The 1988 Exploration of Jul Mas Nim

by Steve Knutson, F.E.C., FNSS

In 1988, Jul Mas Nim *was explored and mapped to over 8 kilometers in length and 294 meters depth, making it the longest and deepest cave yet in Guatemala. But this complex and mysterious cave has yielded its secrets grudgingly. . .*

Background

In late February of 1987, Randy Spraul (Calgary, Alberta, Canada), Paul Hill (Salt Lake City, Utah), and I visited a large closed valley at 151600 meters elevation in the Cuchamatanes Mountains of the Alta Verapaz of Central Guatemala. The surrounding mountains are known as the Montanas Yalijux. We had only a few days before leaving for a scheduled, important exploration in Honduras, and wanted to check out a new road that went to the village of Yalijux and the siguan (sumidero) shown on the topo map.

We arrived around noon, my truck having bare-ly negotiated the very steep road up the escarpment from the valley of the Polochic at 300 meters elevation. The Village, some 200 families of Kekchi-speaking Mayan descendants, lay spread along a straight stretch at the end of the road. The locals were a bit shy and merely watched as we walked off to see the siguan of the Riachnelo Yalijux.

We arrived at the map site for the siguan but observed only a deep doline floored with a corn field. Three boys caught up with us just then and said, in Spanish, "Aren't you going to look at the siguan?" "Yes" we replied, "Isn't it here?" "No!" they exclaimed in amusement, "It's over there! Come on."

They led us some distance, to some cane thickets in the flat corn fields, bordering Yalijux. Here the stream, some 5 cfs, plunged down a narrow ravine to disappear with an explosion of spray in a hole only about 10 feet in diameter. This poorly-developed sumidero looked both nasty and unpromising. In dismay I asked the kids if there were any other, dryer caves around. We were heading for the Rio Atima in Honduras and didn't need something wet and horrible just then. They thought a moment and then led off down the corn field.

We walked along for 1/2 km, heading for the edge of the flat valley floor where the mountain wall climbed to over 1900 meters. Farther along the corn field turned left into a narrow defile. There was no sign of a cave entrance. As we entered this narrows we also entered a paleo-streambed - ahead you could see that it turned abruptly into the mountain side. As we approached this we were met first by a cold breeze, then by the sight of the paleo-streambed disappearing into a great portal in the mountain. "Yes," I thought, "this is more like it - this is a cave!"

As we cooled ourselves in the twilight zone of this great entrance the kids informed us this was called "Jul Mas Nim" - Kekchi for "great cave" . . . indeed. The passage, some 100' high by 50' wide, disappeared into darkness.

In the next three days we entered this cave twice, pursuing the big entrance passage past a higher doline entrance and down to a large room where a side canyon led to a deep shaft. Here the cold air came down from above and went both down the shaft and out our entrance - obviously coming from an entrance higher on the mountain. We were short on rope but managed to rig the pit and sent Paul Hill down to check it out. He descended the spiraling, 62 m drop and ran down several hundred feet of passage with good air flow. We had a going cave!

1988 - The Plan

Jul Mas Nim begins at the low point (1480 m) of the Yalijux Valley. With strong down-cave air flow, it must, we felt, be proceeding to a lower entrance - but where? A concavity in the main escarpment of the

mountain range was about 4 km away, to the southeast; the cave was going southwest, toward a resurgence at 1000 m but about 10 km away. The topo map showed a resurgence and cave to the northeast about 2 1/2 km distant. This proved to be nonexistent but locals insisted the Yalijux resurged in that direction

We assumed it was going to the escarpment the shortest distance and came to call the concavity there "the alcove". Thus we planned to use this unique opportunity and attack the cave alpine style bivouacking our way through. This assumed the cave to be more or less straight forward - and why not? It was very appealing. Such was the plan...

1988 - The Reality

In February, John Wyeth (Surrey, England) and I drove up to Yalijux to get a house and establish a local liaison. On the 26^{th} we entered Jul Mas Nim to check things out. It had been raining and in the cave we found wet season conditions. Little streams were entering everywhere while major drip areas made for occasional shower baths. Last year this entrance passage was bone dry. Moreover, the air flow was now slight and going in, not out.

At the 62 m pit we descended to find the passage leading from the room at the bottom to be sumped! This was a surprise - if this passage sumped when it rained, we could hardly go rambling in to try a bivouac thru trip...

By the time Luis Arisso (Guayaubo, Puerto Rico), Jon Burkig (Salt Lake City, Utah), and Lark Harder (Corvallis, Oregon) arrived, the weather had been good for awhile. On March 8, we entered to see how extensive the sump was, and how good it looked beyond, for the purpose of an alpine trip.

For a camp style thru trip to be successful we really needed two things: the first was a straightforward route and the second, a flood-proof path of retreat. We soon found that we had neither.

The sump passage, now nearly dry, was only head-high and 10-15' wide for a hundred meters - way too far to free dive. Moreover, our southwest trending cave suddenly turned back on itself and headed northeast. Worse, after a few hundred meters the tall , narrow passage (the First Rift) entered a great chamber. The down-cave air flow, our faithful route indicator, entered this and was lost. The "Great Hall" lay like the cross of a 'T' to the First Rift. To the left it ended in earth fill and breakdown. Short of this was a clean passage that led down short drops into a complex that appeared to be a drain for the Great Hall. There was air flow here, but it seemed to go every direction and dissipate - was this the way on?

At the other end of the hall was a continuation going off at a higher level. Though much smaller than the hall, this "Dry Borehole" seemed to have air flow and went south for a ways before turning northeast. Was this the way on?

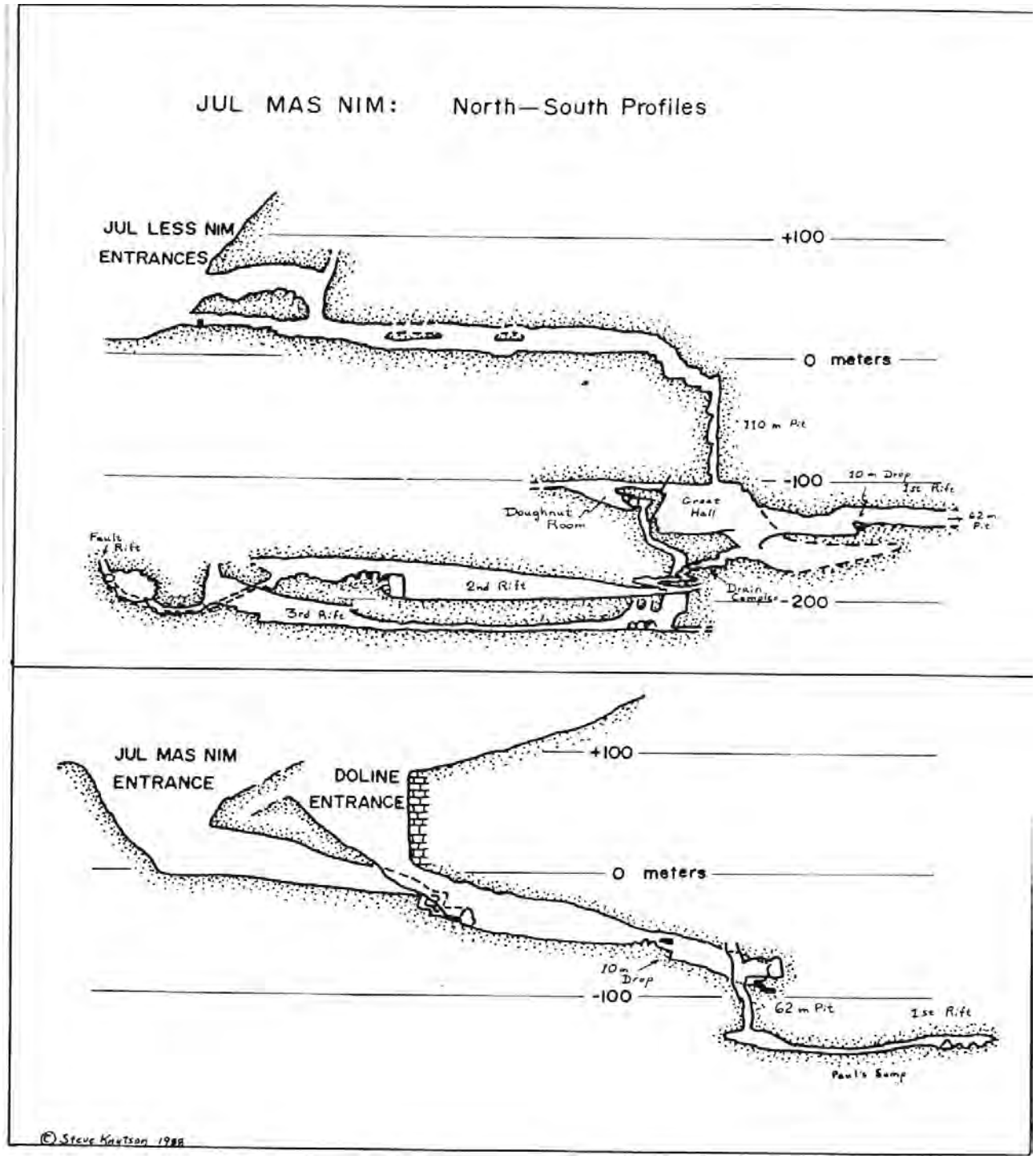
The Jul Mas Nim Entrance

That same day, Mark Harder, who had come main-ly for surface scouting, struck gold. Just a hundred meters east of the Jul Mas Nim entrance was another entrance, much less imposing but blowing cold air. Mark fired up a lamp and soloed along for 300 m.

In the following days, we pursued this, mapping 400 m from the entrance which we called Jul Mas Nim, to where it began to go down. A plot showed this to be right over the Great Hall. If it could descend the 120 m and connect, it would provide a dry bypass to Paul's Sump.

Thinking this unlikely, Luis and John worked at this for three days, proceeding down a shaft from ledge to ledge (this was all their too-short ropes would allow) until Wyeth found himself hanging on the end of a rope in a great dark space, his light reflecting from the mist below. Finally believing this may be a connection, they returned one more time and reached the floor of the Great Hall, the total drop being at least 110 m, though broken by ledges in three points.

This provided a bypass to the sump but the rope rubbed against a long, broad surface in part of the shaft, this surface being covered with sharp boxwork blades: extremely and dangerously abrasive. Since we had only 9 mm PMI, we felt it should be left for use next year when we could bring 11 mm.


JUL MAS NIM: North—South Profiles
JUL LESS NIM ENTRANCES
+100
0 meters
110 m Pit
-100
10 m Drop
1st Rift
Doughnut Room
Great Hall
62 m Pit
Fault / Rift
2nd Rift
3rd Rift
Drain Complex
-200
JUL MAS NIM ENTRANCE
DOLINE ENTRANCE
+100
0 meters
10 m Drop
-100
62 m Pit
1st Rift
Paul's Sump
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The Drain Complex and Second Rift

Burkig and I had been distracted by Siguan No.5, a little to the northeast of Jul Mas Nim. This takes strong air and went down a series of wet, rockfall-dangerous drops to 225 m depth where the air was lost in breakdown. Now we went back to Jul Mas Nim to find the way on.

The complex went nearly every direction, the leads getting small and branching after short distances. The air flow also broke up in the maze and became indistinct in every lead we followed. This was frustrating, but the air was a guarantee, I thought, that there must be a continuation. But had we come all the way to Central America to push crawlways?

I went back in one lead that led to a near sump. Standing in the mud, I was testing the faint air flow with my breath when I spied an opening in the wall. When I went up to the 2' x 3' hole, I could feel some air flow. I crawled into it - 15' along I popped out in a somewhat bigger passage. My feet popping in the sucking mud, I hurried along, hoping, just hoping. After a number of turns and small rooms, I was looking down into a stream passage, some 30' high. This had to be It! Jon and I followed this for several hundred meters.

It became a huge passage, started to fill with breakdown, then reverted to a narrow rift again. On the map plot, it appeared to be a continuation of the First Rift, going northeast, and became designated the Second Rift.

Jul Sakonac

We now felt that the cave had tipped its hand, that northeast was its fated direction. So we spent some time hiking out that way. Past the nonexistent resurgence shown on the map we searched for a cave.

At one point I encountered a local and said, in Spanish, "I'm looking for caves." He replied in Spanish, "Sorry, I don't speak Spanish." "Well," I said, "In Kekchi, the word is 'Jul"'. "Oh," he replied, in Kekchi, "Jul Sakonac!" and pointed vaguely off down the valley. "Does it have any water?" He answered again in Kekchi "Ni Mal". I asked "Is it big?" and he responded "Mas Nim!" We parted and I found out later that "Ni Ma" means "river" and I already knew "Mas Nim" meant "very large". "Sakonac" means "rock cliff".

But we never found any such cave, up to 5 km northeast from Jul Mas Nim. Doubtless it exists, but if it is farther than that, we came to consider it unlikely that it has anything to do with Jul Mas Nim.

The Fault Fissure and Third Rift

In the middle of the month, Patty Mothes (Quito, Ecuador) arrived. The cave now seemed to be definitely headed northeast. The next trip to the second rift followed the small stream into a side lead. They mapped 350 m but the stream went into a sump. This was not the way on. The next day Patty, John and I pushed into the continuation of the main passage, past the spacious breakdown area.

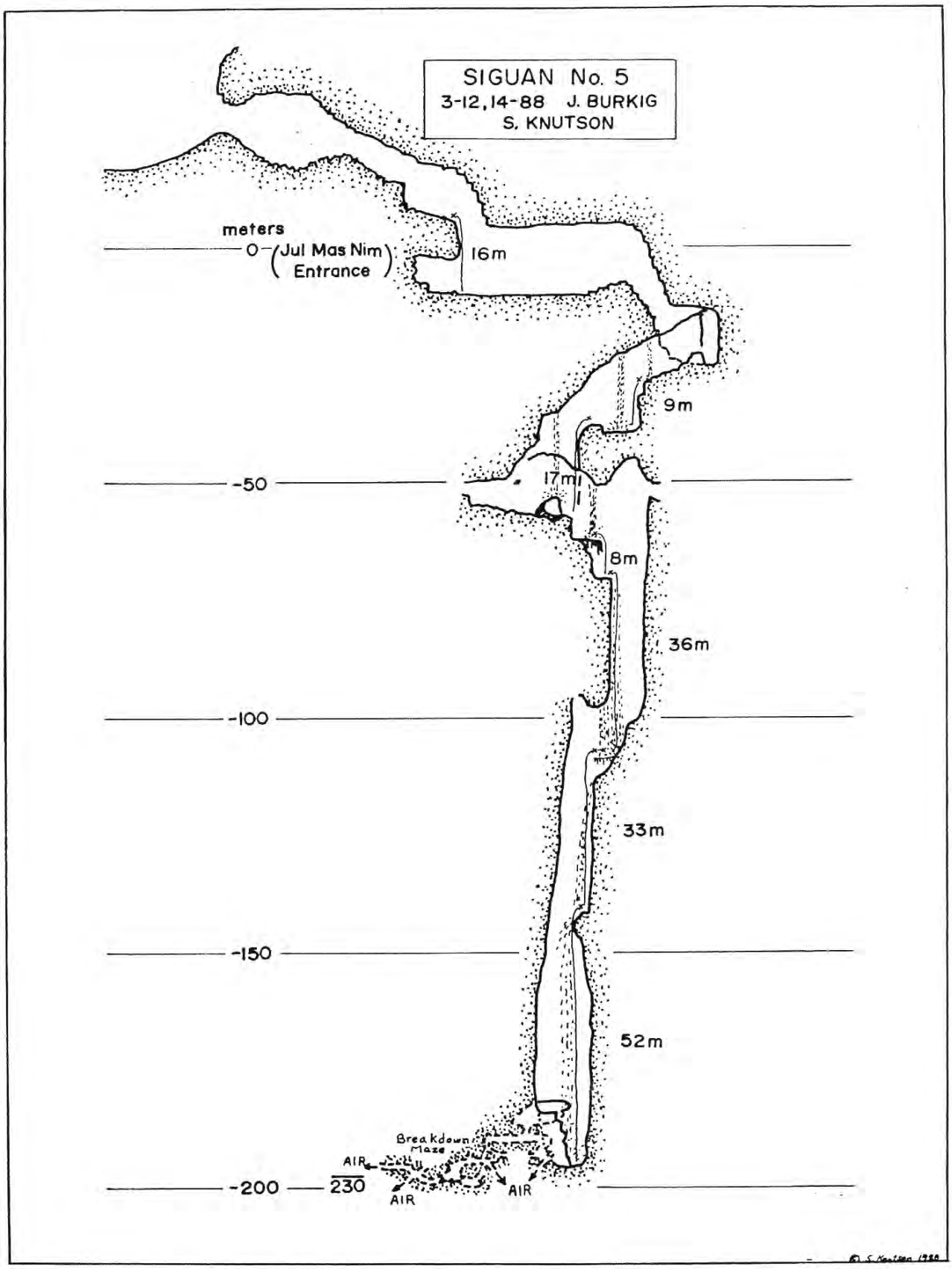
This narrow slot proved to have the air flow and we followed. The passage quickly became a crawl on mud; after a hundred meters it led up a boulder slope into a cross-rift, obviously a fault line. This Faull Fissure was bare and rugged, leading up a 70° angle. The breeze went up the slope and dissipated - we were again faced with finding the way on.

After climbing about in this for a couple of hours, we did find a way, about 100 m to the right and low. This 3 m tube had air flow and showed signs of having conducted water. It twisted around a couple turns and went up a cobble slope into a dome room with water showering down. The lead became a major rift, "Third Rift", going southwest again!

The Pit at Sepalao

An interlude now occurred when Patty, John and I returned to the 4 second pit I'd found the year before. This is at the tiny community of Sepalao, at 1750 m and about 2 km from Jul Mas Nim. Burkig and Arisso had departed for home.

We rigged it with 9 mm PMI and John went down. We decided to go in relays, so as to leave someone on the surface to guard the rope. He came back shortly reporting a second drop. Patty and I went down and used the main line do the 5 m second pitch. The main drop was beautiful a giant wall some 80 m, mostly free, with the sunlight showinq off its contours.


SIGUAN No. 5
3-12,14-88 J. BURKIG
S. KNUTSON
meters
0
(Jul Mas Nim)
Entrance
16m
9m
-50
17m
8m
36m
-100
33m
-150
52m
Breakdown
Maze
AIR
AIR
AIR
-200
230

The continuation was a large passage heading down at a steep angle with noticeable air flow. We followed this to a climb-down; I went down this while Patty waited, to help me get back up. I very quickly came to the edge of a second deep pit, some 50 m below the bottom of the entrance pit. I threw some rocks - about 3 seconds to hit rock, then after a second a weird "thrumming" sound would occur - like a flock of birds taking wing. After several seconds it would die out. A chamber? A lake? An even deeper pit? We never found out - we didn't find the time to push it. Maybe next year, ...

At the end of March, we suffered another set of personnel changes. Mark Harder hiked out followed by Wyeth a couple of days later: 14 km but mostly downhill. The weather had, overall, been rather poor with many rainy days - on one day there was over 3 inches of rain. We had spent days hiking around to find the resurgence, unsuccessfully, and to find other caves. I hoped for better weather in April. In the same space of a few days Patty flew home and Todd Rasmussen (Tucson) and Rick Rigg (Idaho Falls) arrived; on the 7th we arrived back at Yalijux.

The April Session

The next day we jumped right in, pushing the Third Rift several hundred meters to where it turned north-east again! The Fourth Rift. On a second trip we pushed this to the extrapolated line of the Fault Fissure where it broke up - apparently again due to a dramatic direction change. The air went up a climb. The plot of the Third Rift showed it went right under the area of the Doughnut Room so we searched there and found a pit series connecting to the Third Rift 100 m below,

We did some hiking and surface survey: at 4 pm one day we were at the entrance of Siguan No 3 looking down the 20 m entrance drop when the cave swifts decided to return home to roost. They came out of the sky, diving nearly vertically. zooming past us and down into the cave at terrific speed. One smashed into the wall just over the drop, clung there for a moment and then fell away, taking wing again before hitting the floor. Incredible durability!

These same birds gave us some trouble each trip when exiting Jul Mas Nim. In the small connection passage near the Second (Doline) Entrance they became very confused by our lights and would in essence, attack. Flying into your face, they would put out your light and in general be frustratingly distractive, as you tried to climb short pitches and make your way through this small connection.

We took time to push Siguan No 3 and No 6, both in the vicinity of Jul Mas Nirn. No 3 went 200 m down several short drops to a sump. The air flow proved to be due to the water being warmer than the cave bedrock, causing convection air circulation. No 6 didn't go at all - about 30 m in depth.

The River Passage At Last

Two streams sink (Siguans No 1 & 3) about a half kilometer upstream from Jul Mas Nim - Todd gaged these at 13 cfs for No 1 and 2 cfs for No 3, So far we hadn't seen any trace of this 15 cfs in the cave. There were numerous heavy drip areas but no streams were generated - floor drains always took the water.

With our time running out we decided to push for 8 km - another 800 m - and make Jul Mas Nim the

longest cave in Guatemala. With a list of leads we headed in. The first lead was a wide canyon heading back from the junction of the First Rift with the Great Hall. It led to a heavy drip area with a 20 m pit drain. Air flow continued into the canyon so we followed to a breakdown jumble that required some free climbing. I did two short climbs and hung ropes to get Rick and Todd up. The climb up the breakdown ascended some 50 m to a broad dirt-floored room, On the climb up you could feel the air flow up the slope. At the other end of the room, a small slot led on but here air was blowing strongly towards you - it was blowing into the room at both ends.

We continued, still heading southwest, until we came to a short drop. We had no rope and stopped the survey there. However, by listening carefully, you could hear a sound. A low rumble, surely it was the river passaqe! We tied two seat harnesses together and I climbed down - only 3 m. I hurried toward the sound. It grew louder but I came to another drop - 5 m: a fissure with muddy walls. DamnI I went back and told Rick and Todd that I might not be able to climb back up.

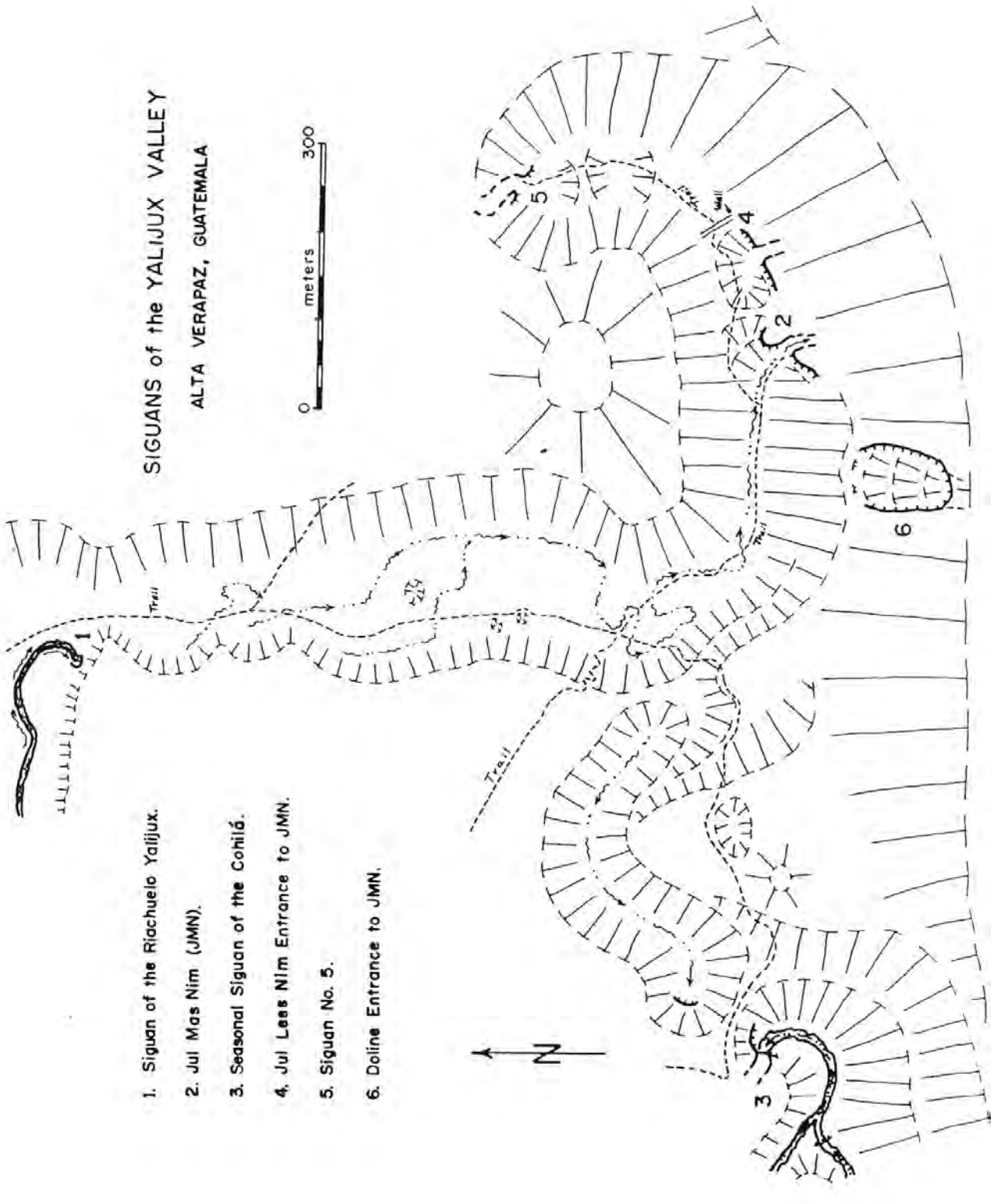
I returned and climbed down. The sound was very loud now. but where was the river? I looked around the small room and spied a lead. a crawl about a meter wide and less than a foot high. Yes! The air was blowing from this rather strongly. I dug at it a bit frantically, for if I took too long the others would come after me.

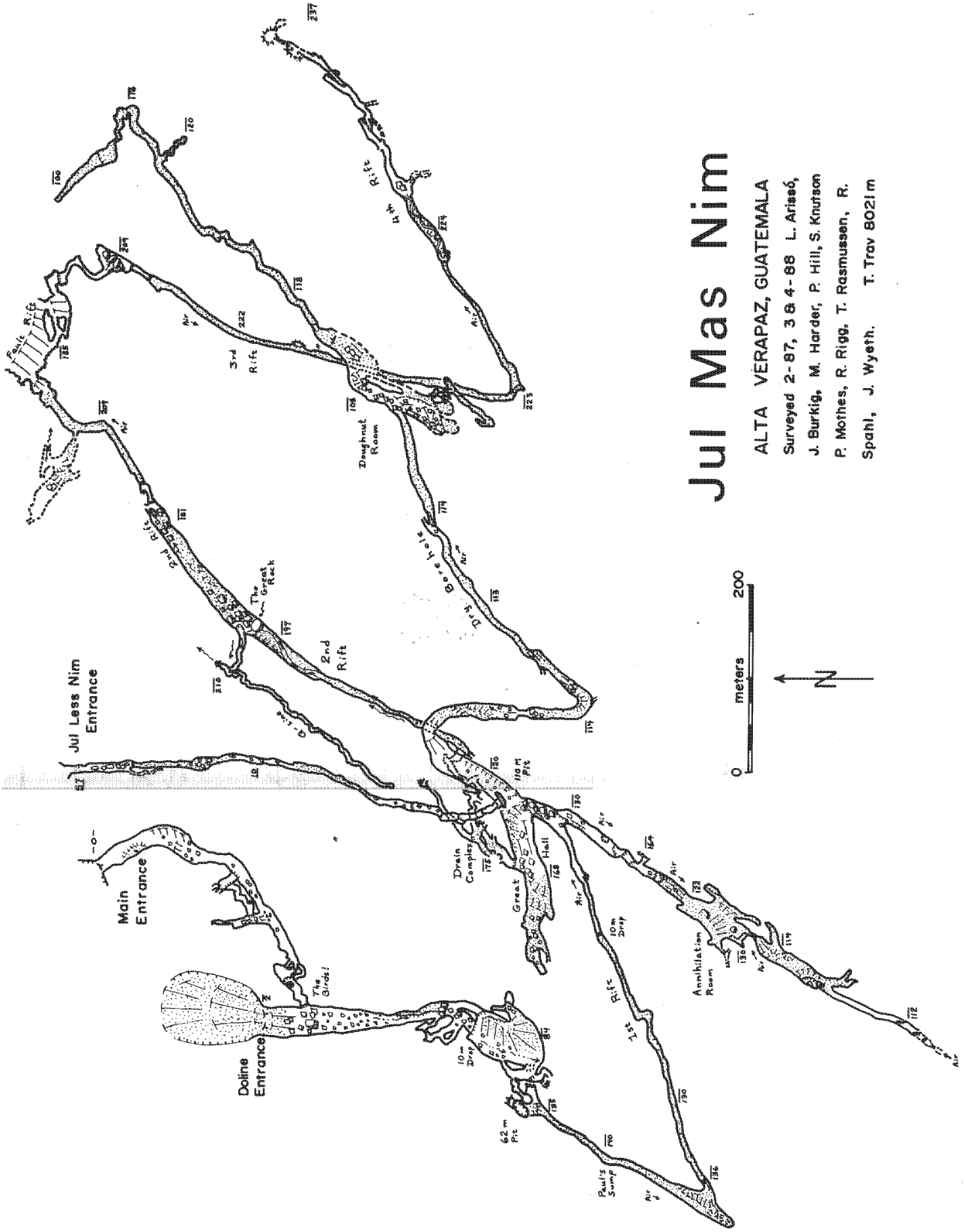
With my electric on, I wormed through and popped out in a room - no sound! What? Then it dawned on me - the sound was only (!) the noise of air going through the crawl! I returned to the others and we headed out.

We checked out the room - the Anhiliation Room - and none of the leads off it had any air flow. So what happens? The air is either going into the floor, at some unnoticed hole, or into a high lead. No matter, we'll have to find it, for it surely is the major airflow of the cave. The passage with the air noise is headed up and southwest, towards the pit at Sepalao. Interesting leads for next year.

The survey for Jul Mas Nim totals just over 8 km, but Tom Miller was active at this same time in Belize and the last segment of the Chiquibul Complex was mapped to 9 km, so Jul Mas Nim is the second longest in Guatemala. At 294 m depth it is the deepest, A lot of potential remains.

I would like to thank Bob & Bob of Lewisburg, West Virginia, The National Speleological Society, Drylite Foods of Redding, California, Mike Shawcross, the Willamette Valley Grotto and the friendly people of the Valle de Yalijux.


SIGUANS of the YALIJUX VALLEY
ALTA VERAPAZ, GUATEMALA
0
meters
300
1. Siguan of the Riachuelo Yalijux.
2. Jul Mas Nim (JMN).
3. Seasonal Siguan of the Cohiló.
4. Jul Laas Nim Entrance to JMN.
5. Siguan No. 5.
6. Doline Entrance to JMN.
N
Trail
Trail
Trail
Wall


Jul Mas Nim
ALTA VERAPAZ, GUATEMALA
Surveyed 2-87, 3&4-88 L. Arissó,
J. Burkig, M. Harder, P. Hill, S. Knutson
P. Mothes, R. Rigg, T. Rasmussen, R.
Spahl, J. Wyeth. T. Trav 8021m
0
meters
200
N
Jul Lass Nim Entrance
Main Entrance
Doline Entrance
The Great Rack
2nd Rift
3rd Rift
Doughnut Room
Drain Complex
Great Hall
Annihilation Room
10m Drop
62 m Pit
110 m Pit
Paul's Sump
Rift
Air