

point issues, and we wanted to save them for the dive attempts).

We got underground by 10:30 am. The rigging went smoothly, although it is never a fast trip with all the rebelay and bunny ears to put in. We brought a spare pack, with the handline for the rockpile in the bottom chamber, and a stove for hot drinks on the dive trips; working on the principle of doing whatever it takes to keep the sherpas happy. Although, thinking about it, a cup of soup is probably insufficient for that. Lucky I had a few dried figs to offer as well then.

The spare pack we left at the top of the penultimate pitch.

Ric brought up the rear, and waited there for Ken and I to return from rigging the bottom pitch.

We used the one rope to rig the second last and final pitch (the infamous 120 m, 9 mm ex-Niggly rope that is horribly jerky), and as we were not dropping it this trip, I was concerned to make sure the rope actually reached the bottom. It would be a real bummer for someone to go down carrying a tank and have to prusik back up because the rope didn't reach! Thus I made the loop from the previous pitch fairly tight in the tie-in to the bottom pitch bunny ears. I could do it quite easily though, so that was fine. No one shorter than me was coming down.

The trip out was easy without gear and we were all back on the surface after five hours caving.

(See SS350 for Dwarrowdelf rigging notes).

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## **JF-23 Lawrence Rivulet Rising**

**Janine McKinnon**

**9 January 2013**

**Party:** Janine McKinnon (ASF-CDG/STC), Ken Murrey (ASF-CDG/VSA)

The main reason I am writing a trip report for this dive is to record the state of the line as we found it. I intend to do repairs and replace the current line, but wishes don't always become reality, for many reasons. So any future divers venturing there should assume the line is as described here unless I write an updated report at some point.

So, this was a trip for Ken to have a look at this resurgence, and for me to go to the end of the cave, which I had yet to do.

I sent Ken in first, so he would have the best chance at good visibility. Unfortunately the flow of water out of the entrance was particularly low, and Ken stirred up the sediment as he searched for the small entry to the cave. Thus, when I followed him about 5 minutes later, I could see nothing, and took several minutes finding the way in

the entrance squeeze, as the line he had laid to the in-situ (permanent) line into the cave (hidden below water level), followed a somewhat circuitous route.

Finally I was on my way along the permanent line through the restriction and along the horizontal flattener, feeling my way in zero vis. As I reached the point where the passage descends sharply I ran (almost literally) into Ken coming out. I turned and exited.

I had been in the water for about 10 minutes.

Ken reported that the permanent line was broken and shredded a short distance down the slope. It was not repairable. He had decided not to run his own line and continue.

The cave was now totally silted out so there was no point in going in again.

That must count as about the shortest dive I can recall ever doing.

The permanent line needs replacement, preferably with a thicker line. As stated, I plan to do this is the next year, weather conditions permitting.

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## **JF-4 KD Sump II Dive (trip 2)**

**Janine McKinnon**

**12 January 2013**

**Party:** Alan Jackson, Andreas Klocker, Janine McKinnon (diver), Ken Murrey (to part way through the Depths of Moria), Ric Tunney

We had planned this trip to coincide with a trip to Hobart that Andreas was doing for work. This was very fortunate as he had very generously offered to fly down here to help with these diving trips when they occurred. This way he got two weekends in, and work paid for the airfares.

He was really needed as the club is unable to field two local cavers with the will, fitness, expertise and strength to help with the tank haul to and from the sump. Alan is one, of course, but Ric and I aren't strong enough to carry a tank. They weight nearly 10 kg full, plus a couple of kilos of personal kit, makes for a heavy pack. Our limit is about 10 kg each.

Ken was staying up at The Giant's Table and had offered to come and carry a pack as far as he was able to go. He was meeting us in Maydena at 8 am.

The rest of us left Alan's place at 7 am, and were travelling well until Alan realised he had left his socks behind, so we turned back before Granton. Andreas also realised he was missing caving socks, so Alan got extra pairs from home. We were off again by 7:30 am.

As we were organising ourselves at the carpark Ric thought he had forgotten his socks. This seemed to be a day of sock dramas. Luckily he found them, so the day wasn't cancelled for want of a pair of socks (humour alert). With disaster averted we were off, and at the cave before 9:30 am. Five people to carry the diving gear (and personal caving gear) to the cave made for reasonable packs.

Alan started in first (with one tank) and quickly disappeared down the cave. He obviously wanted time to tinker with the rigging (memories of Jeff Butt). Andreas went next (with the other tank), with me behind in case he needed directions (and help with the pack on the third pitch head). Ken next, then Ric followed.

The tanks were carried in caving packs for protection, and I had used SS valve plugs, rather than the usual plastic ones. This was to ensure that we didn't have a potentially injuring high pressure escape if one of the valves got knocked open. We also carried a shifter to open the plugs

if they were under pressure. This has happened to me before.

The fins were used to secure the tanks in the packs. Regulators were packed in containers with hoods, gloves and other soft clothing to insulate them from damage, if possible. My computer was in a small box.

Damage to delicate gear is a major concern with all the banging and thumping that packs take on the vertical bits, and particularly through the rockpile of the Depths of Moria.

Despite what looks like a lot of gear (see kit below), it was the least, and light weight, that I could safely get away with.

We all gathered at the bottom of the final pitch after an uneventful descent. Ric had been planning to put in a rebelay on a natural flake he had seen on an earlier trip down the bottom pitch. This would have broken up the big drop nicely, particularly for the prusik out, making it easier and quicker. Unfortunately the flake turned out to be loose, and only appears to be held in place by a small chock stone, and is not the blade of bedrock it appeared to be. On closer inspection it actually looks potentially dangerous and we will consider trying to knock it down the pitch on the de-rigging trip.

We dropped SRT gear and headed to the bottom chamber. Moving the gear had been quite easy, and continued so, until we hit the crawls in Depths of Moria. Then it became a team effort. Ken found he couldn't get himself through the restriction half way along the crawls (a squeeze between a boulder and the wall), and so we redistributed gear and sent him home.

We reached the sump 2.5 hours after starting into the cave. I started getting the diving gear out, and myself dressed in my drysuit. The other three helped speed things up enormously by putting the regulators on the tanks, weight on the harness and generally getting the kit unpacked and ready. Ric knows it all well from being my support person, Andreas is a diver with a similar rig and Alan observes and learns fast!

This was very helpful for us all. Never underestimate the value of reducing the time spent sitting around in a cold cave whilst someone dives.

Ric also set up the stove to boil water for drinks. Unfortunately, just before I went in for the first dive, the billy fell over as he was reaching for it and he burnt his hand quite badly. He plunged it into the stream for a while but still made a mess that blistered badly over the next 48 hours. It didn't stop him continuing the trip, or getting out afterwards unaided ... but I get ahead of myself.

The stream flow was low and I thought this was good conditions for the dive. Possibly, in hindsight, a bit more flow would be better; to help clear silt more rapidly, and possibly find or confirm the main route of the stream.

The four weights taken in several decades ago were still on the ledge near the sump. They are the old style that thread through a weight belt. They will be left there at the completion of this exercise for any future parties.

Alan acted as support, passing me stuff, as I kitted up on the pool's edge and checked all the gear.

Stefan Eberhard's line from his 2006 dive (SS352) was still *in situ* at the pool edge, and I could see it for about 2 m into the pool.

I had an exploration reel ready but started the dive by following Stefan's line, hoping it would be unbroken and in place as I descended. That would save me a lot of time.

I started down and the dive report follows:

#### *Dive 1.*

*The line was still intact on descent. The tie offs were good, and the line taught. Visibility was not consistent but was about 0.5 m in the good bits, and less in most parts. I was trying to check the line, get my bearings, look around, and check my exit, whilst also being aware that speed was of the essence to keep ahead of the silt that would follow me, as the slight flow was in my direction. As Stefan described in his report in 2006, the passage plunged steeply down to 11 m, and then headed down a steep silty bank to 15 m.*

*White Anaspides were everywhere.*

*The line disappeared into the silt at the bottom here, it was buried at least a foot deep, and I took several minutes digging it out, producing great billowing clouds of silt in the process.*

*It was here that the onward direction curved sharply to the right and entered a small horizontal passage, about 0.5 m high x 1.5 m wide, as Stefan describes. This was at 17 m depth. I was lifting the line out of the silt (it was buried a few inches) as I went. Visibility was now zero, but with the odd "opening" of a couple of centimetres, so I got glimpses of the line and the surrounding cave. The line disappeared into much thicker silt after about 10 – 15 m, by my estimation; it's hard to estimate accurately in the conditions. I started digging again and after some effort, and lots more silt, I pulled up the silt stake and lead weight Stefan had used previously. This is confusing. He describes placing them at the start of the narrow passage and I was quite some distance into it now. Had some of the tie-offs come adrift and the weight and stake been washed into the passage during floods in the intervening seven years? It seems a bit improbable, but the reality is that I was some distance into the restriction and I was at the weight and stake. I appeared to be at Stefan's furthest point of penetration, as far as I could tell from his description of his second dive. I could see almost nothing but the passage did seem to be continuing slightly upward ahead, from feel. Anyway, there was no line continuing further. I reset the weight and stake into the floor and stopped and considered; visibility was zero. I waited a few minutes but visibility did not improve so I decided to go back and give it a chance to clear. Exit was in zero visibility. The line in the flattener was somewhat slack but good enough to follow and I had nothing that I could feel to tie off to so I didn't bother.*

*Summary Dive 1: max depth 17 m, time 13 min. water temp. 6-8°C*

#### *Dive 2.*

*I waited about half an hour and went in again. I tried to get to the end of the line as fast as I could, but whilst the sump to the start of the flattener had largely cleared to the usual stunning vis. of 0.5 m or less (but good enough to follow a line, or wall), once in the horizontal passage the silt was still in suspension. I took a bearing into the passage and read it as SW. This is not a certainty as the*

*vis. was very poor and I could barely read the small stuff on my computer (old eyes didn't help). I found the silt still being there a bit strange, and possibly important? I went to the end of the line anyway, tied in my primary, and started groping forward in zero vis. A short distance (maybe 5-7 m) past the weight the passage started tending steeply upwards but was getting very narrow, and still only 0.5 m high. I continued a few meters up slope, at about a 45 degree angle, feeling my way. The height of the passage was reducing slightly, by my gestimate, but more importantly, I could feel the width reducing. It was still wide enough for me to fit through but was starting to get tight. I wasn't game to risk getting caught in a passage I couldn't turn around in and have to back down slope, in zero vis., where I'd never actually seen what the passage was like at any time. I wasn't prepared to take tanks off and push them through in these circumstances. I waited a few minutes, hoping for a glimpse of what lay ahead, but the vis didn't change.*

*I thought about leaving the reel there but didn't want to risk it flushing away or having the line unravel off the spool in the time before I got back here again, so I reeled back as I backed out to where I could turn around at the weight, and removed it from the tie in to the lead weight. Trip back out of the narrow passage was the same zero vis. as the previous dive. As I continued up slope the vis. improved to a couple of centimetres again.*

*Summary Dive 2: max depth 17 m, time 25 min*

*Air consumption for both dives combined was less than half tanks.*

*So I have almost certainly penetrated to the furthest point of Stefan's exploration on my first dive. I have pushed maybe 5-8 m beyond that point on my second dive. Prospects seem poor for this passage to continue large enough to fit through but there is still some possibility so I will return.*

*Dive kit: DUI TLS 350 drysuit, Bare polarwear 200 undersuit, 2 x 7 l steel tanks, 2 x XTX 50 second stage regulators, 2 x Apeks cold water first stage regulators, canoe helmet with 2 x Princeton Tech lights, Nitek Q dive*

*computer, Razor harness with wing, safety reel, rocket fins, mask, gloves, hood, Light Monkey reel with 100 m 3 mm sinking line. I used one of the four weights, but this underweighted me a little when my tanks lightened.*

*Spares: shifter, small dive multi Allen key.*

*Sidemount configuration.*

A cup of soup appeared in my hand as I divested myself of the drysuit, however I had to put it down for a few minutes as I was shivering so much I was spilling it everywhere.

Ric started moving the gear we were leaving behind to a safe place up higher in the rockpile as I started packing the gear we were taking out. Andreas and Alan were taking the tanks again. The drysuit, undersuit and regulators Ric and I were carrying between us. Fins, helmet, mask, harness, cooking gear were staying for the next trip.

We started moving out after three hours at the sump, at 3:30 pm. Alan headed off with his gear, after helping with the gear passing through the Depths of Moria. Being Alan, he was then flying ahead of us other three, and we didn't see him again until we were out of the cave.

Andreas went up the bottom pitch ahead of me, and then I leapfrogged past him so I would be at the top of the third pitch to help get the tank through the restriction. After that I went for the surface. Alan was waiting when I got out, to help with gear at the top, and Andreas and Ric were both close behind.

We were all out at 6:30 pm.

I want to thank the four of them for helping with the heavy loads so I could dive. Sherpa-ing is a somewhat thankless task; it's lots of hard work without the excitement of the diving (not that I'd call this one fun).

Ric, in particular, goes beyond the call of spousal duties by being involved. I am pretty sure no other 62 year old cavers have hauled gear to and from the KD sump, or possibly any other cave this demanding, in Australia.

The return trip was planned for the following weekend, to use Andreas' availability. Alan started planning how to get the brownie points for it.

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## JF-4 KD Sump II Dive (trip 3)

**Janine McKinnon**

**19 January 2013**

**Party:** Serena Benjamin, Chris Coxson, Alan Jackson, Andreas Klocker, Janine McKinnon

My tanks had been refilled and we were all ready and keen for another attempt at the sump. Alan, Andreas and I were returning after last week's trip. Ric was unable to cave as his hand was very tender and delicate from the extensive burn he inflicted on himself last week, but we had gained Serena and Chris.

Chris was another of my attempts to relive past caving practices. He is new to the state, young (21 years old), caves in northern British Columbia, says he is SRT competent, looks lean and fit ... and none of us have caved with him, or know anyone who has.

This is so TCC. Off on a big trip with a total unknown. Happy days!

We arrived at the Dwarrowdelf entrance around 9:40 am and quickly got dressed and organised. Chris, we noted, had all the right SRT gear, and knew how to put it on, so that was a good start.

I headed in first at 10 am, with Alan hot on my heels, and I reached the bottom of the big pitch half an hour later. Ah, the joys of a pre-rigged cave. We awaited the others.

There had been a few millimetres of rain the previous day and the cave was noticeably drippier this week. The bottom pitch was quite splashy. I wondered how that would affect the sump.

Once we had all assembled, and removed SRT kit, we started off to the sump together. The waterfall in the KD bottom chamber was noticeably higher flow than last week, as was the stream flowing to the sumps. The water levels were still only moderate summer flow rates though.

The usual pack passing occurred through Depths of Moria but all went smoothly and we were at the sump at midday.

We quickly started moving the stashed diving gear down from the ledge it had been left on and pulling the gear we

had carried in out of the packs. Andreas put an extra weight onto my harness and set up the regulators, whilst I got into my undersuit and dry suit. Alan moved my diving lights to Andreas' helmet (he has a waterproof Scurion, lucky boy). I'd have done this last week when I discovered he had a caving light I could dive with, but I didn't have a screwdriver to take my diving lights off my diving helmet. This week I had come prepared.

Serena helped by finding gear, and Chris was official photographer. We were a busy, efficient little group. I wanted to spare the others as much waiting around time as possible by being fast and efficient. They had their brew ready by the time I was kitted up, gear checked, and ready to dive.



*Janine preparing to dive the sump.*

The plan for today was to do one long dive. I would head to the end of exploration last week as quickly as possible, in the hope of keeping ahead of the silt and getting some visibility in the passage beyond my previous limit. If the passage continued large enough for me to fit, then that was obviously the go, until I reached thirds, or ran out of passage. If it didn't, then I would do as detailed a search of the sump pool as I could manage, looking for other possible passages. I still wasn't convinced this side passage was the main flow path of the stream.

### *Dive 3.*

*Today's dive was the third in my assault on the sump. I had noted on arriving at the site that the flow into the sump was a little greater than last week, and the water level slightly higher. Looking down into the sump, the visibility*

*looked less than last week. The line could only be seen for less than 0.5 m.*

*I headed down the line and immediately realised that my visibility was even less than last week. I could see only a few centimetres through the water. The rains had obviously stirred up the silt and there was heavy suspension still in the water.*

*I headed down slope and found the line loose at two of the tie-offs before the bottom of the pool. These took a couple of minutes to re-tie. I was concerned that this was losing me necessary time to stay ahead of the silt. The flow was higher this week but still slight.*

*Silt had also started to re-settle over the line at the entrance to the passage, but only by a centimetre or two. I headed straight into the passage, still ahead of the silt flow, and tied off some slack line as I moved along. The passage hadn't become any larger in the intervening week.*

*I crawled to the end of the line and tied in my reel. The silt was starting to pass me as I moved ahead but I still had reasonable visibility ... well ... reasonable being 10-20 cm. I crawled (you couldn't call it swimming in the confined space) as fast as I could and managed to reach the steeply upward rising slope before the worst of the silt arrived. I could see I was on a silt and gravel floor, with rock on the ceiling. The bank continued ahead upward at a steep angle (about 45 degrees), and I gained a couple of metres on last trip's distance. I could see the gap between floor and ceiling diminished to about 20-30 cm; too small for me to fit through. The walls narrowed to approximately 0.5 m wide. The silt overtook me at this point and I lost all visibility.*

*I was unable to turn around here (or didn't want to try anyway) and I backed back to the point where I had tied my reel into the weight. I reeled my line back in as I retreated. I had been intending to leave the exploration line in-situ at my furthest point of penetration however I changed my mind on site. I decided that the trouble involved in securing it in zero vis., to walls with limited solid anchor points that I would have to find by feel, possibly at the expense of considerable time, wasn't worth the trouble for the short distance I had gained on the end of the current line, in passage that doesn't currently go. I knew I didn't really have air issues but, in the very cold water, there was a limited time I could dive before getting very cold. I had not brought the clothing I wear under my undersuit in these very cold waters, for bulk and weight reasons.*

*Having untied my line from the weight, I turned around and made another zero vis. exit from the passage.*

*This had only taken some 15 minutes, I discovered when I could see my computer again outside the passage, and I had four fifths of my air still, so I now started the search of the pool. My visibility was only a few centimetres at best, so the search was not going to be comprehensive. I attempted to be systematic however. At -15 m I tied into the fixed line and headed across the sump at right angles to the fixed line. When I encountered wall, after about 5 metres, I started feeling along the wall to the right for several metres. When I found nothing I moved back to the left for what I hoped was several metres beyond where I had reached the wall. I then reeled back to the fixed line and moved up to -11 m depth. I repeated the same pattern. At -8 m I repeated again and found myself swimming for*

*about 10 m from the fixed line, about 5 m into a narrow rift. I got quite excited for a few seconds, before this proved to be a blind rift. My last foray from the fixed line was at -4 m depth, around the walls of the sump pool.*

*I was starting to get cold and had exhausted the prospects in the current environment so decided to call the dive.*

*Dive time: 31 minutes. Maximum depth: 17 m. Water temperature: 6-8°C. Air consumption: 70 bar each tank (full tanks 230 bar each)*

*Conclusions: The higher flow this week enabled me to see the flow through the small passage via the faster silt movement. I now think this is the main passage on. The steeply rising gravel floor is almost certainly infill. The current dimensions of the restriction at the limit of exploration are too small for a diver to pass through. Current prospects in this passage are zero, in my estimation.*

*Whilst the roof is solid rock, the floor isn't. Some digging might make the passage passable to humans. It depends how deep the gravel and silt are.*

*So what we need now are some Pommy digging cave divers.*

*My inspection of the sump pool for other passage was the best I could manage in the very poor visibility. I was as systematic as I could be. I do not think there are any alternate routes around the main passage from within the pool. I am reasonably confident about this, however, due to the circumstances, I cannot say with 100% certainty that this is the case. I do consider the prospects so fleetingly small that I will not be returning.*

Soup was ready by the time I was out of the water. I really appreciated it as I was quite cold again. Andreas started dismantling gear whilst I sipped soup.

We got the gear all packed away fairly efficiently and I took off my dry suit and undersuit as a last act to try to warm up a bit.

We discussed bringing out the weights but decided that they were now a piece of history so should remain there (read: none of us wanted to carry them out). I did bring out the four silt stakes that were there.

We left the sump at 2 pm. Alan and Andreas again took the heavy burden of the tanks. Serena and Chris had good loads, and I took as little as I could get away with (but my pack still weighed 8.4 kg)!

The trip out was smooth and drama-free. We stayed together until the bottom of the big pitch. Chris headed up first, followed by Andreas and then Serena, moving at their own paces. Alan and I stayed together to de-rig the cave to the bottom of the small pitch below the 55 m pitch (P4). Although, when I say that, I mean Alan came last and did most of the work. The ropes have been left in the cave for retrieval on another trip.

I caught Serena just as she was starting up the entrance pitch, so the timing worked beautifully. The last person was out at 5:30 pm.

Oh, how did Chris go? No worries at all. He's perfectly fit, competent, and in the right head space. I knew it all along ... (we won't mention the times I, and others, have got it wrong).

(See Stefan Eberhard's KD sump II dive attempt: SS352)



*Final preparations before the sump dive.*

**C. Coxson**