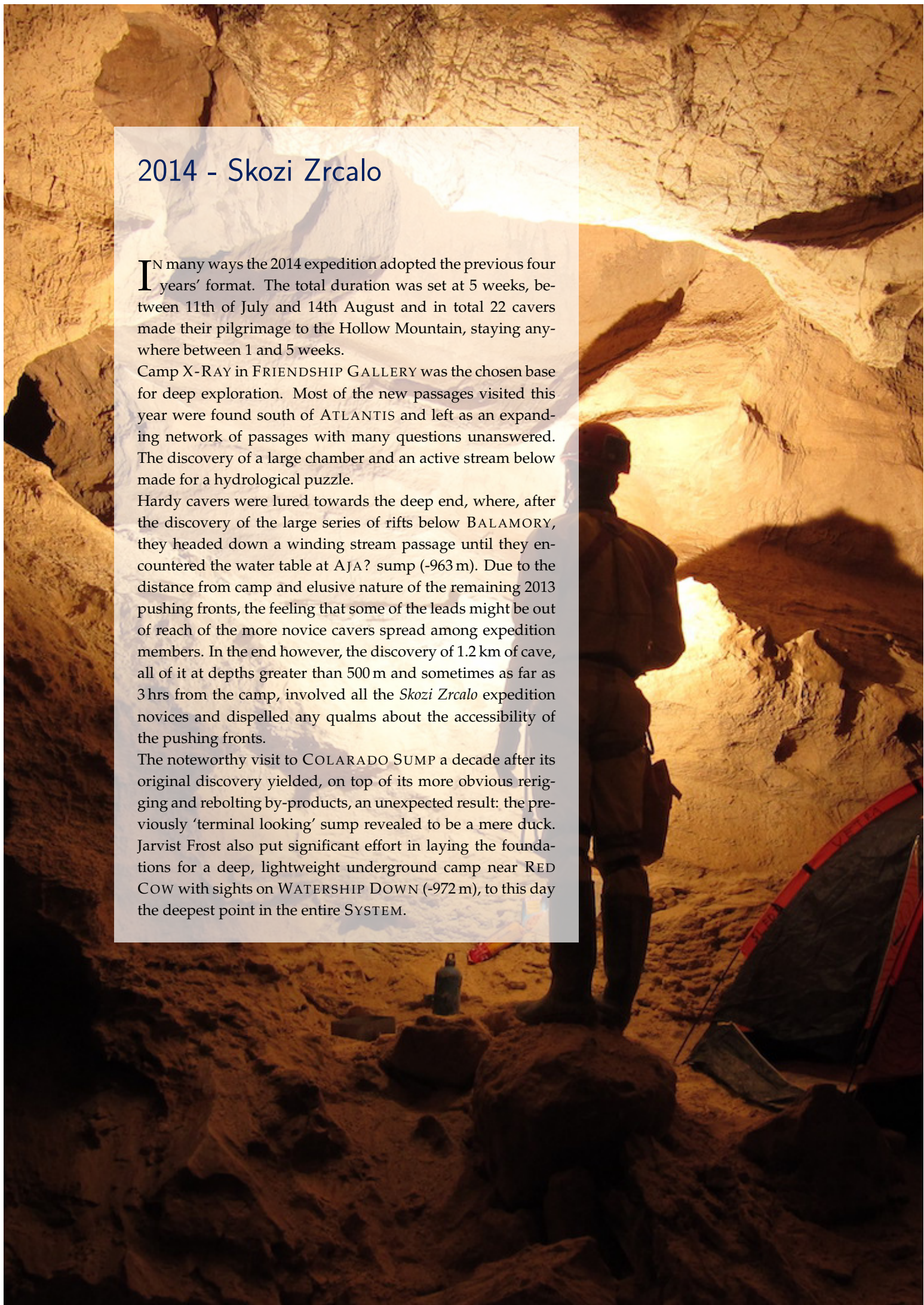
2014 - Skozi Zrcalo

IN many ways the 2014 expedition adopted the previous four years' format. The total duration was set at 5 weeks, between 11th of July and 14th August and in total 22 cavers made their pilgrimage to the Hollow Mountain, staying anywhere between 1 and 5 weeks.

Camp X-RAY in FRIENDSHIP GALLERY was the chosen base for deep exploration. Most of the new passages visited this year were found south of ATLANTIS and left as an expanding network of passages with many questions unanswered. The discovery of a large chamber and an active stream below made for a hydrological puzzle.

Hardy cavers were lured towards the deep end, where, after the discovery of the large series of rifts below BALAMORY, they headed down a winding stream passage until they encountered the water table at AJA? sump (-963 m). Due to the distance from camp and elusive nature of the remaining 2013 pushing fronts, the feeling that some of the leads might be out of reach of the more novice cavers spread among expedition members. In the end however, the discovery of 1.2 km of cave, all of it at depths greater than 500 m and sometimes as far as 3 hrs from the camp, involved all the *Skozi Zrcalo* expedition novices and dispelled any qualms about the accessibility of the pushing fronts.

The noteworthy visit to COLARADO SUMP a decade after its original discovery yielded, on top of its more obvious rerigging and rebolting by-products, an unexpected result: the previously 'terminal looking' sump revealed to be a mere duck. Jarvist Frost also put significant effort in laying the foundations for a deep, lightweight underground camp near RED COW with sights on WATERSHIP DOWN (-972 m), to this day the deepest point in the entire SYSTEM.





Bivi

- Rhys Tyers
- Clare Tan

...a large snow plug occupied the space which was to be filled with the buzz and bustle of excitement only a score of like-minded explorers can produce...



Figure 34: A usual bivi night by the circle of stones 📷 Rhys Tyers

A rather cold welcome

When Rhys Tyers and Clare Tan flew out a week before the main 2014 expedition, they had no inkling that the HOLLOW MOUNTAIN reserved a rather unpleasant welcome for them both, for after a long ascent through dwarf pine they broke onto a bleak landscape. The sun had not started to pierce through the shifting cloud cover, giving the place a desolate, empty look. Less empty however was the BIVI shakehole: a large snow plug occupied the space which was to be filled with the buzz and bustle of excitement only a score of like-minded explorers can produce.

This was rather problematic since it kept the BIVI temperature far below that the PLATEAU. At the best of times, the bivi shakehole is a couple of degrees cooler than elsewhere, now it was practically freezing. It also prevented the access to the stone circle, rendered the usual washing space impracticable and finally because the melt runoff produced a most repugnant mixture.

As the main core of the expedition arrived however, large numbers of helping hands, adequate job division and most of all, a determination to vanquish the uninvited iceberg saw a large operation of snow removal take place. Some was hauled out of the shakehole and dumped into M10 — maybe a fraction resisted further melting and was later hauled up for drinking water the following year— another portion sawed off and sculpted and one particularly large lump provided shelf space for the drying dishes and cutlery.

Little by little, the ice receded and the cold BIVI nights turned more pleasant, even as news of further underground discoveries came floating back across the PLATEAU. The weather improved gradually, and it was not without a pinch of sadness that we saw the last of the snow melting in between the scree under a hot summer's afternoon.

Tanguy Racine

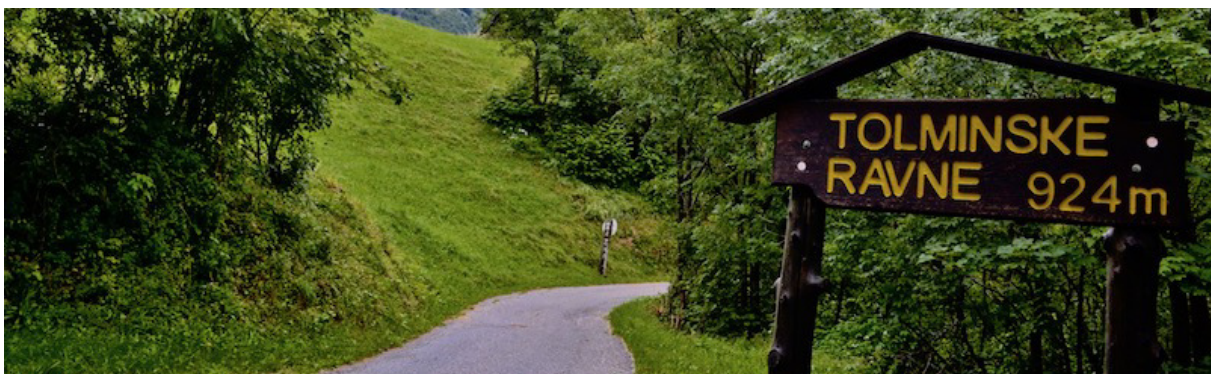


Figure 35: The walk from TOLMIN passes through the hamlet of RAVNE 📷 Rhys Tyers



(a)



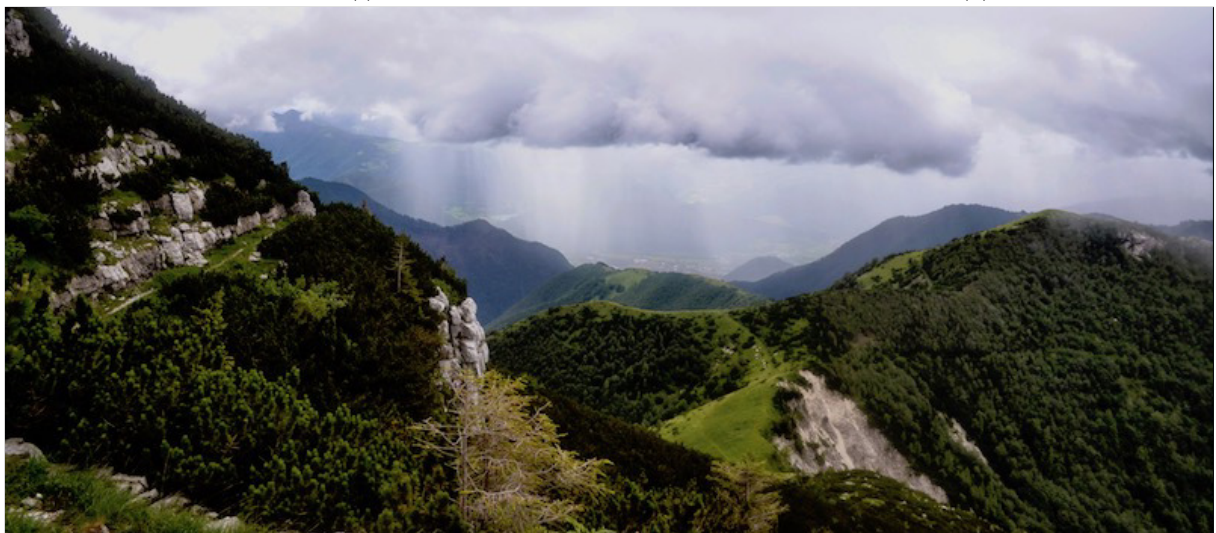
(b)



(c)



(d)



(e)

Figure 36: (a) The snow plug at the back of the bivi (b) Sarah, cutting away of block of snow to uncover a stone seat (c) Will French burning away at the iceberg. (d) Carving, sawing and hacking at the edges of the snow plug (e) On the mule path looking back towards TOLMIN and the SOČA valley 📷 Rhys Tyers

Jailbreak

- Rhys Tyers
- Dave Kirkpatrick
- Tanguy Racine

The death of Jailbreak

First impressions last a very long time. I still cherish my first memories of the caving club. Among them I recall clearly my first tree training session, the expedition talk a week before, and most important of all the first pub night. Myself and several other freshers on our first year of university sat with the older members of the club. There was a laptop on one of the wooden tables outside the Union bar so we gathered round to look at the photos of newly discovered galleries and caves. Rhys and Oli described a cave they had hammered their way through: JAILBREAK.

Ten months later, it was hard to believe I was finally going to see this relatively exciting finding. While Dave Kp and Rhys gathered their caving kits, I grabbed a pulley from the stash of metalwork that lay in the middle of the BIVI. Not two days before, Rhys had shown me the way down VRTNARIJA's main shaft series, to the top of TESSELATOR, a good third of the elevation difference between the entrance and the underground camp.

Now was the time for some down to earth digging. The aim of the trip to JAILBREAK was to investigate three possible leads, with one

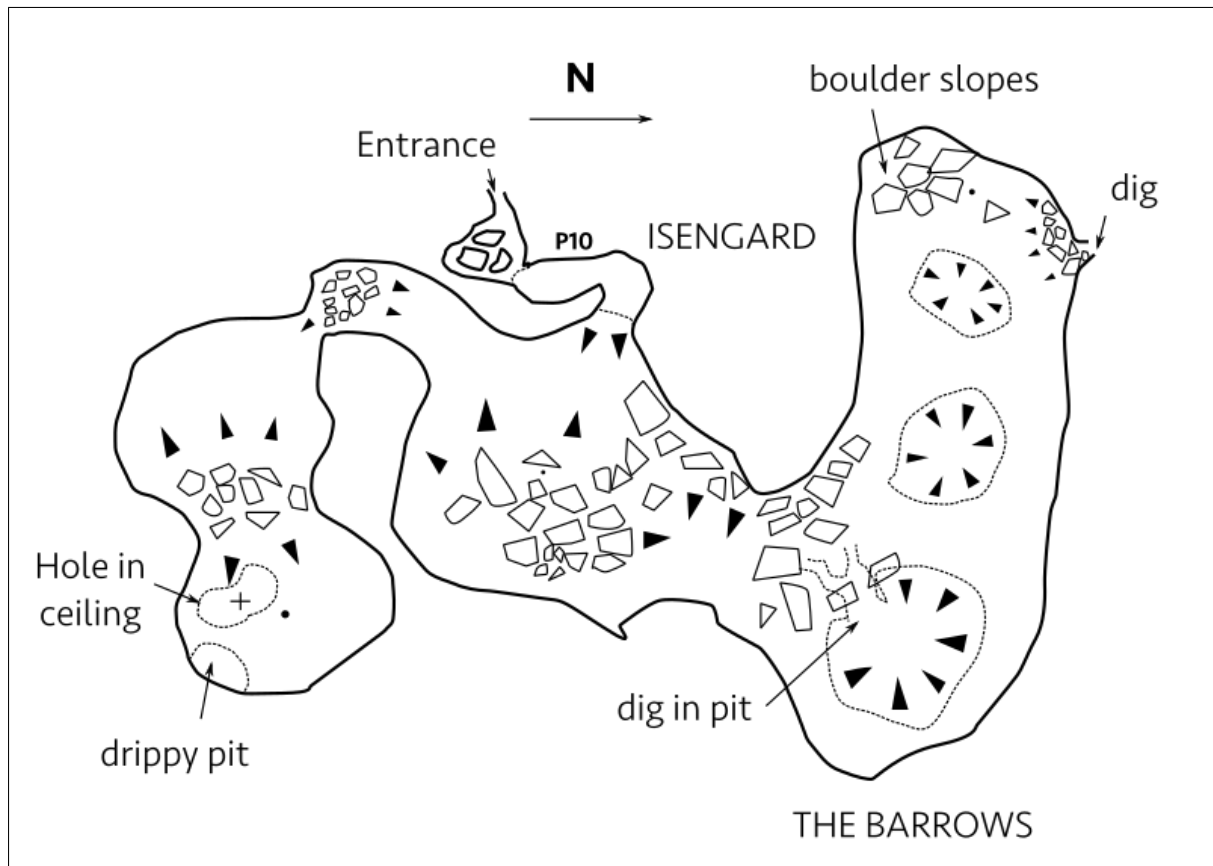


Figure 37: A plan of JAILBREAK cave, drawn in the 2013 scanned logbook. *✍ Rhys Tyers*

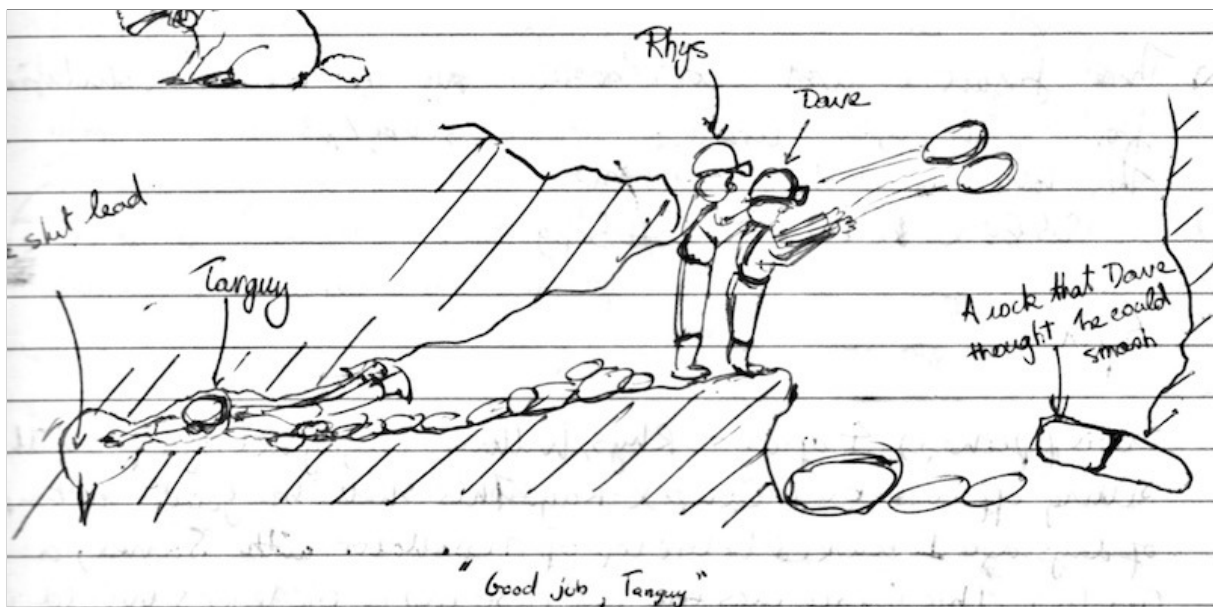


Figure 38: An artist's impression on digging and subsequently killing the leads in JAILBREAK / Tanguy Racine

needing a boulder removal. I remember walking on the well trodden path between KUK and the portal towards the north for a little while, until we turned west, towards the western slopes of the plateau. From there one could see layer upon layer of bare grey-white limestone running towards KUK. To the west, the sheer one and a half kilometre drop to the valley of the TOLMINKA.

The entrance to the cave was rather tight tube, requiring one to shimmy with one arm forward, like a stranded superman. The tube emerged into a series of small interconnected chambers, the BARROWS, through which I got lost trying to find the way on. The lights and voices of Rhys and Dave below guided me to a fairly unassuming hole in the ground. A thick rope indicated this was the first pitch, ISENGARD. I rigged my descender and abseiled to a cunning deviation, where the rope ran through a carabiner directly clipped to the bolt. After this, the pitch slanted at 80 degrees to a boulder choke. Rhys urged me to take care since very little gardening had been done in this cave. Following a fault plane, the passage then dropped into a breakdown chamber where the roof was a largely flat bedding plane. Loose broken limestone blocks lay strewn everywhere on the floor. The chamber was connected to another via a spacious crawl over the cobbles and in a drippy corner, we investigated the first lead. This was a small pit, maybe four metres deep, closing down immediately to a small crawl. There, a large boulder (60 × 60 × 60 cm) blocked the view, and possibly, the way on.

We decided to use a hauling system. Two of my krabs and my hand-jammer contributed to putting together a pulley jammer while Rhys started to hammer a bolt in the wall above the pit. This involved free climbing directly on top of the drop, and driving the bolt in the rock with only precarious footholds. This was done without any incident, so I climbed down to the rock, wrapped it in slings like

...The entrance to the cave was rather tight tube, requiring one to shimmy with one arm forward, like a stranded superman...



(a)

Figure 39: (a) The main chamber at the bottom of Jailbreak (the floor is choked with shattered rock or choss) 📷 *Rhys Tyers* (b) The entrance to Jailbreak cave 📷 *Pete Hambley*



(b)

a Christmas present and attached them to the rope. Up top, the pulley jammer was put in action, with Rhys attached to the rope, feet against the wall, and Dave adding his weight on the pull. I wedged myself in the pit above the rope, with one hand on the rope.

‘Three... two... One... heave!’ There was a little grunting, a fraction of a second for the rope to take up all the tension and then a tremor in the boulder which rotated and came swinging vertically below the bolt. Another effort. ‘Heave!’. The boulder rose twenty centimetres off the ground, swung towards the opposite rock face and brushed it ‘Heave!’ and it was now well off the ground. In no more than five minutes, the rock was almost level with the lip of the pit. In one clean motion, it came to rest on it, with the pulley jammer rope now slack. With three pairs of arms, we managed to move the block away from the drop and shook hands on the success of the operation.

Rhys then climbed down, and pronounced the lead dead. Dave turned to me ‘Congratulations! You’ve killed your first lead’. That was a major milestone on the exploration caver’s journey. Did the mountain now owe me some fraction of a good find? How many more leads would I kill before discovering 500 m of easy walking passage?

Tanguy Racine

Surface exploration on Migovec

Digging B10

'So this is a digging tray?' I exclaimed. The bivi was crowded in the late morning. Rhys and Dave had gone down to the underground camp to push the large junction of SIC SEMPER TYRANNIS. Will French and James had also gone down, although they were pushing a streamway closer to X-RAY. With time on my hands I volunteered to help out with the digging of B10, led by Dave Wilson and Pete Hambly. Fiona wanted to come too to spot the entrance and help out with disposing of the dug out rocks. The digging tray was a jerrycan, whose side was cut out, tied to a rope on both ends for easier handling in tight passages. Dave packed a small spade, a large and small crowbar and some comf. I was excited to see digging techniques put in action.

The sky was heavy with cloud, and it seemed for a time as if we'd escape the rain altogether if we quickened the pace to the entrance. On the KUK path we headed north, until a large grassy valley on the left leads to the plateau's edge. On the left a large sign painted on the rock indicated we'd reached the cave entrance. A few metres on, an obvious pit was marked with the sign 'N04'. We gathered around the pit and looked at the nodules that protruded and seemed provide a safe free climb route. Dave put his foot on the highest nodule but frowned instantly, gave it a mighty whack with the back of his boot and the whole lump of rock tumbled down. Now that the climb was much more daunting, no foolish explorer would risk climbing without a rope.

The entrance to B10 led away from the cliff, at a steady angle downwards. It began as a spacious crawl, with red mud at the bottom and dark grey crystalline limestone on top. Soon the passage closed down to a squeeze only Dave Kp had attempted the year before. With both arms tucked underneath my body at the tightest point, I shimmed down and went through to the very small chamber (here the term is loosely applied, the passage is just large enough that a U-turn manoeuvre is possible). Beyond, the passage was tight and very low, but it was mostly made of cobbles with a muddy matrix holding them together.

I turned around and asked for the tray, the comf and the digging instruments. While Pete and Dave started shuffling rocks from the entrance passage before the constriction to make the access easier, I attacked the squeeze from the other side. After lining the floor with a roll mat I lay insulated from the ground and started the work. This involved using the leverage from the crowbar to pop cobbles out of their mud matrix, and filling the tray. After an 'Ok' the tray would disappear, pulled by the other party, and after another vocal signal, I would pull on my end of the rope to bring it back, and fill it again.



B10 Dig

- Fiona Hartley
- Tanguy Racine
- Dave Wilson
- Pete Hambly

...Dave put his foot on the highest nodule but frowned instantly, gave it a mighty whack with the back of his boot and the whole lump of rock tumbled down...



Figure 40: Dave Wilson (DW) peering into the low entrance crawl into B10 📷 *Pete Hambley*

And again.

This was hard work, and soon the grey skies outside were calling to me. Near the entrance, the walls were dripping, and some of the water was beginning to find its way down the small chamber. After an hour or two of tedious toil, the squeeze was perfectly manageable, but further enlargement would also make it easier to dig.

Tanguy Racine

Exploring the limestone pavement

9 different locations explored, some already visited (GPS confirmation), some previously unknown.

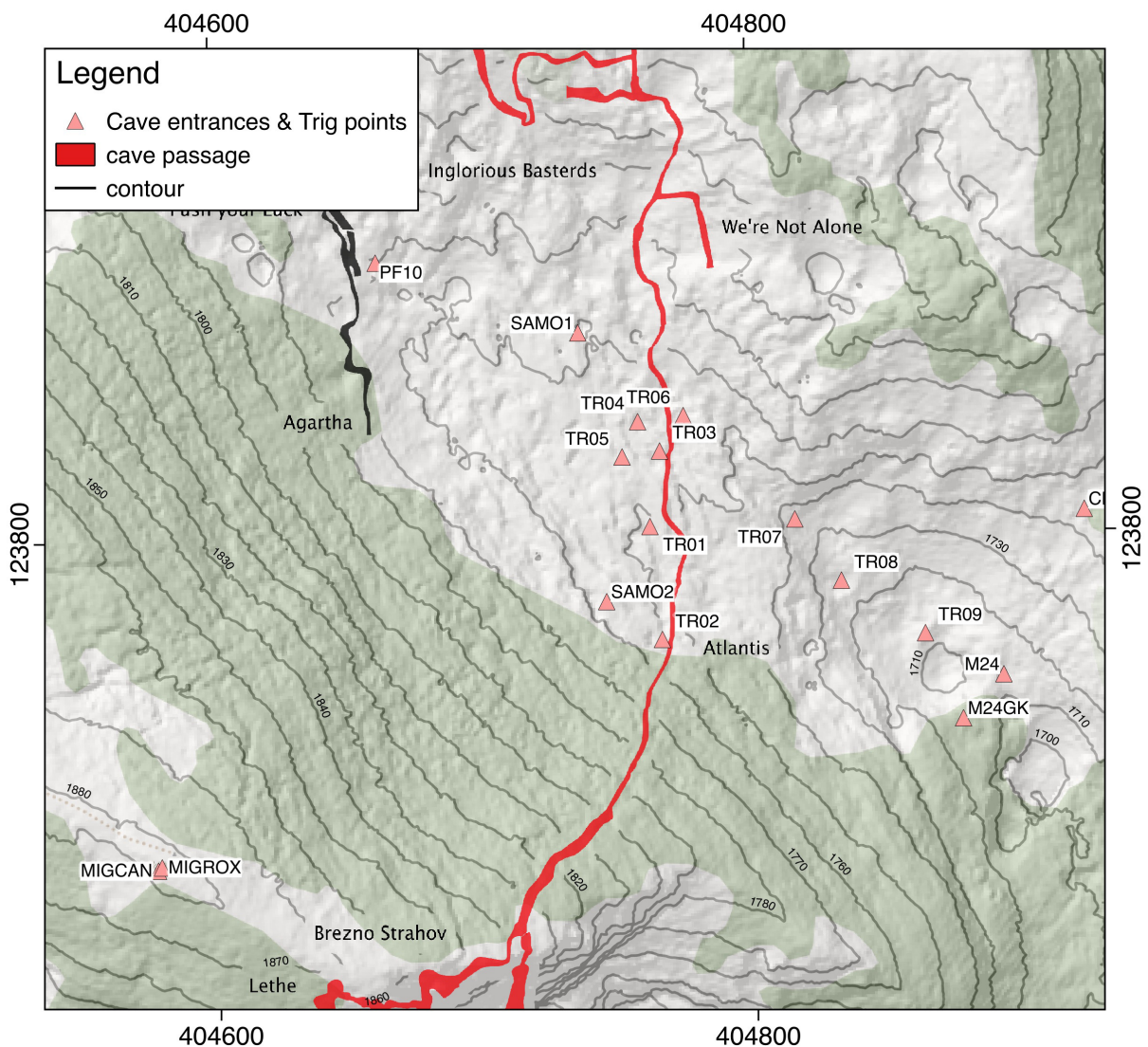


Figure 41: Tanguy examines a potential lead 📷 *Jack Hare*

- *TR01 33T 0404791 5122266*: 1 × 1.5 m hole widening at the bottom, with snow plug (3rd August) likely couple of metres thick. Has two other connecting entrances: 1 is a small tube further up, other is freeclimb under two wedged boulders. main entrance can be bolted (6 m deep). Floor is ice and rubble without obvious continuation. Undescended as of 03/08.
- *TR02 33T 0404795 5122224*: From TR01, walk towards MIG, stay on southern side of the valley, past several shakeholes. Entrance is found after a short clamber over boulders and through dwarf pine. A snow and rubble slope lead down to a low chamber with several blind avens. Terminal chamber reached after a short, dug out crawl on the left hand side.
- *TR03 33T 0404795 5122294* (Green limestone entrance). From

TR01, walk north directly across the valley and climb down a couple of limestone steps. 2 stone cairn by the entrance. Climb down entrance choke (large boulder wedged in tube), to 2m high chamber. More choked passage at the foot of the chamber, continuation curves left along a fracture plane. Rock removal needed before subsequence exploration. Bring tape, crowbar and chisel.

- TR04 33T 0404787 5122305: From TR03, walk uphill for 15-20 m. Obvious dig with large upturned boulders near the entrance. Entrance itself is a small choke, triangular shape. Small drop to a rubble floored chamber. Little enough draught.
- TR05 33T 0404781 5122292: From TR04, walk towards MIG again for 20 m. Small pot with a boulder choke on the southern side. Small freeclimb down, feet first, the boulder slope soon



Map 3: The limestone pavement — Slovenian National Grid EPSG 3794



Figure 42: An impressive natural amphitheatre, near where the old MIG path arrives after its terrifying ascent of the face of MIG – near M24 📷 Jack Hare



Potholer's Pilaf

The quick and easy way to cook generous, savoury rice.

- Gently heat pan with oil, pre-soaked mushrooms, onions.
- Fry till soft and golden then add parboiled rice.
- Make stock with veg. bouillon, herbs and spices, nuts and raisins then ladle gradually into rice.
- Stir until cooked through and the liquid has evaporated.

reaches the ceiling, strata. Draught felt at the time of exploration, with easy digging.

- *TR06 33T 0404804 5122307*: Dig in a vegetated shakehole. Tight boulder choke at a sharp angle to the entrance, closes down couple of metres after when boulders meet the ceiling. Harder digging.
- *TR07 33T 0404845 5122268*: Much further down the limestone pavement valley, and on the south side of a significant collapsed shakehole: dark alcove becomes vadose trench 50 cm high. After an obvious fork, can be followed right for 5 m until it becomes too narrow. Left is impassable almost immediately.
- *TR08 33T 0404862 5122245*: At SE side of same depression, a way through boulders leads to a triangular choke, followed by a squeeze, ending in 5m long rift, floored with ice and cobbles. Is the ice blocking the way on? Would need serious digging to go.
- *TR09 33T 0404893 5122225*: From TR08, following the path down to the next depression. A clamber up the boulders to north slope of doline leads to a small entrance behind a lump of rock. Small grotto inside, with draught but obvious way on is choked.

Tanguy Racine

Preparing the ground for another camp

Prelude With a new job in Bath, yet still one half of my life in London, I hurtled towards the summer with some severe time restrictions and I feared that I would not be able to make it to the expedition. After some time staring into my soul, I withdrew an abstract from a conference and booked some cheap flights Bristol to Treviso. All I could line up was ten days, 25th July to the 4th August.

I made it to London the weekend before the van left, and joined in with the last minute preparations – pushing trolleys around Clapham Lidl and ASDA, filling our boots with cut price carbohydrates and ready munch. We then had a full day in stores, helping deal with the too-long and yet ill-defined and nebulous to-do list. A big oversight was that the underground camp gear had remained unwashed since the previous summer, and so required many hours of laundry room attendance as the sleeping bags and comf were washed and then extensively tumble dried before being packed for -550 m.

My drone ⁴ arrived in time to be sealed in a mini Daren drum with my XML bike light, but not much tested. It fits wonderfully in a small Daren drum with a few roll-mat circles of padding. The controller actually clips within the bottom ring, and the rotor cage of the quadcopter similar sits gently against the narrowing for the neck.

Arrival The flight out was pleasant, but I had a lot of travelling to do in Europe. From Treviso I walked to the train station to catch one of the every two-hour trains towards Gorizia. Jackie's pub, just near the airport, served good pizza on the way back. From Treviso I trained to Gorizia, caught the 1-Euro international bus across the border to Nova Gorica (bus station), and then caught the evening bus to Tolmin. I arrived in time to meet Tetley, Martin, Janet and friend, and go out for Pizza.

The next morning, Janet had very kindly offered to get up early (6:30 am!) and drive us to RAVNE in her hire car. This was a great boon, and two carries later I was firmly ensconced upon the mountaintop. Unfortunately, my timings did not mesh with the expedition. Many people were leaving that weekend, and so most cavers headed down to Tolmin. I spent my time on Sunday doing a food carry, and generally fettling. The weather during my time there was appalling – almost no sun, clag or heavy rain the rest of the time. At least it was fairly warm!

Rhys had returned, and we had a plan to go caving (a 3 day camp) on Tuesday, which would form the totality of my expedition. The weather was horrific, rain and clag which made it difficult to muster the enthusiasm to go caving, or to prepare gear and pack Daren drums. We decided to rotate onto the Night Train (i.e. sleep during the day) due to our slipping timings, and to make more considerate use of the 4-bed camp at X-RAY. We had a hare-brained plan to setup a full blown mini camp at RED COW, but the amount we would have to take down (and take out) was prohibitive; and there were no more



Republika

- Jarvist Frost
- Rhys Tyers

...After some time staring into my soul, I withdrew an abstract from a conference and booked some cheap flights Bristol to Treviso...

⁴ a Husban H107C HD Camera quadcopter



Figure 43: The hiking trail leading to TOLMINSKI MIGOVEC starts a RAVNE 📷 Jan Evetts

club 4-season sleeping bags so would be very cold. There was also the obvious safety implications of camping away from the others, with potentially no contact for days (i.e. no daily callout). Dan Greenwald had done a bounce trip to X-RAY on Monday, replenishing the camp with supplies and removing rubbish.

Our plan was to spend all the time near RED COW, emplace a tent and roll mats for a camp, get down to WATERSHIP DOWN and push the dry leads near the sump, and sort out as much of the rigging between X-Ray and the sump to support a possible diving expedition next year. After supper and a break in the weather, we set off for the cave entrance in the gathering dusk. We had two tackle sacks each.

Jarv:

- Daren with photo equipment, survey gear, sonar + laser range finder, chocolate bars, music speakers. 3L Daren with drone and bike light. Additional Uneo drill and two batteries, spare 8 mm bits.
- 2 man single-skin tent, wrapped up in a roll mat

Rhys:

- Daren for camp with food, candles, spare batteries etc.
- Roll mat, with a core of food packed in plastic bags and fuel for the stove.

Day 1 Smooth trip down to camp, where we repacked and ate some hot food (William and Tanguy were on the day-train at a similar time, coming down to sleep then push tomorrow). We set off with tent, roll mats and drill (with single battery), intending to stay above REPUBLIKA and sort the rigging. The night train dragged, as it always does. The drill would not work, though we couldn't tell whether it was the (single) battery or the drill itself. Disappointing. We rebolted the freeclimb at the end of MEMORY LANE with spitz. We then progressed to RED COW, found a good space for the tent (slightly further along the passage, in 'NEVERMORE'). This is a wonderful camping spot. The passage is broad and dry (as in, oversuits seem to dry quickly there), with fine rock-flour 'sand', a solid phreatic ceiling and smooth exposed rock with useful shelves. It's particularly picturesque, with what appear to be large limpet-like fossils in the ceiling, and then a series of solution oxbows further along.

...It's particularly picturesque, with what appear to be large limpet-like fossils in the ceiling, and then a series of solution oxbows further along...

The new 2-man tent at Red Cow We located a latrine for camp, another 30 m along the passage. Here a small phreatic leads down a too-small to push lead for about 5 m. You could even use it as a long drop toilet, depending what you were planning to do with excrement? However, the first thing to go down it was one of my gloves⁵. I had placed them within my oversuit while cooking (to keep them warm), but forgotten about them, and then approached the latrine with sufficient momentum (and lack of care) that when I ripped open the velcro of

⁵ brand new, and super warm Marigold Astroflexes

my oversuit, one was catapulted into the breach, and I watched helplessly as it did a Jacob's ladder tumble to the 5 m depths of the hole.

It was now approaching 4 am and time was seriously beginning to drag. X-RAY camp times were 8.00 am to 8.00 pm this year, coming back early is extremely disruptive to the previous shift's sleep. After our coffee and lunch, we crawled into the tent (wearing full kit, minus harness and helmet) and had a little rest. Nicknamed 'CAMP CUDDLE' (for this year only), Rhys reckons he didn't get any sleep, but I distinctly remember him snoring.

I find it really interesting that a tent (to shield from the draft, and retain warm air) and roll mats (to insulate from the cold rock) were sufficient to make the conditions survivable (if not pleasant). Certainly we would not have been falling asleep had we been cowering in survival bags. Anyhow, the next time I looked at my watch it was 6:30 am and we were pretty chilled. We quickly put our gear back on, and set off at speed back towards camp. We covered the ground in 90 minutes (one bag each), moving quickly at the start as we were desperately trying to warm up! Back at X-RAY we were pretty exhausted. Tangy very kindly made us tea + some supper, though neither of us were hungry —the night train really messes up both your hunger and sleep cycles.

Day 2 We packed for the depths, and figured out that it was the drill we had brought down (with dodgy wiring) rather than the batteries. William kindly carried out the dodgy drill and we packed for the bottom of the cave, with as many odd lengths of rope and sufficient hangers/bolts that we could muster. Everything was a bit minimal at X-RAY, with fewer finds this year we hadn't seen the bulk supply of rope and equipment that occurred in previous ones. Metalwork had to be separated from bags where it was stored with carbide to keep it dry over the winter. We went direct to REPUBLIKA, leaving the drill and food at RED COW, and were suitably awed by the water levels. The chamber was very spray lashed, and a lot of water was going down the pitch – the waterfall going directly via where the rope hung! So we started hand bolting to the right, avoiding the water. I put the two traverse bolts in while sucking teeth and muttering about the quality of the ceiling rock. Rhys, in his PVC, went over the edge, fixed a temporary deviation (we had no skyhook), and thereby slithered around further to the right into a cubby hole on the pitch and rigged down a dryish route, on our new 10mm gold rope. We munched a chocolate bar, and headed back to RED COW taking photos in REPUBLIKA and the streamway (I was very cold, Rhys was splashed after having stomped around the bottom of REPUBLIKA). This was rather difficult due to the sheer amount of spray flying about!

At RED COW we had a hot drink and some food. I decided the conditions really were too wet to have much of a chance of reaching the sump – INSOMNIA was likely to be wetter than REPUBLIKA, and a lot of DAY DREAMERS puts you very close to the stream.

So we decided to curtail our attempt on WATERSHIP DOWN for

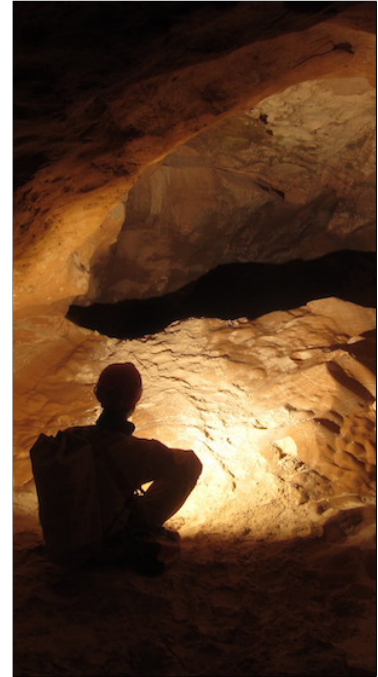


Figure 44: Rhys Tyers in the old sandy phreatic routes in POTATO, now with added explorer's footsteps 📷 Jarvist Frost

... The chamber was very spray lashed, and a lot of water was going down the pitch – the waterfall going directly via where the rope hung!...



Figure 45: Rhys Tyers at the sandy, draught-free and altogether very pleasant RED COW camp 📷 Jarvist Frost

...Rhys woke rather angrily after 90 minutes of sleep (when I woke I looked at my watch), believing that he'd only been in the tent five minutes!...

the day, and instead rig our way back to X-RAY with the now fixed drill and battery combination. This was after another snooze at CAMP CUDDLE, where Rhys woke rather angrily after 90 minutes of sleep (when I woke I looked at my watch), believing that he'd only been in the tent five minutes! We collected all the 2010-2011 ropes left at RED COW, and returned to X-RAY photographing and riggering. We placed our full complement of 8 rawl bolts, forming Y-hangs where they'd been dodgy natural over-hangs, traverse lines where there were trip wires and SRT options where previously only brute force would do; and of course photographing as we went.

Day 3 During the night, Andrej and Dan arrived to visit ROARING, but came back early at 5.00 am and had supper then a snooze in the spare sleeping pits. When we got out of bed at 8, ZIMMER was still roaring ('like a Hydro Turbine' – Andrej) and so we put to bed our plans to visit WATERSHIP DOWN. Instead we packed laser disto, camera gear, the drone, and a proper lunch, and aimed the controls for STRAP ON THE NITRO (Aven) and beyond.

A speedy trip to RED COW admiring our new string, where we dumped the food and the stereo, pared our collection down to a sin-

gle bag and continued to STRAP ON THE NITRO. From RED COW it was up a rift to an enormous stacked boulder (I wonder if anyone dared climb past it to see if there's a continuation?) then back down to more powder-filled passage, a small pitch, an abandoned 2004 tackle-sack that appeared stuffed with rope and rigging (more on this later?), and a scary freeclimb down a beautiful cliff face to reach the note demarking STRAP ON THE NITRO.

The aven is impressive: 33 m with the laser disto, smooth good quality rock at 70 degrees to the horizontal, Tetley's + Tom's escape route rigged off a nodule at about +12 m, and a good draft disappearing up the aven. We unpacked the flash and took a few photos, then got the drone out. Rhys was the WW2 'searchlight' operator with my light ⁶. I flew the drone. The experience was rather exciting; control was on a knife edge. I had intended to have a few different micro-SD cards and to swap them between flights. This way if I got the beast stuck up the aven I'd still have all but the latest footage. Alas, I wasn't organised enough, so I was extremely wary of losing it.

The first flight I had a look around at up to about 20 m off the floor, checking that the controls were working. The second flight I took it straight up to near the top of the aven. Here it seemed like I was having to fight against a wind that was attempting to take me into and over to the left of the aven. Drops hitting the craft were extremely destabilising to the control system, making it pitch and precess around until recovering. After these two flights I decided we'd probably had our luck.

We then continued into POTATO — a lovely bit of cave with large tunnels and white powder floors, nice pitches (OK; natural belays and old 9 mm again, scary). I glanced at my watch and noticed that it was passing midnight on July 31st so I informed Rhys that his two year reign as president was over...

'The King is dead, long live the King!'

The low point you pass through (*potato.23*) is particular interesting, as it's got obvious features of being a river bed, with a bank of water-abraded pebbles which you crawl over. From *potato.18* you make a long and consistent ascent to the end, passing over one up-pitch. The passage seems fault controlled, with sections of perfectly level bedrock.

This is the end of the 2003 pushing, and the start of SMASH. This was really quite nasty — you start with a severe climb into an area of breakdown and boulder choke, no more white powder just angular rocks and mud. There are a few carbide arrows, but not enough to make you confident. I'm fairly certain things have moved since 2004. The area is very unstable. In the final chamber, we found the squeeze onto a pitch (blackness) which Dan had warned us about, but managed to find an earlier way through the boulders which reached a freeclimb down a steep boulder slope, to a PSS note 'did you like the squeeze?'. We could see the Spitz on the wall for the squeeze then pitch, but there was no rope. This was very odd, and quite discom-

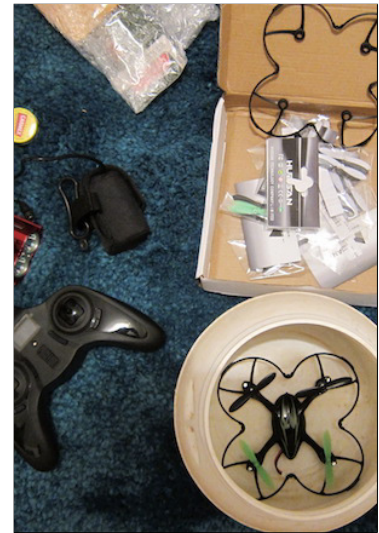



Figure 46: A Husban H107C HD Camera quadcopter, sealed in 3L darren drum  Jarvist Frost

⁶ 2xXM-L lithium ion bike light

...I glanced at my watch and noticed that it was passing midnight on July 31st so I informed Rhys that his two year reign as president was over...

bobulating.

MILES UNDERGROUND was OK, being mainly wide rift passage with boulder hopping. There were a few places where you could look back and up in the rift, many possible leads. Again it wasn't super stable. It ended at a short pitch down, again derigged! The PSS talked about an undescended pitch down by a waterfall, which we could certainly hear. Rhys found a bypass by doubling back on the right and climbing through the boulders ? tight but passable, and completely without wear.

We were now in BEYOND. After a fairly large boulder slope with the waterfall in the corner, this returned to a large-rift development, except for an obvious bit which appeared to be a fault-controlled bit of phreatic, with crack in the floor and then symmetric tulip profile either side. In a 3 m wide rift we came across the ROCK OF SAGES – not as big as depicted on the survey!

After more rift we reached the obvious end of BEYOND. The passage just continues in rift that turns into a climb on massive blocked boulders ('TO INFINITY AND BEYOND') though I'm not sure I would call it an aven!

The obvious way on here was a steep, again geomorphically controlled, slope of pure white limestone at about 60° to the horizontal and perhaps 10-15 m width. The roof was 2 m away, and seemed a different, darker and more structured limestone. It was an easy descent, but I had qualms about the return. This shallowed out into a beautiful 5 m across phreatic. After some descent, an immature stream entered on the right and started running along a 5 cm wide crack in the solid rock floor. The passage continued to a 90 degree bend to the left, where a similar sized passage issued a similarly sized stream from directly ahead. I believe this is around colarado.10 m on the survey, but there were no PSS down here. I don't believe this passage has been pushed.

The combined streams continued down, and our phreatic merged with an almost identical one running in front the right, us having to step sideways between areas of boulders and confusion. (I believe this forms the 'HOOVER DAM', but we did not follow it). The last run to the 'sump' is absolutely dead straight (for greater than the 40 m limit of the laser disto), with about a 1 in 3 slope, and with the now 10 cm wide stream running in its own slot back and forwards across the floor. It had taken us 3.5 hours to reach COLARADO starting in X-RAY, including playing in Strap On. Yet it felt a lot further. The passage then flattens out, the water entering a pool mostly choked with fine rock flour which has formed a perfectly levelled silt bank which is dense enough to walk on. The PSS was on a little cairn, about 20 cm above the water level. Its pages were covered with silt deposits, but it wasn't massively disturbed, suggesting the water does occasionally backup, but never flows aggressively.

The plan shape of the passage is a hammer head, there are alcoves on the left and right with the thin crack of a fault line. The silt bank lead through a rock arch to within the 'sump', so I stooped



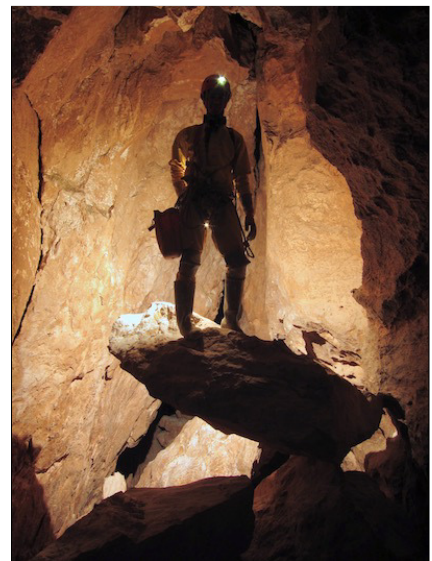
(a)



(b)



(c)



(d)

and ducked in.

The first thing I noticed was the echo — it sounded like a much larger chamber. Looking along the azure surface, there was an obvious black rock arch, seemingly about 4 m away, 40 cm across and 30 cm high above the water surface. The profile of the sump seemed to be roughly bath-tub. I went and got camera and laser disto. By nearly touching my face to the water I could look through the arch, and see to the far side. There was a boulder at the water's edge, and slope leading up behind it. Slightly to the right of the boulder was what looked like a beach of silt or pebbles. The laser disto measured 14 m through to the other side, with 3 m from the PSS to where I was standing within the 'sump'. The air was totally still, so the passage must be sumped.

From the extremely well defined 5 m across phreatic, my belief is

Figure 47: (a) Passages leading to the sump, with a classic (b) A small triangular airspace beckons (c) The COLARADO 'duck' from higher in the passage (d) The ROCK OF SAGES

📷 Jarvist Frost



Figure 48: The very top hang of SPACE ODYSSEY 📷 Jarvist Frost

that this duck is perched, and that the phreatic has been disrupted by a slip-fault running across it. I would not be surprised if the person to first pass this duck will find a continuation of the phreatic leading down towards the water table and the terminal sump, 91 m deeper. Certainly Rhys and I weren't seriously considering giving it a go — we were a long way from a place of safety, where no one had been for ten years, and the navigation through SMASH and the three pitches we free climbed down were certainly weighing on my mind.

We started heading gently back, taking photos. The climb back up the steep limestone slope from COLARADO SUMP was difficult. I was tall enough to push off the ceiling, where Rhys had to survive on the extremely minor footholds on the floor. Certainly it needs a rope; I think it may have been rigged with one originally, though we didn't see the supposed spit. Once back at the end of beyond, we photographed the true horror (difficult to do it justice), and free climbed up the end of the rift (INFINITY AND BEYOND). We stopped when we rubbed out of wear and the next boulder seemed a bit of a challenge; I think this is the exploration limit. The rift is perhaps 3-4 m wide here.

On the way back we photographed the ROCK OF SAGES, which Rhys stood on for the photo. He nearly got squashed by a 'table top' boulder which toppled as he walked over it, dumping him against the wall and then just standing on its long edge rather than pinning him against the wall. It looked particular amusing, as the boulders here had white dustings on their tops and muddy undersides, except for the now orthogonal one.

In SMASH we were slightly stressed, both by the challenging free climb to get back into it, then a few mis turns in the boulder choke, and a TV-sized boulder that started shifting towards Rhys under my feet. We were very glad to be back in POTATO (all the 2003 cave was friendly; all the 2004 cave was scary!), where we started taking more photos. At RED COW we had our hot coffee, listened to some calming Ella Fitzgerald, and ate our smoked mackerel and bread / oatcake delight. We avoided CAMP CUDDLE, had another hot drink and then made our slow steady way back to X-RAY.

After a beautiful, unbroken, nights sleep we were joined by Saber and Sam. They cooked a delicious looking supper which, horrifically, was contaminated with Bitterex from the Meths. I think it must have been splashed over the packets of soup by someone refilling the Tranja. Saber made another pot of noodles, which merely tasted slightly of petrol (probably from contamination in the BIVI).

Still feeling the weight of sleep deprivation, Rhys and I considering going out during the night, but didn't put on caving kit and in fact curled up next to Sam and Saber, and soon it was a true morning. We tidied up camp together, I had a bit of a fritz about someone having 'stolen' my spare camera batteries and toothbrush, turns out that whoever they were they hid them in my resealable bag with dry socks (the fiends!), and left for the surface. Rhys and I had a full bag each (with the extra bag rolled up empty inside). On the way Rhys

and I photographed from FISTFUL OF TOLARS to LAUREL, making an unbroken chain of photos through the cave from COLARADO.

Fall from Grace I was climbing up between one of the URINAL SERIES pitches, in an unremarkable piece of rift about a metre wide, with my arms out horizontally. Both feet slipped off their footholds at the same time, and with a terrifying grinding noise my right arm was wrenched up to the vertical. For about half a second there was a deafening pain, and then the pain just as abruptly stopped. I checked I could still move it, and I could! So carried on before it got too stiff. I was extremely glad I was within 40 minutes of the surface, rather than having been injured like this at the bottom. Pitch heads were rather difficult, as I couldn't lift my right arm above the horizontal, and to SRT I had to use both feet as I could no longer pull down on my hand jammer.

'Hazel's not dead'

I exited to a total clag out, warm thick cloud enveloping the mountainside. 5.00 pm on a Saturday; we had been underground 92 hours.

I had failed to make it down to WATERSHIP DOWN (push the dry leads, and photograph the sump) ? my primary aim of the 10 days. This was the first year since 2004 in which I did not discover any new passage. But we had two full memory cards for our efforts, and some good work applied below -500 m to ease future people's work at those levels. Only one other trip had aimed to go past RED COW since 2004 when James KP and Dan made it to the end of SMASH before having a close shave on the squeeze-to-an-unrigged-pitch.

Sunday saw me do a down-up-down carry. My bag wasn't at all painful to carry, but I couldn't easily pick it up or put it on my shoulders! Getting into jumpers, and wriggling into sleeping bags, remains an issue. On Sunday night I was back at RAVNE and considering how to get to TOLMIN. The light was fading, and after a brief start at walking down, I decided to take one of Tetley's bikes. I didn't have my big head lamp, just a mini single-AAA one. I considered rebuilding my caving light, but I didn't know where to find any batteries. At the first hairpin I realised that the front disc brake was not working. This was clearly a potentially fatal issue. I fixed it with the combi tool in the saddle bag (just needed the static pad dialing in, though it would have been a lot easier with a full size allen key!). It was now fully dark.

The descent was pretty frightening, the 'Tikka' barely showed the road surface let alone warn of coming hairpins or patches of loose surface. The road is only sporadically barriered, and now that they're laying new tarmac it's not obvious whether the white is road or limestone, and whether the black is road or precipitous drops. Approaching the hydro, the brake cable came off the lever, and I barely stopped on my rear brake. I fixed this, but burnt my thumb on the rotor in the process.

Beyond the hydro, on a bend where you pass a river, there were

...For about half a second there was a deafening pain, and then the pain just as abruptly stopped...

two cold green eyes staring at me from the verge. Let's say it was a deer rather than a bear. Certainly I cycled rather quickly for the next few hundred metres.

As I approached the last long descent towards TOLMIN, heavy fat drops started to fall. I stopped next to a wood pile and repacked all my electronics in a waterproof bag. The storm broke fully and I now found myself cycling along with barely any visibility due to the torrents flying past me. Fun times.

The rain stopped by TOLMIN, and I turned up at Tetley's looking rather bedraggled, a (wiser) weaker man.

Jarvist Frost



Figure 49: Catching one last sunset before leaving the expedition for this year 📷 *Jarvist Frost*

Exploring the Northern extensions

Republika

REPUBLIKA is a very cool place: two streams landing on the middle of the chamber. The actual pitch looked too wet to use, so we took the opportunity to rerig it. Jarv put in the top 2 bolts and graciously let me do the exciting two bolts below. They were a lot of fun to do if a little bit wet as it took a few tries (a swing into the waterfall) to wedge my cowstails somewhere to hold me over a nice rebelay point. It was about 3.00 am when we finished. So we didn't go pushing instead headed to CAMP CUDDLE for a soup and a quick nap. On our way back we rigged and rerigged a few of the climbs in LEPRECHAUN and took photos. About 8 raul bolts and 6mm stainless on many maillons. Everything to RED COW is now approximately sensibly rigged. Just need an extra rope for the bolted climb at the end of MEMORY LANE.

O welly, what is it that you contain?
 A mysterious substance, over which I've fucked my brain
 You quite often sound an interesting squelch
 And very occasionally emit a belch.
 Visually it seems to be brown sludge,
 Not entirely dissimilar to delicious fudge
 Though I think I would find it quite incredible,
 The thought of it being edible.
 All I want, O welly, is a dryness round my foot,
 You really are an altogether terrible and useless boot.

Rhys Tyers 

Colarado Sump

First visit to the mysterious COLARADO SUMP in nearly 10 years. And a drone flight to top it off. With about 4 hours of fitful sleep we set off the now familiar journey to RED COW passing quickly. We dumped our food and compressed our kit into one tacklesack (would be very grateful of this later in the trip) which Jarv generously gave to me. The way beyond RED COW is beautiful and easy. Large sandy passage with the odd pitch. The riggers of a decade ago were definitely fond of naturals. I don't think there's a single (rigged) bolt beyond RED COW. We found a tacklesack full of rope abandoned in the passage (now lugged back at RC) which was probably foreshadowing that we should've paid attention to.

STRAP ON THE NITRO is a very interesting place. A steeply sloping aven with obvious passage at the top. Very easy bolt climb as it is probably free climbable. Jarv fired the drone up at this point and I hope it got some usable footage! Even if it doesn't, I think flying quadcopters round the cave should be done more often. We carried on past pretty mud and sand formations, taking photos all the way. Eventually the passage come to a pebbly crawl which marks a




Republika

- Rhys Tyers
- Jarvist Frost



Figure 50: Calcite needles in LEPRECHAUN passage

 Jarvist Frost



Colarado Sump

- Rhys Tyers
- Jarvist Frost

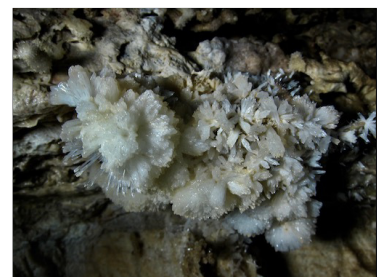


Figure 51: Calcite needles in LEPRECHAUN passage


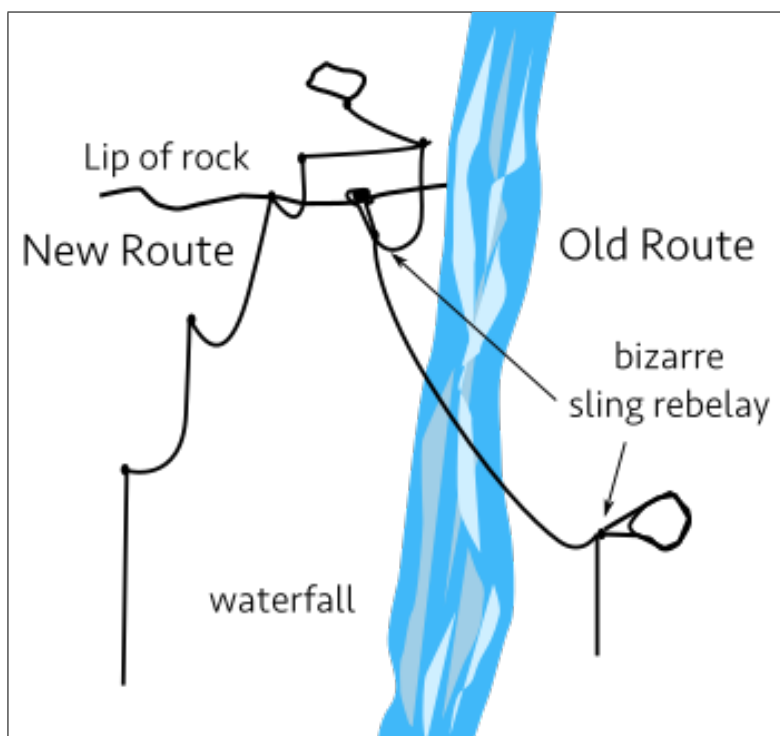
 Jarvist Frost

Figure 52: Rerigging REPUBLIKA chamber was part of a 'good works' project by Jarvist Frost and Rhys Tyers, with the aim of eventually revisiting the deepest parts in VRTNARIJA
 ✦ Rhys Tyers, *underground log-book*



sharp transition in the nature of the cave. From fine sand before to loose boulder and stone slopes. It continues to deteriorate until the monstrosity that is SMASH. A large, lengthy and very loose boulder choke. It takes a fair amount of work to navigate and there are several very dodgy climbs. The rout winds through a bizarre array of spaces and constrictions and it is impossible to keep track of it. Eventually though it ends and the relative safety of MILES UNDERGROUND spreads out before you. It seems to mostly be a large rift on fault, 3 m wide in most places and many more high with a bouldery loose floor. On the way back through I was nearly squashed by a big rock. I think through sheer luck alone it stopped upright, rather than squishing me against a wall.

The ROCK OF SAGES is somewhere here. A very cool suspended boulder though perhaps a little exaggerated on the survey. In reality, it is maybe $2 \times 2 \times 0.5$ m.

I stood on it for a photo and it didn't fall off, which is good (this was on the way back). We then came to a pitch, we think by the small inlet on the survey, which had been derigged. There was a minute of disappointment, to have come so close only to be stopped. Luckily however the caver provides as ever and we found a climbable bypass through some boulders (pretty sure no one had been through it before as there was some pretty sand). Here supposedly is a small inlet that wasn't pushed in 2004 and was described as insignificant, but a nearby note and audible inspection reveals it to be a worthwhile waterfall pitch. Should definitely be looked at. Beyond, finally, is the run up to COLARADO SUMP. A terrifying 60° inclined smooth slope, that should but doesn't have a rope on it, leads to a passage with a stream,



(a)



(b)



(c)

Figure 53: (a) Rhys Tyers standing at the bottom of REPUBLIKA chamber (b) Mud/clay formation in POTATO passage (c) Calcified mud formations near STRAP ON THE NITRO aven. 📷 *Jarvist Frost*

eventually ending in the Sump.

The Sump is not the muddy puddle promised, but instead a lovely clear pool with white silt banks and beautiful arches. As Jarv mentioned there is an airspace through which another silt beach can be seen (NB: no draught – must sump soon. JMF). We turned round here and photo-ed our way out. There must be 100 photos of my silhouette now. A quick stop at CAMP CUDDLE for coffee and smoked mackerel before collapsing into X-RAY. What a trip!

Rhys Tyers




Esoterica

- James O'Hanlon
- William French



Figure 54: The 'fairy lights' of camp X-RAY emit a reassuring glow through the night

 Jarvist Frost

Pushing an evasive esoteric streamway and plumbing the depths of humour

Preamble After a leasurely shit, me and James are off to check out ESOTERICA and maybe discover why a lead so close to camp has been ignored for 4 years.

William French

The push I have descended where no man has descended before. Pushing for the first time was very thrilling even if 98% of the work was done by William. Setting off at 12.00 am we went to find ESOTERICA. I was doubtful we would find it as Tetley had tried 3 times and failed, however we went with high hopes. After a TWATTY descent through CHEETAH we ventured PRINCE CONSORT ROAD and came to a suspicious looking pitch. It was *pictureesk*?... a pretty pitch with a pool directly above another.

We used rope that was already available and bolted to descend down to the bottom pool but alas nothing. After I quickly checked that top pool for a lead we moved on. William then found a piece of paper with PSS 12. Success! This is the clue that we were looking for. The other piece of paper was covered in mud and after pouring water on it, it revealed the message. '*Push the rift downstream*'. This felt like a treasure hunt and we were hot under the trail.

After a brief crawl we found ESOTERICA and we began to go through the rift. After some twat we reached the end of the last push and reached a pitch that had not been rigged. Excited I waited for William to bolt... and waited... and waited. After what felt like an age William had finished and allowed me to go down first. Suddenly the bitter cold had vanished and as my feet hit the bottom of the pitch I was elated!! William named the pitch '*YOUR MUM*'. A rather ingenious name eg. The pitch '*YOUR MUM*' was wet. After surveying the pitch we headed back rather exhausted.

Reflecting over these two weeks at Expo I feel like I've achieved a lot. Let's hope next year will be just as good.

James O'Hanlon

Epilogue It's pretty tight and wet which may explain why no one has really been there. There is also a dry climb right off the start which may be a going lead.

William French

Esoterica - a lead close to camp X-Ray

James wanted me to take him camping, and after talking to a lot of people about easy leads (I didn't really know what I was doing), it looked like ESOTERICA off PRINCE CONSORT ROAD was the safest bet. It took a bit of detective work to find it. Dave W had suggested finding the PSS ESOTERICA had been tied into, and then looking around that area. Around that PSS the first possibility was a strange multilevel streamway which I had vague memories (fantasies?) of being told by a different James in 2010 was the source of the name 'ESOTERICA' because it looked weird. That didn't go anywhere, and we had a closer look at the PSS and it turned out there was a map on the other side that was obscured by a layer of mud. We washed away this mud with water and after a bit of squinting concluded that the treasures we were seeking were down a crawl further back in PRINCE CONSORT ROAD.

This led to a dry climb down, and then a small wet rift. There was a dry side passage, but we didn't go into it and instead forced our way through the streamway until we got to a couple of rigged pitches that indicated we had found what we were looking for, and soon reached the limit of exploration which was a 5 m undescended pitch. I tried to teach James how to bolt, but as it was in a rather awkward position gave up and slowly put in 3 bolts while James froze. At the bottom of that pitch was another pitch, but as we had achieved the original goal of pushing something we decided to not bother. We called it 'YOUR MUM' because that's a very witty name.

On the way out, one of the naturals that had been rigged (by unnamed other people) on ESOTERICA failed on James. I heard him shouting something unintelligible as he went up the pitch, and when it was my turn found that the deviation wasn't keeping me out of the water any more, and this was because a chockstone the rope was tied to had fallen into the rift. At least the other natural that was used on the pitch held firm and kept us both alive.

When I went caving with Tanguy for my last trip of the expedition, I took him to a dry way on in ESOTERICA that me and James had encountered a few days but did not look closely at. After my first trip to that part of the cave, Jarv had mentioned a pitch that he and Oli had half bolted a few years ago, and left a note after a driver broke. This made no sense at the time, but when Tanguy and I explored the dry side passage, it soon led to the wet pitch Jarv had been describing. Also, if you ignored the pitch and kept going straight, it broke out into a second connection to PRINCE CONSORT ROAD. This tangle of passages may partly explain why people seemed to have been so confused talking about ESOTERICA in the past.

After finishing the bolting 2 years later we descended a 15 m pitch to find that the streamway continued, but very quickly led to a pitch head that was too narrow to descend. We took it in turns hammering away at this with a moderate amount of success. I spent a while slowly wedging myself further and further into the crack until Tan-



Your Mum

- William French
- James O'Hanlon



Wine of the Forest

A fruity celebratory beverage

- Carry wine down cave
- Bring water to boil in trangia
- Add 1/3 wine + 2 Sadni Čhai teabags
- Add lots of sugar and stir
- Enjoy while hot.

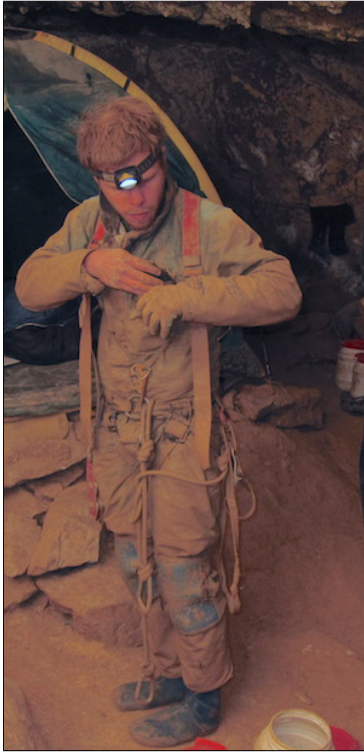


Figure 55: William French kits up at camp X-Ray before going to explore the ESOTERICA stream passage 📷 *Jarvist Frost*

⁷ the 2012 connection between VRT-NARIJA and SISTEM MIGOVEC



Serrure

- William French
- Tanguy Racine

guy gently suggested we called it a day, and leave it for someone with a chisel to break through. Since Tanguy is French, we gave the passage a French name, and so the name SERRURE (keyhole) was chosen. We had a fair amount of time to kill before we could go back to camp, so we took the time to survey the loop we had found in ESOTERICA/ PRINCE CONSORT ROAD.

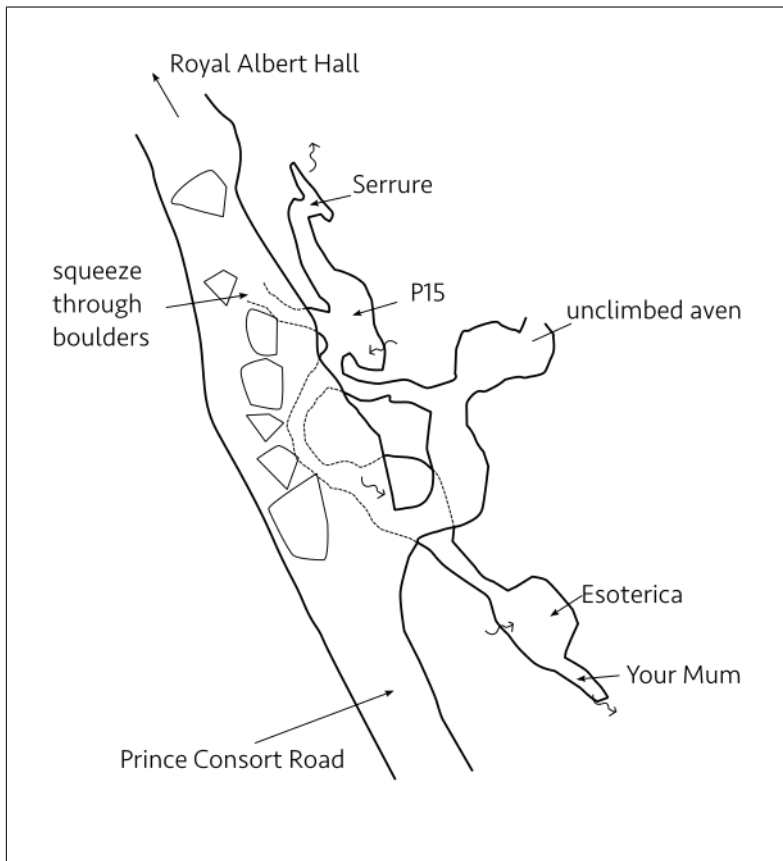
William French

On the one hand, Rhys and Jarv had gone to investigate the deep leads and were intent on making the most of their trip. William and I on the other hand had settled for a more pleasant and laid back pushing trip close to camp on the 'connection branch'⁷ at the bottom of CHEETAH. We were to drop a pitch Jarv and Oli had the misfortune of finding, being unable to descent it as their only spitz driver broke during the bolting process. We booked two nights at camp X-RAY and the plan was to follow the then sleep-push-sleep-get out routine. Our eagerness to go underground was enhanced by the incoming mass of black cumulonimbi on MIGOVEC, but the journey down was rather uneventful.

Upon leaving X-RAY on the morning, we heard the roar of ZIMMER. We also heard tales of Rhys and Jarv who'd turned back because of flood conditions. I still remember awakening to the scraping of PVC against rock and marvelling at the sight of their dripping, glistening, black tacklesacks. William and I successively went to look at the mighty ZIMMER pitch. Our floodlights inundated the space, and so did a torrential rain. One after the other, we raced across the boulders strewn on the floor, jammers at the ready, and ascended into the deep gouge that led to CHEETAH with lightning speed.

Miserable and wet, we descended the muddy pitch and followed PRINCE CONSORT ROAD, traversed over a small pitch, and carried on the passage for a little while until the ESOTERICA lead was spotted. We quickly found the two year old notes as well as one of the bolts in the wall. A cascade could be seen down the pitch, and its development was near vertical widening towards the bottom. This meant a straight hang to the bottom was possible. I rigged a Y-hang after putting two bolts, using one of the existing bolts as back up. The hang dropped nicely to the bottom of the pitch. I quickly abseiled down, with complete disregard to the normal approach: a gradual abseil helps one spot possible windows on the way down!

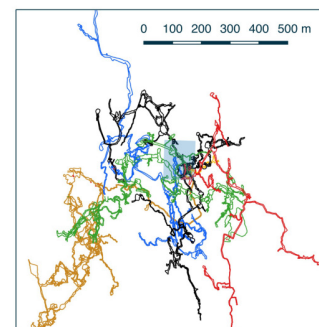
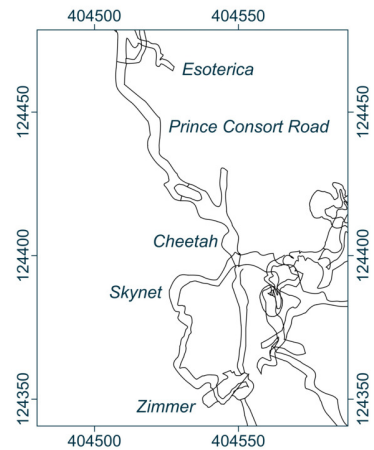
Instead I found myself at the bottom, with a bit of spray coming off the walls into my face. I could hardly look up without closing one eye. Slowly William's light came down, with him in tow. From where we stood, a drier alcove with pristine mud formations could be reached by a small down climb. The stream disappeared in the rift below. By shining our light down, it was almost possible to make out a continuation, but the rift looked formidably tight. The only place where it widened was obviously where the water carved a notch before cascading down. Below there was space enough to use safe SRT, the only barrier was the very tight pitch head at the top.



Survey 5: A plan of the passages branching of PRINCE CONSORT ROAD, in particular a small, disconcerting loop surveyed by Tanguy Racine and William French. The lead in SERRURE is ongoing at the time of writing // *Tanguy Racine, underground logbook*

Slightly further downstream of the rift, there seemed to be the possibility of dislodging a few notches in the wall to make it passable, but since we only had one hammer, we resolved to put two spits in the rock first, try the squeeze, and if needed enlarge it. I went up to grab the rest of the rope while William put the bolts. After a while, both anchors were solidlz in the rock, we tied in our rope and tried our luck. But unfortunately the passage was as tight as a letterbox and we failed to make any progress. With a sigh of disappointment we packed up our gear, coiled the now muddy rope and put it back in the tackle sack before starting our survey. The keyhole passage which the water had carved became the 'SERRURE'.

Tanguy Racine



Survey 6: Plan view of the passages beyond CHEETAH pitches — Slovenian National Grid EPSG 3794



Hydrophobia

- Sam Page
- Saber King



Figure 56: Sam Page and Saber King kit up at camp X-Ray before setting off to explore the HYDROPHOBIA stream passage 📷 *Jarvist Frost*

Putting Hydrophobia to rest

Made it into the tent after a fun day of caving with Saber. After making it into the camp at 11.30 pm and on the back of a three hour trip where we ate some cake in FRIENDSHIP GALLERY we headed off to HYDROPHOBIA with two aims:

- To collect 100 m of rope that had been sitting at DWARF PINE since last year now that we connected that pitch to HIGHWAY 32.
- To rig down the remaining HYDROPHOBIA pitch of the three.

The other two I rigged last year/earlier that year. The remaining unpushed pitch is the wettest of the three. I sent Saber off to derig DWARF PINE whilst I started bolting this unpushed pitch. My bolt was so perfect, I was so happy. We went in smooth and hung there like something out of a manual.

Saber returned with the rope he had rescued from dwarf pine. I was planning to use that rope to reach the other side of the pitch to put another bolt in, but bolting would have been grim and wet, plus I could see the bottom so I went down, trying to avoid the waterfall. Damn, it died. Wall on one side, the water from the waterfall heading through a tight rift/crack presumably the same I had seen from the next along pitch. Prussiking back up the pitch was wet. Because I had bothered to get myself wet plus had bolted/rigged I went to survey our pith although we could do a leg straight from top to bottom plus one to the HYDROPHOBIA PSS I got wet again. It probably wasn't worth it for a seven metre pitch.

I have now collected all three of the HYDROPHOBIA pitches, this one is called STUPID. After surveying, we were keen to reach drier climbs and ate more cake in CUCKOO'S NEST. Saber went off exploring for 15 minutes and came back covered in mud. I lugged the 100 m of rescued rope back to camp which was even easier going than I remembered. Very little caving involved. We got back to camp some time after 8.00 pm and had tomato themed food. Fratnik has been snoring away since I arrived. This bode well.

Sam Page

Cavers returning

The following article was in part published in the student newspaper of Imperial College London *FELIX* after the return of the 2014 expedition. In each of its weekly issues, a couple of pages are dedicated to the goings-on of clubs and societies within the College.

* * *

'Hey ho!'

Silence... We knew what it meant. Cavers returning.

The kettle let out a loud hisssss and started shaking and gurgling.. The sound of a tackle bag falling heavily on the floor. We all looked up. 'Hey ho!'

And interrupted conversations resumed, 'Yes this word fits'

'What about fifteen down?'

'Does it go?'

'Tea is up!'

'Where's the cow?'...

I was sat in the bivi, a large surface depression with an overhanging rock bridge on the MIGOVEC Plateau in the TRIGLAV NATIONAL PARK, western Slovenia. From the 'SUNSET SPOT' I could see all the way to Italy and on a clear sunset we could even spot the Dolomites rising in the distance, crowned with russet light. West of MIGOVEC is the KRN massif, a former war front during WWI, which I observed many a time wreathed in storm clouds while stars twinkled upon MIGOVEC.

There were a few things I learnt as an expedition Fresher. First the more prosaic rules: when and how to use the toilet facilities (a dignified pit), not falling into M10 (a 30m deep shaft open to the surface) when leaving the BIVI at night, where to pitch the tent, how to successfully manufacture a 'dwarf pine sofa' etc...

Living for five weeks at 1850 m of elevation, three hours from civilisation was almost as remote as you could get in terms of summer expedition. There is a catch with karstic terrain though: there are no overground streams for water collection or electricity production. So the water is collected with large tarpaulins into barrels, or melted from shakehole snow plugs - a tiresome business. Electricity? solar power channelled to recharge drill batteries. Food? Hunted for in British supermarkets and cooked on petrol stoves. Comfort? there is always the latest teaspoon spinning device available alongside a myriad of other ingenious contraptions to make mountain life easier. To quote the expedition veterans:

' they must invent not just explore'

We had passed the midpoint of the expedition, and I was sat in the bivi, discussing possible leads with the old lags and the returning cavers. I booked four nights in the underground camp and started preparing my kit. On the morrow, Aileen, an Irish caver and I were

A Pun Too Far

- Tanguy Racine
- Aileen Brown



Figure 57: Felix issue 1583, 12th October 2014, p30 / Tanguy Racine



Figure 58: Bottom of PICO pot, a truly cavernous pitch with plenty of rebelays to break up the ascent 📷 *Jarvist Frost*

going to explore at -700 m, equipped with chisel, crowbar and hammer. We had a half-ton rock to shift, then squeeze past and find the continuation. Hanging around in the bivi, I kept hearing tales of the chamber and its roaring waterfall beyond and as excitement started building up, so did the apprehension. I'd been down at underground camp before. I'd been at the then southernmost point of the cave, a good three hours from camp and from there five hours to the surface. But I'd never slept at camp X-RAY more than two nights in a row, and I'd never done more than one 'pushing' trip. There was no knowing what you signed up for when going to the pushing front; to an 18 year old with its head full of dreams of glory is thrilling. So, I had to look back at what I'd done during the early weeks of expedition.

* * *



Sic Semper Tyrannis

- Tanguy Racine
- Rhys Tyers

A Fresher's first camping trip

My first camping trip took me to the southernmost end of the system, a good eight hours from the surface, at a depth of -800 m. It had been left two years ago as a potential lead at the end of the ATLANTIS passage, where two equally inviting passages forked.

The right-hand one had been pushed and surveyed to a perched sump (*LETHE*) the year before, but the flat out crawl to its left hadn't been properly examined, although it was repeatedly remarked that a 'way on was visible'.

The end of *ATLANTIS* lies approximately 500 m due south of the cubic kilometre of dense tangled network, into completely blank mountain. Although it is mostly stooping or walking passage, it must be stressed how far this lead is from camp, let alone the surface.

On the surface, I checked twice to make sure I had every bit of my SRT kit and then looked around. Clouds were rising from Gardeners' World valley, and drifting towards *VRH NAD ŠKRBINO* peak with a menacing look. I quickly put my bag underneath the rock lip, by the entrance to the cave. Rhys and I had been on the first rigging trip of the year down to the top of *TESSELATOR*. I'd rather enjoyed walking on a thin rock promontory to descend the wet route down *LAUREL* and getting rebelay practice down *PICO*.

This time when we entered the cave, I noticed the mists rising from our lips. Down, down, down we went. Keeping a good pace, we reached the bottom of *SWING* and the deepest I had been in the cave so far. Rhys, wriggled through the tight *TESSELATOR* pitch head like an eel, rigged his descender and quickly said 'that was the technique to get past, now do the same, and we'll meet at the bottom of the shaft series'. He disappeared, singing.

I obliged, and descended. Pitch after pitch, *SPACE ODYSSEY*, *CONCORDE* etc... I had seen those names on the laminated surveys before and committed them to memory, which threw me back to the photographs on the first slideshow I had seen several months ago when I joined *ICCC*.

Depth clocked up quickly now, and in no time we arrived at camp *X-RAY*, where Rhys went straight for a little square of white paper and showed it to me. It read:

'Welcome Team 2014, push hard and good luck!'

He'd written it the year before as *X-RAY* was put to sleep for the Winter Months. It was our job to set it back up and running for the several hundred man-hours spent there during the expedition.

First, flatten the surface for sleeping. We clambered further down *FRIENDSHIP GALLERY* to fill tacklesacks with sand and pour the stuff over the sleeping area, which after a few comings and goings began to resemble a flat surface. We left one rock poking up at one corner, to provide Dave Kp with a pillow.

That done, Rhys brewed a cloudy, gritty tea. I don't take milk in tea at the best of times, but having half dissolved milk powder (*Nido*) with a silty froth (*macchiato*, says Rhys) as the only available warm drink forced me to re-evaluate my stance. Warmth was welcome though, and soon music was on, as well as a copious dinner. William and Sam, announced themselves with a muffled 'Rope free' in the nearby *ZIMMER*, and after the usual rattle of SRT arrived with the rest of the camping paraphernalia: sleeping bags and 'comf'. The



Figure 59: Rhys Tyers, ascending the upper section of *LAUREL* pitch © *Jarvist Frost*



Figure 60: Writing in the log book at Camp X-Ray 📷 Rhys Tyers



Biopork savoury rice

A particularly scrumptious UG special

- Cut chunks of pork
- Fry with pork pâté and onions
- Bring water to boil with savoury rice
- Add savoury sachets to taste
- Cut up cheese medaillons
- Mix rice and pork chunks
- Add medaillons at last minute and savour hot!

tent which had been hanging upside down was upturned and almost as quickly filled with a human presence.

We drifted to sleep... A hungry stomach, and somewhat sore back saw to my waking up in the absolute darkness and did a good job at occupying my thought process during those crucial minutes. The underground way of life came quite naturally as I put a pan on the fire and rummaged behind a big rock in search of adequate breakfast food. A meal was soon ready, and we wolfed it down. Then I felt the sleeves of my fleece undersuit: they were mildly damp. The same was true of the gloves and the wetsocks. Rhys, ruminating the same thoughts, exclaimed 'Now for the worst part of your daily routine: putting wetsock one and wetsock two'.

Five minutes later though, with welly boots on and blood circulation warming the damp socks ever so slightly, it appeared we were as ready as we were likely to get, so we set off for the southern reaches of the SYSTEM.

We climbed up, into the deep, dark cleft at the bottom of ZIMMER and soon descended the muddy and loose CHEETAH pitch. Some three or four challenging (for a fresher) rebelays later, I was swinging at the bottom hang and landing on a balcony. The pitch had intercepted a wide horizontal passage. Rhys pointed at the dark space beyond the pitch, at the other window saying: 'this is the way to the connection'⁸.

⁸ the 2012 connection between VRT-NARIJA and SISTEM MIGOVEC

**Sic Semper Tyrannis**

We're back! ATLANTIS goes! Following on from a turn off to BREZNO SLAPOV a flat out squeeze leads immediately to a sort of shattered phreatic passage. We got \approx 170 m before hitting a waterfall and a large chamber. There's a big draught round there and quite a few leads off that we didn't look at. I had

an incredibly enjoyable trip today. Tanguy continues to be good company (and a fast surveyor) and accompanying our exploits with Lord of the Rings soundtrack gave it a very epic feel.

Rhys Tyers

Rhys was a very helpful guide as he described every junction we faced. 'Put your feet here', 'look around so you remember which way to go on the way out' 'If you go that way you walk for fifteen minutes until you hit a dead end' etc... He also placed several wayfinding notes for RED BARON chamber from camp X-RAY. We found another very muddy pitch on the way, STUCK IN PARADISE it was called and apparently it was far better now than when first discovered. At the time, I made a mental note to find a bypass as one of the expedition's aims ⁹.

It was again, a very slippery and muddy pitch, and, as I was to later find out to Sam's expense, horrifically loose. Some of the rigging looked very tight and I spent a good ten minutes trying to recover from a braking carabiner jammed in my descender krab. When footholds are scarce, hanging rebelayes are lonesome places at the best of times. But seven hundred metres down, with nothing but mud to hang on to, they are objectively challenging. Cursing and muttering I finally freed myself through brute arm strength.

Down the pitch we found HAWAII junction and a cache for Darren drum, mess tin and a few lengths of red '9 mm rope'. Time for a little break and history lesson (more information on page 30).

There, Tetley and Sam had been assailed by a troglodyte creature, a mammal, as large as a bear, as cunning as a fox, or as adorable as a cat depending on the stories. Fighting for their lives, they had later brought back some food to offer up to the cave gods on the HAWAII altar. And hours later, the gods had taken their due (or else hid it under a rock).

I had a look at the Darren drum left at the junction for collecting the drips. Overall, this region of the cave was quite dry. It was at least 500 m from any running water in all directions, and fenced by an incredibly muddy pitch to the west, a knee-killer crawl to the east. The southern passage, ie: the ATLANTIS extension was the longest, with various crawls and squeezes to get past. I started to grasp why there were so much logistical hurdles involved exploring these remote environments.

I was less impressed when I unscrewed the lid of the Darren drum though: a brown layer of silt had settled out of suspension at the bottom, over 11 months, but as I moved the keg, it all mixed up again.

⁹ this did not prove successful, although the author was teased for the discovery of a potentially worse bypass, which remains unpushed at the time of writing



(a)



(b)



(c)

Figure 61: (a) The roped climb up into AMAZING GRACE. (b) PUFF THE MAGIC DRAGON a classic bedding controlled phreatic passage (c) Phreatic passage decorated with stalactites in ATLANTIS 📷 Rhys Tyers

Luckily I had a water bottle with me, and it was half full.

Rhys looked around, and showed the uninviting offshoot to HASH. 'The enterable section ends in a dogleg even Clare was scared of...' That said it all. We carried on, until we found the boulder choke at the end of LOST MILES. Off came the SRT kit, and we squeezed through.

Then began *ATLANTIS stricto sensu*. The cluster of stalactites and muddy stalagmites was there, as Rhys had promised: they were one of the rare formations in *MIGOVEC*.

We were on the lookout for a passage leading off to 'WE'RE NOT ALONE' to our left, which Dave had talked about. It was a very obvious beckoning dark hole when coming back from the pushing front, less so on the way there, but we only stood peering at the blackness beyond, trying to fathom the distance the passage went, to little avail. We could have just walked the few metres, but instead, we pressed on. Down and further south still. The ceiling lowered gently to a little sandy and pebbly crawl, which led to a bigger chamber and then, the boulder choke.

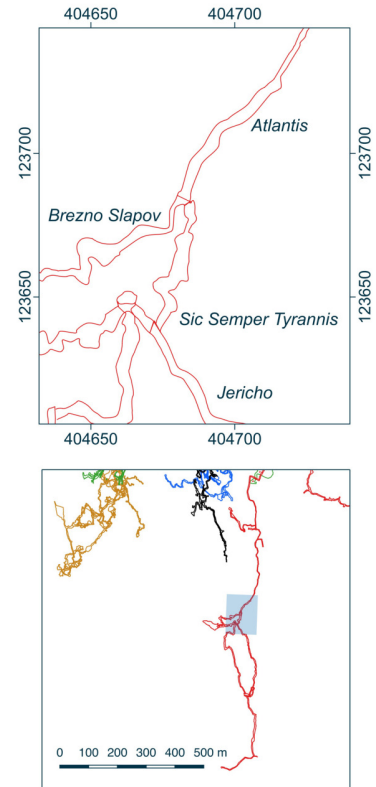
With a little hesitation about what the lead actually was, we negotiated the flat out crawl. After a sharp bend it opened up and turned to walking phreatic passage with a strong draught. One large ledge protruded from each side, providing a path 1.5 metre from the ground with mud ripples on the upper surfaces as well as multiple other mud formations. It continued for 20 m to an alcove on the left, and a pit to the right. Climbing into the alcove we followed a tunnel shaped, sandy passage until we hit a junction, 15 m further on.

Now grinning broadly, we pushed the lead northward and upwind until once again, a pit appeared on the right before a turn to the left. It seemed never to end and every pit, or junction opened more possibilities. I was thrilled. It was, by any standards a great find for a first pushing trip, because we'd left more leads than we started with; good leads they were too. I started thinking about finding our way back, perhaps I was far too keen at that point, and started building a cairn with elongate cobbles indicating the path we'd come from.

Rhys on the other hand left little notes with helpful messages and tips on such as 'pitch undescended as of 21st Sept' and so on. Having turned left from the pitch head (we had no rope), there was an awkward pit traverse. I free climbed down to check for any leads, and I believe there is one¹⁰. Instead, we chose the more obvious passage after the pit. Whenever it seemed to close down there was an obscure way on. We passed two sandy circular chambers separated by constrictions. This led to a larger chamber with a boulder floor sloping toward the north, with bit of a free climb to go down.

At the western end the draught disappeared through another constriction from which the trickle of water could be heard. The passage ended 10 metres later at the foot of a 5 metre high waterfall. The water pooled at the bottom before flowing eastward through the boulders (see survey 8 on the following page). A way on could be seen from there, underneath the pile of boulders, but it wasn't checked this year¹¹. Content with the amount of passage found so far we decided to start the surveying of the chamber. Since we were both presidents, (I was president elect at the time) we settled upon the name *SIC SEMPER TYRANNIS*.

'This is what happens to tyrants'

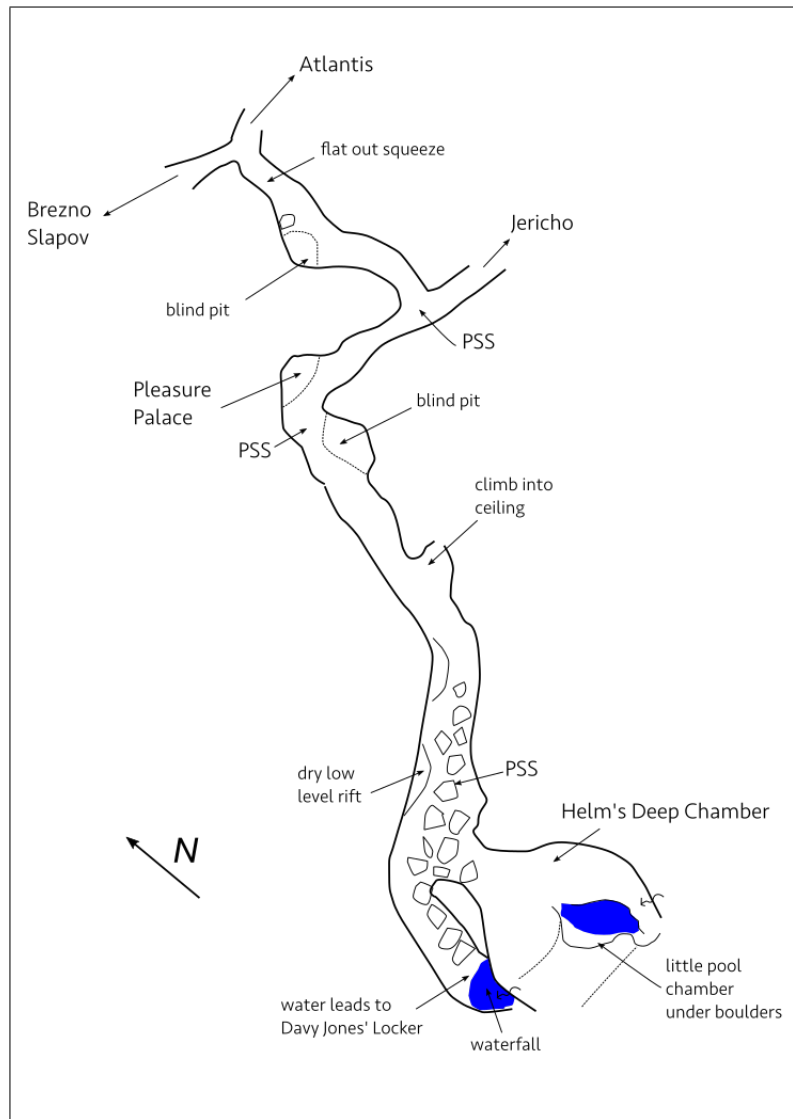


Survey 7: Plan view of the *SIC SEMPER TYRANNIS* passages beyond *ATLANTIS* — Slovenian National Grid EPSG 3794

¹⁰ This degenerates in a very tight, sharp crawl over boulders

¹¹ Pushed by Rhys and Ben as *DAVY JONES' LOCKER*

Survey 8: Grade 1 sketch of Sic Semper Tyrannis recorded in underground logbook *Rhys Tyers*



This part wasn't as entertaining or thrilling as discovering had been. Nonetheless seeing that leg after leg length was indeed building up, we started to grasp the size of the passage, and its rough shape. We had gone further south still, maybe as south as caving in MIGOVEC goes. Back in the large boulder chamber, we had a brew.

'You see this window at the top of the boulder slope', Rhys pointed out to me. I say we have a look and if it doesn't go, we look at the large junction and follow it downwind.'

So I scrambled up the slope, and through the narrow opening...to emerge into a huge chamber. I bit back an exclamation, simply saying 'You should go up there... definitely'.

I stood and had a panoramic look. It was the biggest deep space I'd been in so far. There was a white lip of rock, sitting close to the ceiling at the opposite end, and a steep rubble and boulder slope in between (figure 62 on the next page). I dare not go further up without

...I stood and had a panoramic look. It was the biggest deep space I'd been in...



Figure 62: HELM'S DEEP chamber hosts a thick pile of laminated mud deposits with signs of ceiling breakdown at the very top of the pile 📷 *Rhys Tyers*

supervision and instead gorged on the view.

With my spot light on, I tried to peek at the space beyond the white lip of rock. Rhys stood behind me, and we shared a look of contentment at the find. It would be 'easy bolt climbing', a scramble up an inclined slope than a all-out bolt-climb assault up an aven. Still, we climbed as far as we were comfortable with and reached two openings: both led to a small cozy chamber with a little waterfall and clean grey white limestone. It pooled at the bottom and then disappeared. We immediately thought about the waterfall chamber below. We surveyed this, named the chamber 'HELM'S DEEP' for the wall of white limestone guarding the way on (and also the fact that any Middle Earth inspired name had a nice ring to it). The source of that water we did not follow for long though because it emerged from a sharp and narrow rift (see survey 8 on the facing page).

More than content, we surveyed this short leg and started the long way home. Home, a surprising thought! Camp X-RAY was a good

**Touching the Void**

The steep and loose boulder slope at the top of HELM'S DEEP chamber was climbed at the end of the expedition by G. Ambrus and I. Možir. A rope was rigged off a slab of white limestone for ease of climb. From the top of the rope, one can squeeze between large boulders to reach the top of the debris. A large chamber is found atop, about 20 m high, with water entering from a higher shaft in the ceiling. In fact, HELM'S DEEP and TOUCHING THE VOID used to be one massive bell-shaped chamber (about 50 m high, and at least that wide in diameter), which was filled up with sediment and then later re-carved by water.

Due to this, the nature of the whole chamber is very unstable. Still, the presence of such a massive open space at this far end of the cave is very surprising, and it clearly indicates that the extensions at the

south end of ATLANTIS belong to a different cave of the system, which lies directly below the peak of MIGOVEC.

The water reaches the bottom via three parallel shafts, and it is likely to continue to BREZNO SLAPOV. No obvious leads were found in TOUCHING THE VOID apart from the way on the top where water enters, however, this climb would be very hard to do. The shafts have not been descended, although it would be quite dangerous because of the massive loose boulders surrounding them, and they end in boulder chokes at the bottom, as far as it is visible. The vertical legs appearing on the survey are estimates only, precise measurements could be made with the aid of a laser measure, although the lack of leads makes this effort questionable.

Gergely Ambrus

as any home now. 'Now you feel you are deep and far from the exit don't you?' 'Yes Rhys'. It was a long and hard way back, but we made it back shortly after 8 o'clock. Before the wave of exhaustion washed over me I blessed the warmth of the gritty tea Rhys had prepared.

**Jericho 2**

- Tanguy Racine
- Samuel Page

Back to Sic Semper Tyrannis

My second underground camping trip this year took me back to the end of the ATLANTIS passage, where with the help of Samuel Page a further 25 metres of passage was found in a multi-level rift. We had booked two nights at camp, and descended early to have an extra day of pushing. That it might be a tad ambitious dawned on us upon arrival at X-RAY. Rhys and Dave, who'd pushed there the day before were in for a tourist trip in the deep places of MIGOVEC, so instead of pushing south, we visited THE FRIDGE, saw the joys of BIG ROCK CANDY MOUNTAIN for the first time and examined the dig at KOKAIN LAB. It is said it might connect with another passage off the ATLANTIS branch. Such a loop would be indeed a great tour of the system.

We set off on the morrow for our pushing trip in SIC SEMPER TYRANNIS, following Rhys's guide notes at every ambiguous junction. After three hours at a steady pace, with the mud madness of STUCK IN PARADISE behind us, I happily set foot again on SIC SEMPER TYRANNIS.

First of all, I wanted to look back at the large HELM'S DEEP chamber, and seek a way past the white wall at the top of the rubble and

*...with the mud madness of
STUCK IN PARADISE behind
us, I happily set foot again on
SIC SEMPER TYRANNIS...*

 Red Cow Tourist trip

Just as Will and James left X-RAY and Dave and I were settling in for a romantic night/day together, Tanguy and Sam turned up. Too shaken to continue with our previous plans we all decided to do a tourist/recce down BIG ROCK CANDY MOUNTAIN and beyond, an area of cave none of us were too familiar with. Seven hours later we return, hav-

ing visited RED COW and KOKAIN junction. The cave down there is thoroughly pleasant, sandy and a few crawls, unlike CHEETAH and beyond (muddy *avec copious* boulder choke). Get it together CHEETAH half of Mig! A thoroughly enjoyable trip with lots of tea breaks.

Rhys Tyers

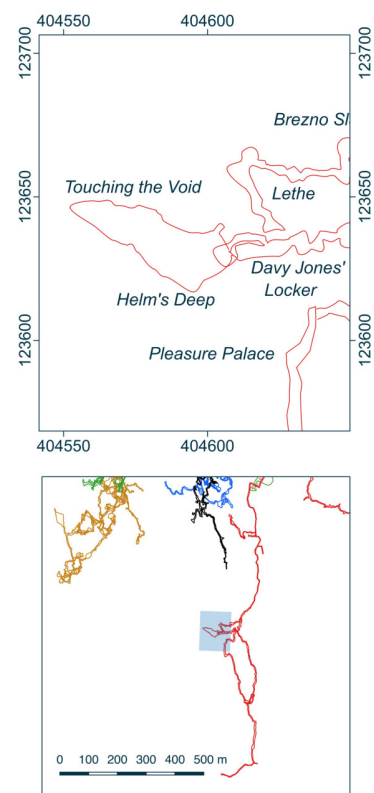
boulder slope. Sam quickly took refuge out of the way as I sent an avalanche of 'particles' hurling down. Fortunately a small alcove provided a safe haven for him. As I reached the bottom of the white rock slab I realised how precarious my situation was, and without further ado climbed back down.

We settled for an easier lead, JERICHO, that had been discovered downwind of the large junction by Rhys and Dave Kp the day earlier. The passage started to slope upwards, gently at first, until the way on was either through a squeeze or an aven. We'd spoken with the previous exploratory pair about it, and decided that I should go through the squeeze, then rig the aven from above, to provide an 'all sizes welcome' entrance to the pushing front. I was thrilled as this was about to test my ability to bolt and rig without supervision.

I squeezed passably well, then climbed and examined the pitch head to be. The rock was poor, the hammer heavy, the bolts are unsafe and placed at the worst possible spot. It urgently needed rebolting, even though Sam was kind enough to praise my effort twice by ascending and then descending without any hesitation. what was he thinking?

Then we bridged the rift, up and up until it became frankly scary. This I understood must have been the end of exploration. With a bit more bridging I was up and away, in a higher level of the rift, very muddy and extending both north and south. This section of the rift should be made safe by dropping a rope, approximately 25 metres were needed from the top. The draught was chilly there, and we decided not to stay long therefore we explored both ways leading from the top of the climb. The northern end quickly choked, whereas carrying on south led to a small pit. My guts betrayed me at the sight of this modest drop and we turned round with a meagre 25 metres of passage. Nothing ventured, nothing gained. The rift continued...

After the chill of JERICHO, we made it back to the large boulder chamber and had a soup at the same spot as the previous time I'd been. I realised I had no water bottle, so filled the little pan directly at the waterfall chamber in SIC SEMPER TYRANNIS. The warmth slowly radiated in our limbs, lifting our spirits, and setting us up for



Survey 9: Plan view of the passages beyond SIC SEMPER TYRANNIS — Slovenian National Grid EPSG 3794

...Nothing ventured, nothing gained. The rift continued...

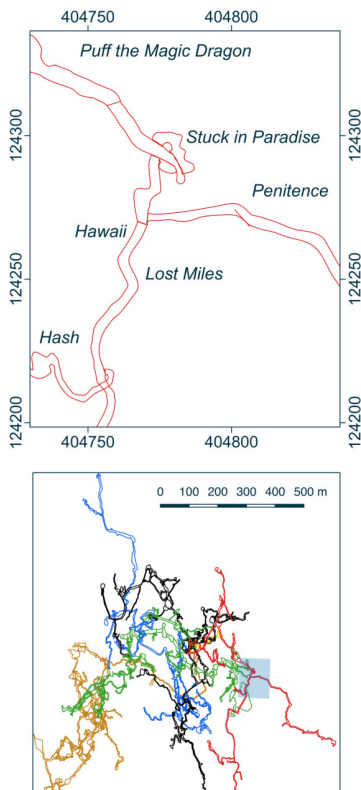


Life at X-Ray camp

Dear Diary! After several nights/days this warm place we started to call home transformed itself into a very hostile environment. The tea ran out. The coffee ran out. The shit bags started to multiply on their own. Only one portion of smash was left. The only other food left expired in 2008 and the most depressing, demotivating and horrifying discovery is a note on a small paper 'you have only five papers left'. So even though we could probably swim through that,

sit on the other side of a beautiful lake at the end of a sharp canyon, full of promising adventures climbing above crystal clear lagoons, we are forced to abandon the mission called -1000 m. It looks like the mountain doesn't like us here so we respect these signs and return to the surface... but we'll be back to make sure the mountain didn't change its mind.

Grega Maffi



Survey 10: Plan view of the passages around STUCK IN PARADISE — Slovenian National Grid EPSG 3794

the journey back.

Arriving at the beginning of LOST MILES, after the boulder choke, I began to feel very dehydrated, so cursed for the lack of my battered bottle. We then reached HAWAII, and started feeling very uncomfortable. That is when I saw the Darren drum I knew was filled with silty water...

This however wasn't the end of the troubles as halfway up STUCK IN PARADISE, I grabbed... (I know it's happened to everyone) what looked like a stable nodule. To my horror, a beast of a boulder started coming loose, and slid a few inches down the slope. I froze, until it stopped. Carefully manoeuvring around it I called with a rather shrill voice:

'Sam....'

'Yes?'

'I've just dislodged a BIG boulder, be careful around the next reblay!....'

'Ooooh kaaaay'.

With little relief I started ascending, half expecting the boulder to suddenly disappear in the blackness below. I passed the next anchor, and then the next. I was breathing more calm... 'BAOOOM.'

'Sam!'

'...Yes?' A muffled voice answered.

'Was that the boulder?'

'Yes... I think so'.

'Well, see you at the top then...'

'Ooooh kaaaay'.

Back at X-RAY, the only people sharing the sleeping space had been Maffi and Erik, who'd left to push deep below CLAPTON and the newly discovered ROCK STEADY LOVE streamway. They had dreams of finally breaking the kilometer mark. As they were due back on the morrow at 12.00 pm, Sam and I lingered a little while in the morning, in the hopes of seeing their triumphant return and bear the good news back to the surface. They hadn't come up after noon, so we set off anyway on the long ascent.

Five days under with ICC

The final trip, over 98 hours long was by far the most demanding but it taught me the value of perseverance at one pushing front. Since I had never pushed at the same front in one trip, to go back to the same passage four times in a row was undoubtedly trying my commitment to the caving cause. However the fresh intimate knowledge of the ground enabled us to push more efficiently.

After the small squeeze, I found a small sign by Rhys and a length of tatty rope indicating the way on. I looked at the little hole in the thin rock wall, downwind and to the left lead towards the RED BARON, and further still the distant blackness of ATLANTIS. Right however... A square of paper written by Tetley indicated the KAMIKAZE 'lead'. Aileen and I, full of resolve made our way through the sandy walking passage.

The ceiling quickly dropped, but on we went, until a point where a natural bench beckoned for a rest. Aileen proposed we put the SRT kit in one of the bags as the crawling became unpleasant. I obliged, and we were on our way minutes later. The walls were covered in red dust, it was quite spectacular. Halfway down the crawl there is a sharp bend at a small pit, and just after it, the bedding plane crawl. There was an small offshoot to the left. My memory of it is that of a uninviting lead. It may be because the ceiling is markedly lower than upwards, and upwards is tight. In fact, a size 10 foot can use touch both ceiling and floor of the bedding plane with heel and toe, and it is a remarkably good technique to move up. I have experimented pulling and pushing the tacklesacks but haven't found any preference, in fact it is just annoyingly tight. After the plane, the passage was followed upwards through little ponds and small 'nipple' crystals. A little spearhead of a rock indicated the end of exploration with 'PSS KAMIKAZE 1 2010 Dave Wilson and James Kirkpatrick', next to the blockage.

There was space both below and above the boulder and the gentle gurgling of a waterfall could be heard beyond. It was certainly a little way from the squeeze though, or else the water had moved since the first exploration of the passage. When Tetley and Johnny came back to investigate the leads in 2011, a year renowned for the vast amounts of water shed on the plateau it is likely that the passage was in flood at the time. It turned out Aileen and I on the other hand had left while cavers on the surface gorged themselves on a long spell of sunshine and so the water levels were low.

Moving the boulder, Dave reckoned might just be possible with the aid of chisel and crowbar, provided there was accommodation space lower down the passage. It turned out the cross section of the boulder was roughly that of a lozenge. The tapering edges were readily 'amputated' through mad hammer action, which gained us more scope for movement, and inch by inch, the boulder slid towards us, until enough room was made to the upper left corner for one of us to squeeze past.

...to go back to the same passage four times in a row was undoubtedly trying my commitment to the caving cause...

...the gentle gurgling of a waterfall could be heard beyond...



(a)

(b)

Figure 63: (a) The main culprit for the obstruction at the end of the KAMIKAZE was an elongate boulder wedged loosely between the inclined walls of the passage (b) Removing the blockage necessitated the use of a crowbar, chisel and bolting hammer 📷 *Aileen Brown*

In order to get past the FORCEPS towards the exploration front, one simply has to shimmy upwards, and provided one's legs are neither too long nor too thick, one has to move them one at a time over the tapered edge of the boulder and then slide back down the other side, feet first. I advise any further explorers to simply pass all the tackle through before attempting it. The way back to camp is vastly more fun, as you can simply dive head first through the squeeze.

Using the technique described above, I slid on the shores of the unknown, with Aileen close behind. The chamber appeared to be of small dimensions, with some degree of boulder collapse in the centre. To the right (north east) a window overlooked a dribble of water cascading down in the opposite direction from which we had come from.

We cursed, for the lack of rope and time meant we had to turn around there for the day and head back to camp. We still had three more days booked, and it looked increasingly like we might be staying at this one pushing front. So much for planning a 'grand tour of the system', the thrill of exploration was beginning to take root. Deciding not to survey this 10×4 m chamber, we headed back? after Aileen, using a sling as belay perched herself atop the pitch head to have a better look. The cascade needed rigging, and it looked like it was closing down?

We made it back to camp at a decent hour. Some well deserved 'secrets of the forest and wine' later, with the stoves bubbling merrily and more tea on the go, Gergely and Izi started to try and fettle Aileen's ceased central maillon (note: always choose steel over aluminium alloy for the thread is much the sturdier). It didn't work out,

but a hidden cache of delectable 'bio' pork from the farm belonging to Eric's uncle was discovered and quickly cut into cubes to be had with local cheese and bread brought from the surface. It was indeed a feast, and Aileen was undoubtedly right in saying that the quality of underground food had to be even higher than on the surface to counterbalance the lack of comfort.

The second day, we were up early and with confidence, navigated our way towards KAMIKAZE. Back at the front, and sweating from the crawl, Aileen started bolting the pitch head. The rock was loose, and it took the best part of an hour to get a single bolt in it. We had no spanner (my fault, never to be repeated) and as a result, any dirt in the thread that would impinge the screwing of the hanger was fatal to the attempt. However, in the end the pitch was rigged, and well at that dare I say. There is a deviation from a flake 3 metres down to keep out of the cascade, and then a 4 metre hang, rather wet at the bottom. The passage indeed closed down after the little pool, with the water dribbling away into a small rift. It was however passable, and the way on was a graceful slither between two obvious ledges protruding from either wall. Squeezing upwards after 3 metres led to a roomier space, with boulders as a false floor.

The pitch head was obvious, but what caught our eye were the boulders threatening to obstruct it. While I cut the end of the rope used on the previous pitch and tried (ineffectually) to cauterise the wound with a lighter, Aileen started the gardening process. The plan was good: we could see the drop afterwards, with the water coming from the side. It was all going to plan, until a TV sized boulder slid down the pitch head and got jammed there. Our pitch head had just vanished!

We were deeply upset but did not give up quite straight away, although the thought of abandoning the lead was tempting. We had booked four nights at underground camp, and we *were* going to break through. After all we had done it the day before.

Recalling the way I'd freed a boulder in Jailbreak before, and the training in Yorkshire the previous winter, we decided to pulley-jammer the rock out. It had worked before I knew, but the rock here was a) jammed, b) quite a bit heavier c) very close to the pulley, therefore hard to manoeuvre. Finally due to the lack of space, using my person as a counterweight was out of the question. Remained the strength of my quad muscles...

The rock remained jammed, despite our best efforts. What we needed was what we had on the eve to free the first blockage: chisel and crowbar. With that in mind, we started the survey of the passage we'd found so far. We had to find a name first. We had dug our way in the new passage, so thoughts of the great escape were never far. I knew we used inkscape to draw the survey so I proposed 'the great inkscape', a very mediocre play on words. To which Aileen replied 'that's a pun too far'. There we had it I thought, so we settled on 'a PUN TOO FAR', with an allusion to another classic war film. As we finished the survey, the hour was growing late so we trudged back to

...The rock was loose, and it took the best part of an hour to get a single bolt in it...

...Our pitch head had just vanished!...



(a)



(b)



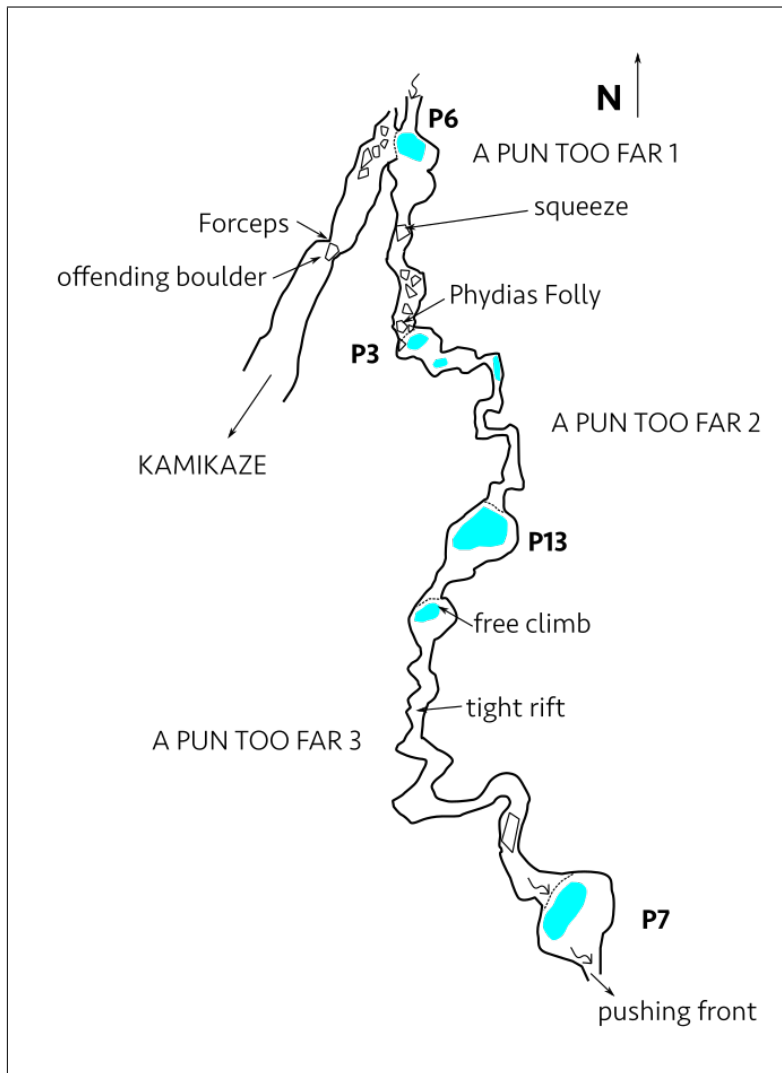
(c)

Figure 64: (a) Aileen negotiating the rebelay on MILKA PITCH. This drops next to the start of Kamikaze crawl (b) Bolting the first pitch in A PUN TOO FAR - getting to solid rock was tricky (c) Below the third pitch of the passage, a stream canyon with jagged rocks 📷 *Tanguy Racine*

camp.

Back there, we had a change of company: Rhys and Sarah had come down to do some easy pushing. We shared a lively supper before drifting to sleep.

Being early birds again, we cooked breakfast under Rhys's unimpressed eye. 'They have yet to understand the principle of camp faff' is what I believe was written down in the underground logbook. Oblivious to the disapproving gaze, we set off a third time. We had chisel and crowbar at the ready, and would crack this boulder open with a mailed fist...



Survey 11: The grade 1 survey of A PUN TOO FAR streamway
 / Tanguy Racine, underground logbook

We managed the crawl ever more swiftly, as every turn and angular pebble became more familiar, squeezed past the Forceps with ease, descended the cascade pitch, wriggled through the rift, and emerged on the false floor. Without wasting any moment, we started hammering at the rock.

'If we could get rid of that nodule, then maybe,..., put the crowbar here.... heave.... hammer.... push, no pull. What about this nodule? Chisel... heave now, it's moving! HEAVE?'

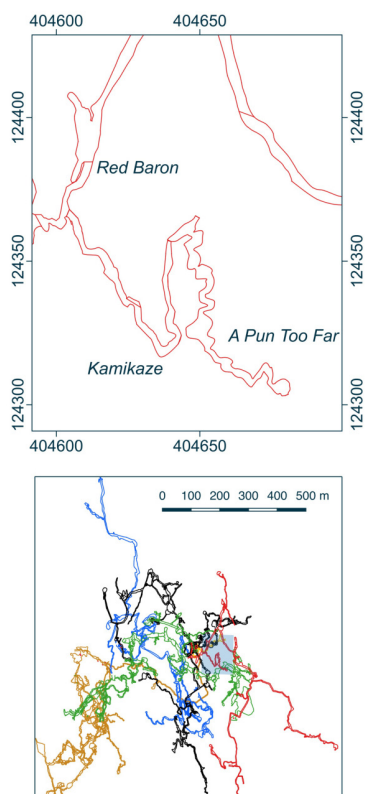
But this led us nowhere. The boulder was well and truly jammed. It was marginally reduced in size, and rock powder was in the air.

I bit back a sigh. I was warm now and panting from the effort. The dribble of the water below was more tantalising by the instant.

In a stroke of genius, Aileen proposed 'If we could secure the boulder, I mean it *is* jammed, there might be enough space to squeeze underneath, all we'd have to do is... more chiselling to enlarge the pitch head'. I knew this pitch head would be awkward whatever the



Figure 65: Repacking the minibus at the end of expedition is always easier, most of the food has been eaten!
 📷 James 'Tetley' Hooper



Survey 12: Plan view of the KAMIKAZE crawl leading to A PUN TOO FAR streamway — Slovenian National Grid EPSG 3794

outcome: very tight, and with a spear of rock about a metre underneath. But I started chiselling madly at the rock. Now that the plan we had seemed to be functional, the thrill of exploration drove my hand down, and down, and down again with a renewed energy. In minutes, a few good sized nodules had been chipped away. In the end, it needed a few more furious blows before Aileen’s helmet disappeared underneath.

I eagerly followed, managed the squeeze by hanging my ascending gear from the long cow’s tails. I was elated when my feet touched the floor. There we were, back in the little stream and the chase for the lead was on.

The rift we then followed is very much controlled by an oblique fault. We followed the passage down for a few turns until it seemed to close down again. However, shimmying upwards again lead to an opening... is that the splashing of water droplets down a cascade? The awkward crawl led to yet another pitch head!

And this one was larger than the two small drops we’d found during the earlier days. Again, muttering a curse, we realised that we were lacking rope to descend it. This drop however represented the first big opening of the passage after the breakthrough, so we shook hands on the discovery, and surveyed all the way back to the jammed boulder.

Seeing as we hoped to bottom the pitch on the morrow and what we had found amounted to a few tens of metres, we carried on with the name A PUN TOO FAR. We surveyed the rift, and at the pitch head, thought of a name for the very tight pitch head. We had chiseled away most of the rock and PHYDIAS’S FOLLY seemed appropriate.

For a third time, we went back to camp. We met Rhys and Sarah there. From what I heard, they had pushed something horrible. Worse they’d taken the camera we had only to take photographs of a thick vegetable soup. That’s another story altogether. They would be going up on the morrow. We wouldn’t yet, we had a pitch to bottom...

And so we did, by noon on the fourth pushing trip, we were down the pitch. To our dismay it all closed down again, but we followed the rift, free climbing a 2 metre drop into a small pool, down more rift. It didn’t end, there was always more. It twisted and twisted until again it opened up, into a circular seven metre drop. It was getting late on the last trip we intended to do, so we turned back then, leaving a storming lead for the following year. Before leaving the limit of the exploration, we has a small photo session.

The fourth morning was the worst, knowing there was no escaping the 550m ascent. The long stay underground was wearing on me now, and the long pitches finished me. My footloop snapped in the URINAL SERIES, this setback gave a little rest, and with Aileen’s spare dyneema footloop, I raced upwards. All too soon, the final squeezes were behind. One last scramble up the scree slope. Day-light, warmth and a can of beer!

* * *

Epilogue

'Hey ho!' Silence.

'Does it go?', 'do you want some tea?', 'yes', 'cow?', 'no'...

'Yes the cave goes, it always goes, the mountain is hollow after all.'

'Shall we enter the survey data right away?'

'What a question... Of course'. Little by little the 150 metres or so of passage are added to the grand survey. What a joy to see four days worth of work take shape before one's eyes! Where does it head to? Is it blank mountain?

As ever we raise more questions than we actually answer.

There lies the thrill of exploration: more people have been to the Moon than in the passage we found. To compound matters, this was the my ultimate caving trip before Derig-day when we would put the cave to sleep for another year by packing up camp X-RAY and finally head down to TOLMIN and celebrate before the very long journey home.

Tanguy Racine



Chunky Fries

When/If potatoes available, 2-3 kg served as side dish.

- Wash then cut potatoes into long thick wedges.
- Deep-fry in batches in fryer until gold and soft inside.
- Serve immediately for maximum morale boost.

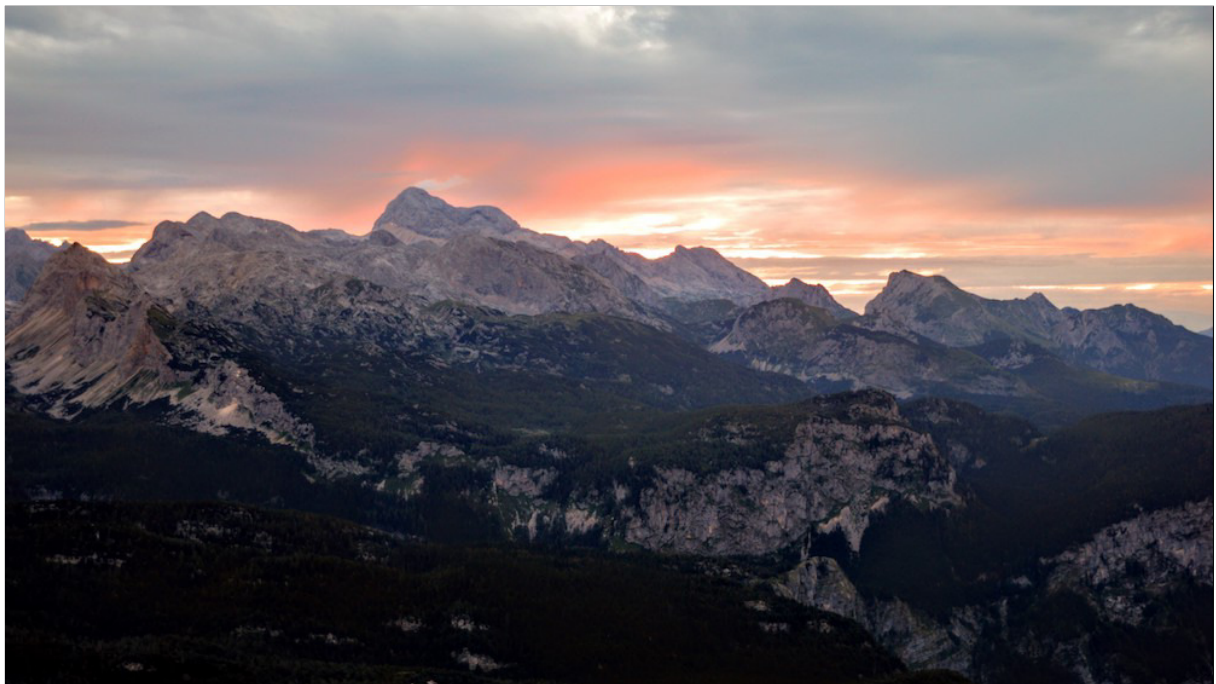


Figure 66: From the summit of TOLMINSKI KUK, the unobstructed view of the scenic JULIAN ALPS reminds us why we choose to go back to Slovenia every Summer 📷 *Tanguy Racine*

**Squidgy Goodness**

- Sam Page
- Saber King

...Could this be a dead cave creature, the same type individual as the one I saw last year?...

**Hot Soup at Camp**

The hot soup recipe:

- Bring water to boil in Trangia stove
- Put packet of dried soup in water
- Enjoy while warm

Squidgy Goodness — more furry friends sightings

Sam 10.50 pm Saber and I headed to JERICHO today, to continue pushing where Tanguy and I left off last week with a short ≈ 2 m drop undescended. The whole of JERICHO is pretty loose so while Saber contemplated whether or not to continue climbing the rift to reach the pushing front, I set off to drop the undescended pit. I decided to use a sling around a natural and descended. The natural is dodge and should not be particularly twisted. The drop is fine as a free climb both ways, though it is nice to clip in. At the bottom of this drop, is an unidentified slimy, mouldy wet lump of organic matter.

Could this be a dead cave creature, the same type individual as the one I saw last year? We could identify furs/hairs, it was covered in slimy mould and water droplets. We both gave it a poke. Whatever it is, its presence is curious in previously unpushed passage. Someone should go take photo/sample.

From here on, the cave passage continued onwards and upwards, stair like as the rest of JERICHO. After ≈ 30 m, this ended with what would be a climb up, but the sides were quite smooth. Perhaps someone could free climb, but I imagine bolting is required. The passage visibly continues above this climb, plus further climbing up the side of the wall. We surveyed back from here to the top of the first pit, which was very easy going, if cold - this passage is extremely draughty- the strongest I have encountered. Our passage is called SQUIDGY GOODNESS after both the slimy organic matter and our trip's reliance on Sorren malt loaf, with its promises of 'squidgy power' and 'squidgy energy'. As with Tanguy, hot soup in SIC SEMPER TYRANNIS was most pleasant. Getting back to camp was not too bad; although we were worried early on about reaching our callout. I arrived at camp at 21:00. Our first attempt at cooking was methy, but Saber made a good second batch. Although we both agreed that we were not massively passionate about pushing today, it was a good pushing trip. Pushing a going lead and leaving it to push, plus the added interest of our mysterious slime. We are heading out tomorrow, for my last 2/3 nights of expo. It's been good X-RAY, I'll be back next year.

Sam Page



Saber's view of the matter - UG logbook extract

Went to SIC SEMPER TYRANNIS and didn't get wet! Sam carried the stuff in order not to make it even slower. We went up a dodgy climb and then down a miniclimb Sam rigged a rope off a rock stuck stuck to the side by mud. The remains of last year's creature were found at the bottom. It looked like this:

Surveyed the windiest passage I've been to. The passage ends in a nasty looking climb. Need to send Slovenians. Left gloves at the bottom of MILKA PITCH for lucky finder. Got back to camp and made some Bitterex flavour noodles, threw them into ZIMMER and ate petrol flavour instead.

Saber King




Figure 67: The back-up SUNSET SPOT, sheltered from the winds between rock and dwarf pine still boasts a good view of the mountains 📷 *Rhys Tyers*

Additional findings around Migovec

An overview of surface exploration



Figure 68: The entrance to N09 was one of the objectives of this year's exploration but the team charged with its relocation lacked a GPS with curated data. This went to highlight the need for a well-managed and up to date repository of cave location and information

 *Tanguy Racine*

Exploration on the western edge of the plateau has yielded several caves that have piqued our interest in recent years. For instance the JSPDT has concentrated on exploring MONATIP in the interims between summer expeditions, and every year draws closer to a connection with SYSTEM MIGOVEC at the -100 m level. This is both a main aim and hope of our expedition. New caves in the west of the plateau could plausibly connect with PRIMADONA, extending its length and providing new entrances to the system.

In 2014 surface bashing of caves re-discovered in last year's surface bashing was the focus for western-plateau exploration.

An afternoon of pushing in last year's main surface discovery, JAIL-BREAK, unfortunately succeeded in killing the cave, as both leads – a dig and a pit containing a boulder blocking onward progression – died. The trip featured a lucky escape for Rhys, the first of a couple he suffered this year!

B10, first marked with red paint during the 'Blowing Holes Recce' of 1995, had been looked at in 2013. Located just off the path to KUK about 10 minutes from the bivvi, it contains a skinny-caver-sized tube suitable for digging with an enlargement referred to as a small chamber. Digging this year expanded the size of the crawling passage, allowing larger cavers to successfully reach the 'chamber'. The cave continues and B10 has potential to reach an additional length of 10m.

While looking at B10 a pit marked as N01, shown on various maps of the plateau (and not related to AREA N beyond KUK), was rediscovered nearby. There was little information about N01 in the Hollow Mountain despite its presence on maps. A team looked in the bottom of the pit, approximately 3 m deep. A tight rift-like wall could conceivably be hammered to reach a small chamber, but there is no visible downward progression.

A small hole was identified off the path up to the camp and logged as SUNSET HOLE in the GPS. There is also a rumour of a blowing hole on the scree-slopes approaching the portal (where the paths to KUK and MIGOVEC meet and join the path to TOLMINSKE RAVNE, see map 2 on page 25).

Our re-investigation of N01 and logging of small holes such as SUNSET HOLE ties in with our aim to gain a greater understanding of the plateau. Our current understanding is largely dependent on the experiences of whichever members found/explored each cave entrance.

This 'scattering' of mental knowledge makes it difficult to know whether a hole has been previously discovered, killed, or left as a viable lead. We hope to gather together all information about surface cave entrances into one accessible written form within the next few years.

Fiona Hartley

**Rock Steady Love**

'An interesting trip yesterday. CLAPTON pitch wasn't quite how Clare remembered it. The two halves of the pitch actually meet at the bottom – as we discovered after 3 bolts. PICK YOUR POISON is actually a large stream passage – and due to the rain outside there was a lot of water. We therefore rigged (dry) pitches in places where Maffi and Clare had freeclimbed the last year. At the limit of exploration the streamway is very tight but we found a muddy bypass high in the rift. We left a 15m pitch down to stream level - named HANGING GARDENS. It's only 50 m in the book but soon we'll return to drop this pitch.'

Tetley

'We've come to the end of our camp – it's been a top trip with Tetley even though CLAPTON wasn't quite as I had advertised – sorry Tetley! Still, it's been great to be back at X-RAY once more; I wonder when when I'll next be here. ROCK STEADY LOVE has been left as a storming lead, hopefully someone will go there this year. William and James just arrived to kick us out of bed so it won't be long before we see the sun again. I'm leaving the expo early this year, so this will be my first and last camp. Good luck everyone, happy caving and look out for each other! Cheers Tetley for the good chat and good pushing.'

Clare Tan**Pushing Balamory to another deep sump**

There was a lot of interest for the bottom of CLAPTON pitch, a large rift with several inlets of water joining in. Although the leads were not as plentiful as promised (the parallel shaft that beckoned on the survey was a subsidiary to CLAPTON, some significant progress was made. By playing the traverse game, and surviving a brief attack of the 'Fear', the pair managed to drop another 50 m high above the water. Eventually, they returned to stream level, leaving an open, steep descending cascade. This was ROCK STEADY LOVE.

Later, Grega Maffi and Erik Bončina pushed the cascade down to 'minus 1000 m'. Their efforts were rewarded with a modest, but beautiful sump lake, AJA?! at -967 m. On their second day at camp, the pair surveyed the passage and derigged the lower section. It was yet another dead end, short of the magic kilometre!

Checking more leads near Atlantis, the Pleasure Palace

Dave and I went back to SIC SEMPER TYRANNIS. We pushed one of the pits which quite conclusively dies. We moved onto the next pit which is now a 10m pitch followed by a 2 m pitch into a medium sized chamber called PLEASURE PALACE. Following the only obvious passage leads to a crawl through some pretty sals and helictites. There is then a downward sloping loose slope which feeds into a sandy crawl. The pushing front is 15m into the crawl which continues (with strong draught). There may also be more leads hidden in the boulders on the slope. All in all about \approx 160 m of passage all very pleasant if utterly confusing.

Rhys Tyers



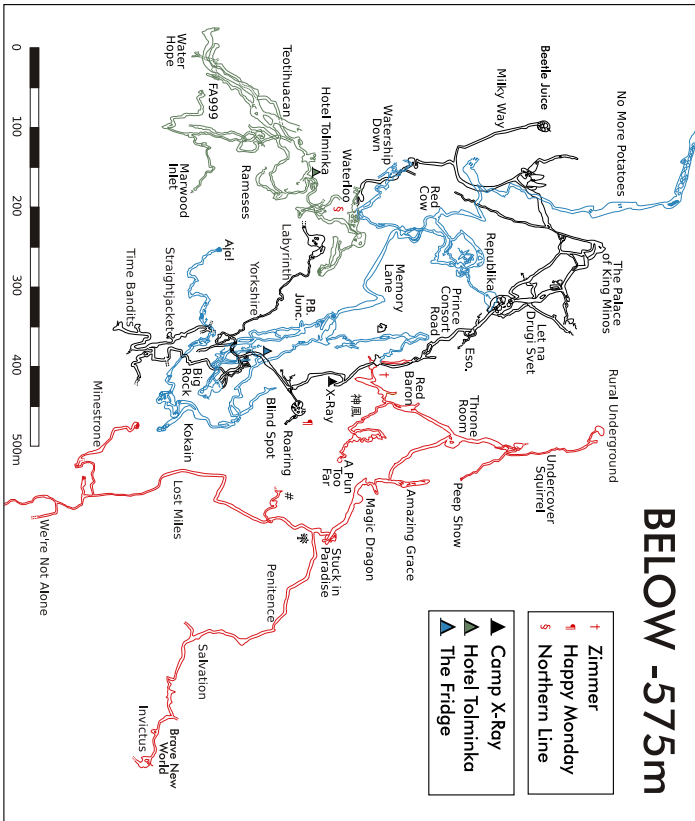
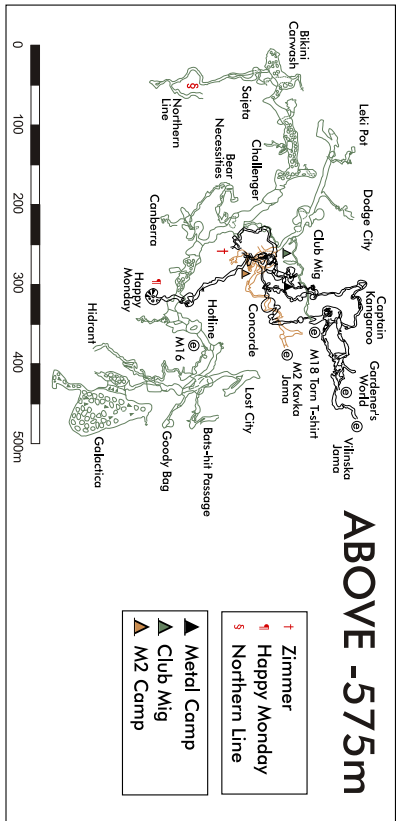
Figure 69: The team at the end of expedition Skozi Zrcalo 2014: *back left to right* Marjan Klobučar, Slavica Klobučar, Aileen Brown, Sarah Gian, Fiona Hartley, Tanguy Racine, Nadine Kalmoni, Dave Kirkpatrick *front left to right* Rhys Tyers, Dave Wilson, Janet Cotter, Kate Smith, James ‘Tetley’ Hooper 📷 Rhys Tyers



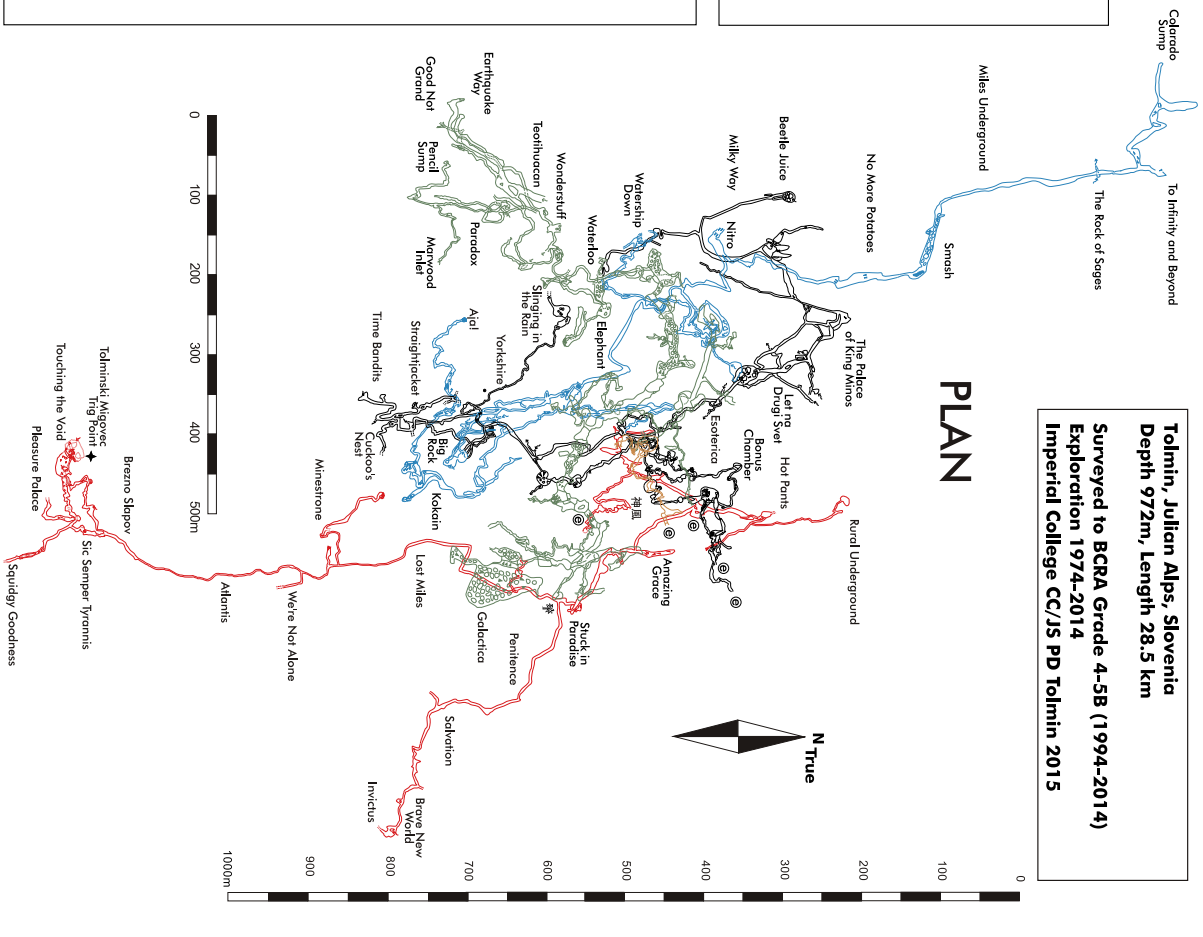
Number Crunching

Sector	Passage name	Survey length (m)	Stations	Average leg (m)
Atlantis	Jericho	80.87	12	7.35
	Jericho2	40.56	9	5.07
	Pleasure Palace	93.36	21	4.67
	Sic Semper Tyrannis	177.05	28	6.56
	Squidgy Goodness	28.87	9	3.61
	Touching the Void	79.86	6	15.97
Balamory	AJA?!	167.7	31	5.59
	Hanging Gardens (deep)	55.84	13	4.65
	Rock Steady Love	96.95	16	6.46
Esoterica	Serrure	78.87	18	4.64
	Your Mum	11.67	5	2.92
Kamikaze	A Pun Too Far 1	36.6	12	3.33
	A Pun Too Far 2	26.84	10	2.98
	A Pun Too Far 3	80.64	17	5.04
Xanadu	Gravity	123.57	29	4.41
	Hips Don't Lie	19.33	10	2.15
	Stupid	7.5	4	2.50
Total		1206.08		

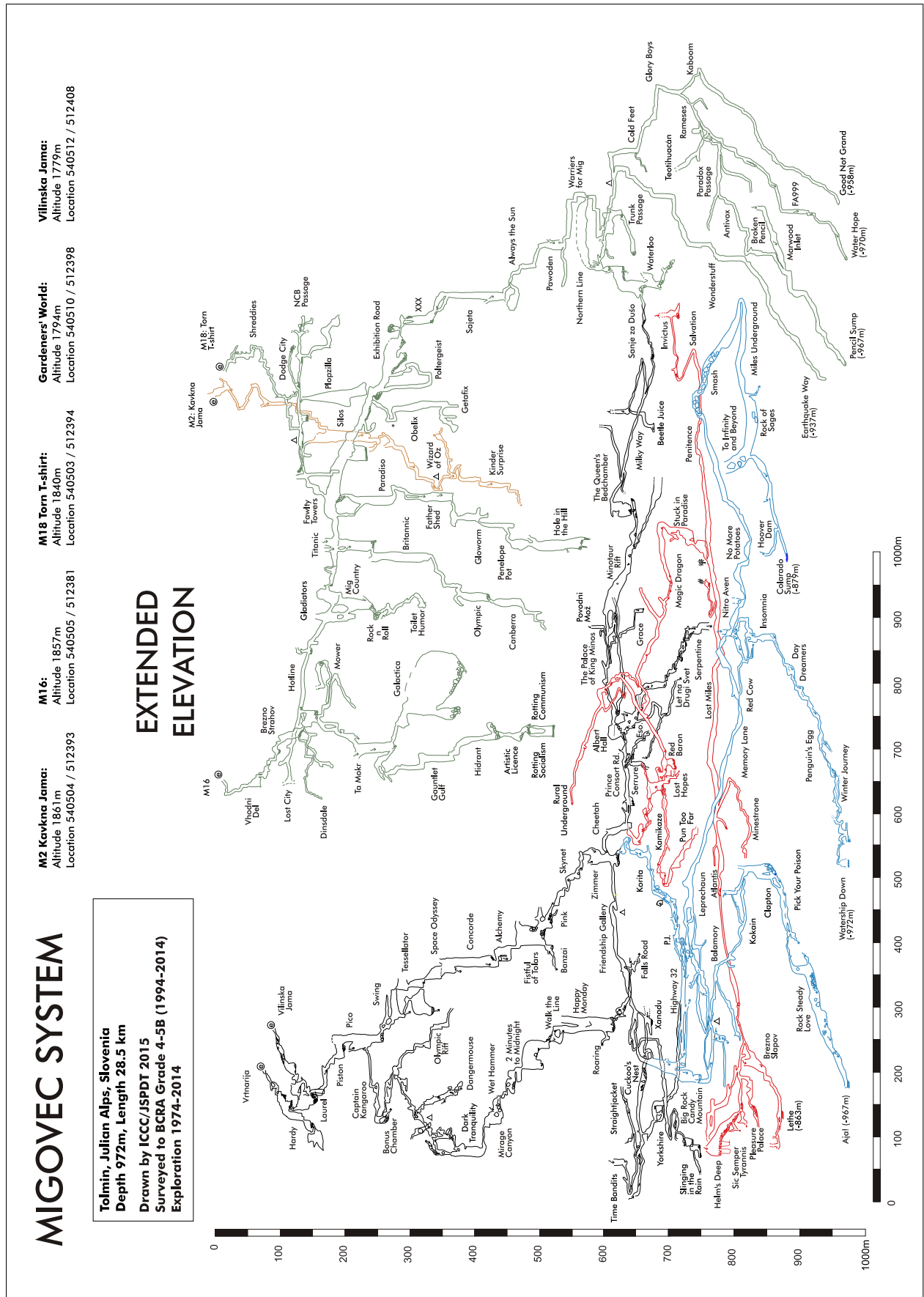
MIGOVEC SYSTEM



PLAN



Survey 13: 2014 Plan Survey



MIGOVEC SYSTEM

Tolmin, Julian Alps, Slovenia
 Depth 972m, Length 28.5 km
 Drawn by ICCG/ISPDT 2015
 Surveyed to BCRA Grade 4-5B (1994-2014)
 Exploration 1974-2014

M2 Kavkna Jama: Altitude 1861m Location 540504 / 512393

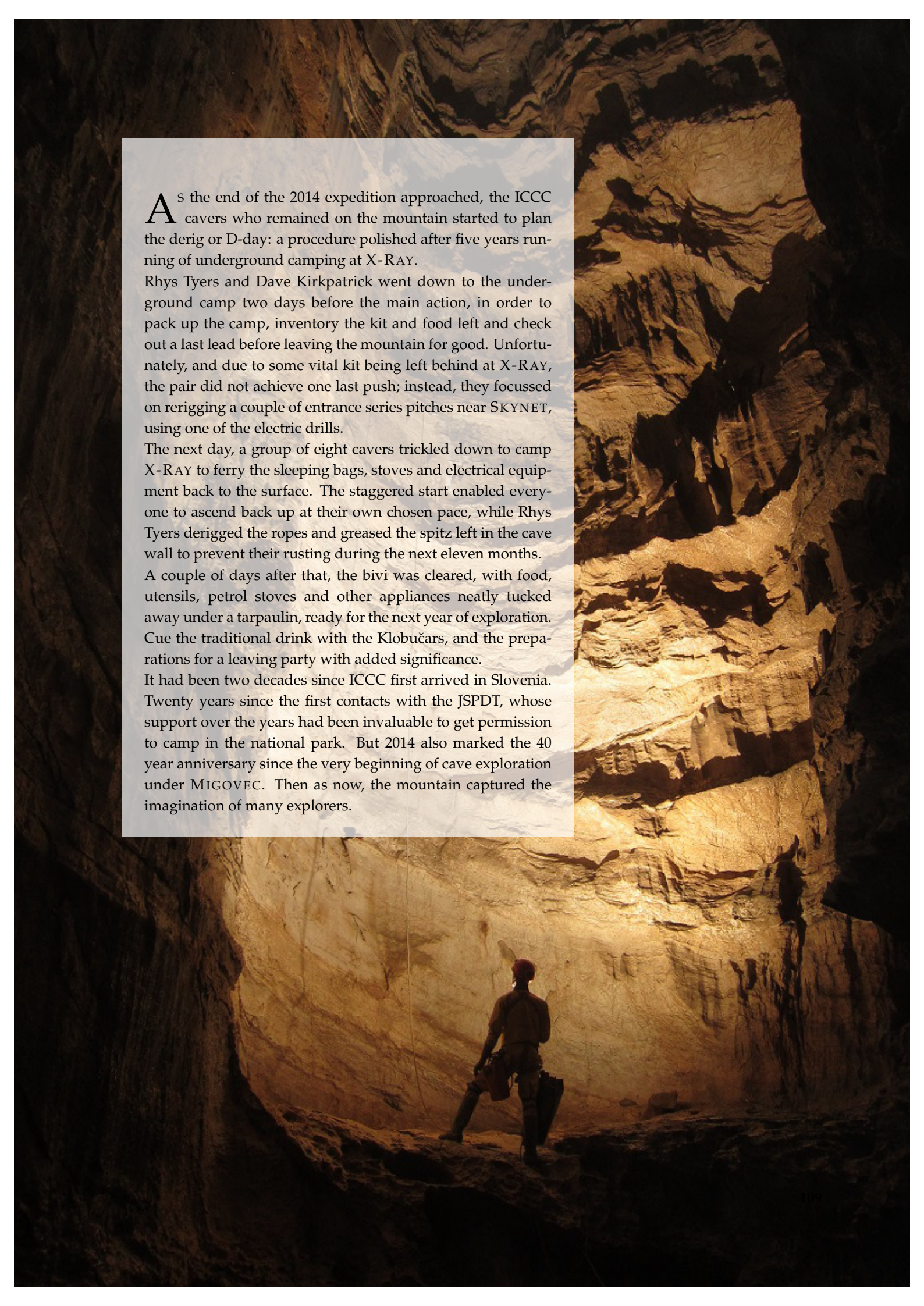
M16: Altitude 1857m Location 540505 / 512381

M18 Torn T-shirt: Altitude 1840m Location 540503 / 512394

Gardeners' World: Altitude 1794m Location 540510 / 512398

Vilińska Jama: Altitude 1779m Location 540512 / 512408

Survey 14: 2014 Extended Elevation

A large, dark cave with a person standing in the foreground, illuminated by a warm light source. The cave walls are textured and layered, with a person visible in the distance. The overall atmosphere is mysterious and adventurous.

As the end of the 2014 expedition approached, the ICCC cavers who remained on the mountain started to plan the derig or D-day: a procedure polished after five years running of underground camping at X-RAY.

Rhys Tyers and Dave Kirkpatrick went down to the underground camp two days before the main action, in order to pack up the camp, inventory the kit and food left and check out a last lead before leaving the mountain for good. Unfortunately, and due to some vital kit being left behind at X-RAY, the pair did not achieve one last push; instead, they focussed on rerigging a couple of entrance series pitches near SKYNET, using one of the electric drills.

The next day, a group of eight cavers trickled down to camp X-RAY to ferry the sleeping bags, stoves and electrical equipment back to the surface. The staggered start enabled everyone to ascend back up at their own chosen pace, while Rhys Tyers derigged the ropes and greased the spitz left in the cave wall to prevent their rusting during the next eleven months.

A couple of days after that, the bivi was cleared, with food, utensils, petrol stoves and other appliances neatly tucked away under a tarpaulin, ready for the next year of exploration. Cue the traditional drink with the Klobučars, and the preparations for a leaving party with added significance.

It had been two decades since ICCC first arrived in Slovenia. Twenty years since the first contacts with the JSPDT, whose support over the years had been invaluable to get permission to camp in the national park. But 2014 also marked the 40 year anniversary since the very beginning of cave exploration under MIGOVEC. Then as now, the mountain captured the imagination of many explorers.