

OTHER Finds in Area (7) aka 3rd System.

When Neil and Mel came back to Arco at around midday, they were quite pleased with themselves, having used up all their ladders. Unlucky boulder chokes was not my idea of fun so I jugged at the idea of sitting around watching them thrash around, so we could bring down all the gear in one go, if no way on was found.

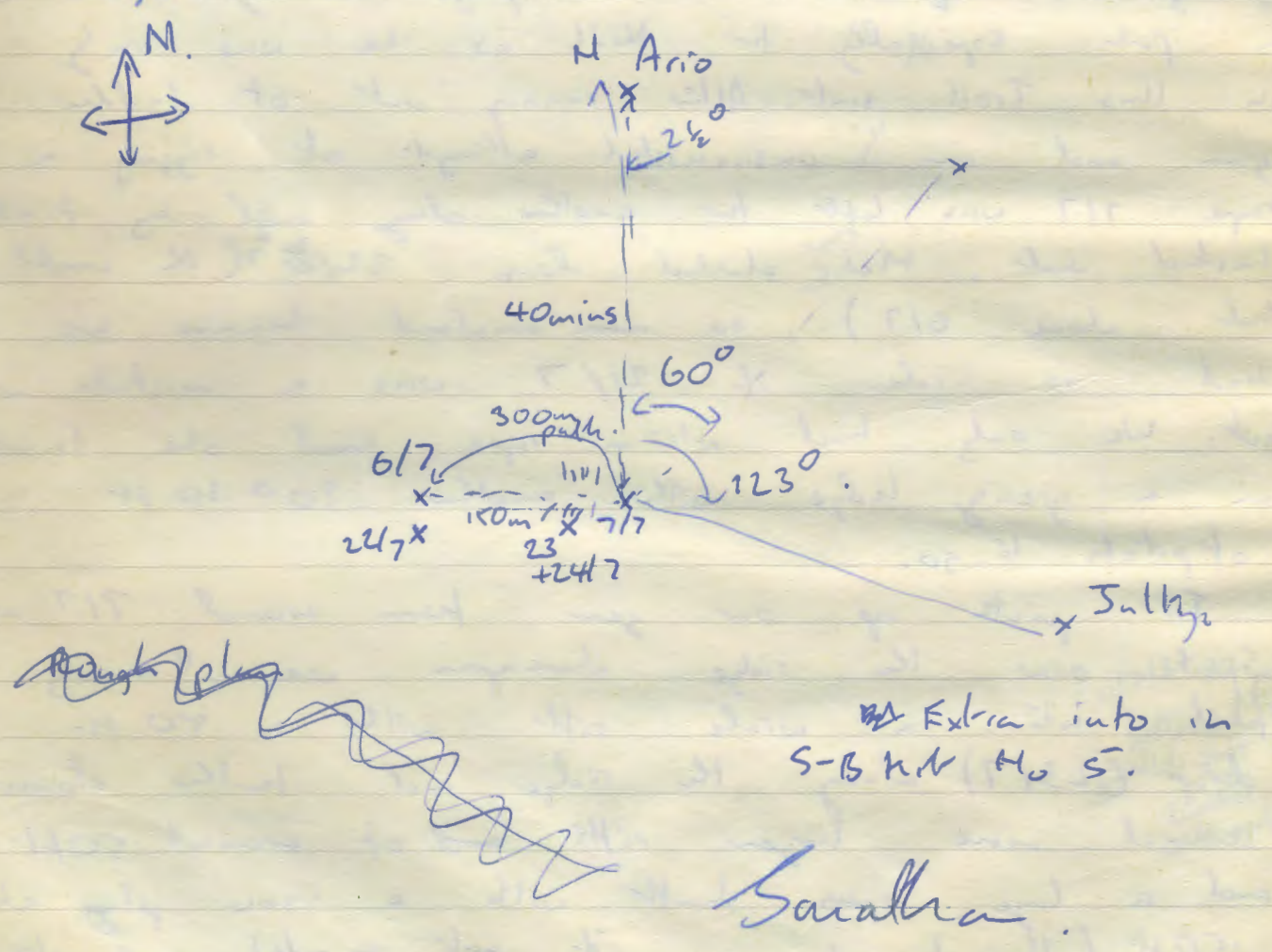
With not much else to do I haggard off in search of G/7 which turned out to be just as snow plugged. On the way back, I went up a gully where at the top there was a small hole which seemed to go.

Back at 7/7 ~~there~~ the one seemed to be opening out a bit the snow plug becoming more of a path especially for Neil as he was only in this Troll sub. After running out of ladders again and an unsuccessful attempt at rigging a rope 7/7 was left for another day and my finds checked out. Mel climbed down 22/7 (the small hole above G/7), so we were unclear because we had no idea if 21/7 was a mistake or not. We only had a 10m rope and she landed on a greasy ledge with another 20-30 ft of pitch to go.

To pick up our gear from around 7/7 we hopped over the ridge whereupon we nearly fell into a wide rift with a 50 ft drop (23/7) along the ridge and further down several more larger rifts and at around 50 ft and a large open shaft with a snow plug about 150 ft (though I saw it not myself) and stones which clattered down one ~~or~~ various sides of it

for quite a distance. One of these 5+ shafts/cracks
 was numbered 24/5 the rest left for the moment.
 Compass bearings were taken to pinpoint these caves
 on several good routes to them though not. As we
 scumbled around for 10 more minutes though found
 nothing else in the near surroundly though several
 dolins in the direction of Jalkayen looked
 promising. As it was the caves (23 + 24/7) turned
 out to be on the ridge just above 7/7 (as the
 next one along, I can't remember).

Anyway in the area there are lots of caves
 with good potential between about 1700 + 1800 m and
 with the possibility of more caves higher up along
 the "fault" line which passes between 7/7 and
 23 + 24/7. We have found the caves for 1930
 + beyond.



Saturday 11 July

07:45 Phil S. goes off to dig ^{33/5} ~~32/5~~ - to the bottom this time.

Recap: Fri 10th July: Shaft bashing near Cabeza la Formosa.

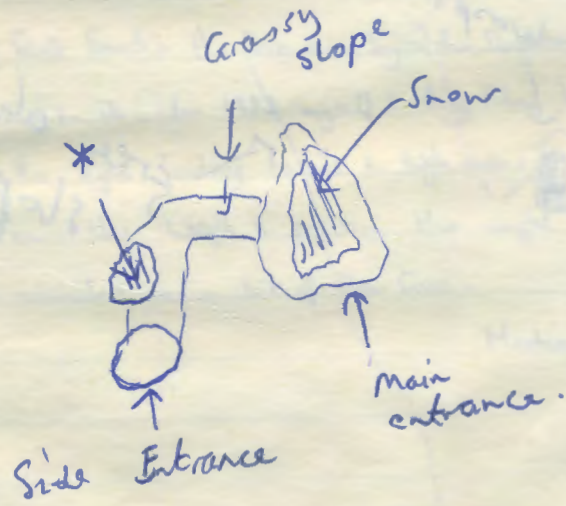
Objective: To investigate shaft found previous evening.

This was safely descend on ~ 90' of ladder. A small hole at the bottom of the main shaft was pushed for ~ 20' by JT, JC. It was marked 33/5

Extended elevation: 33/5



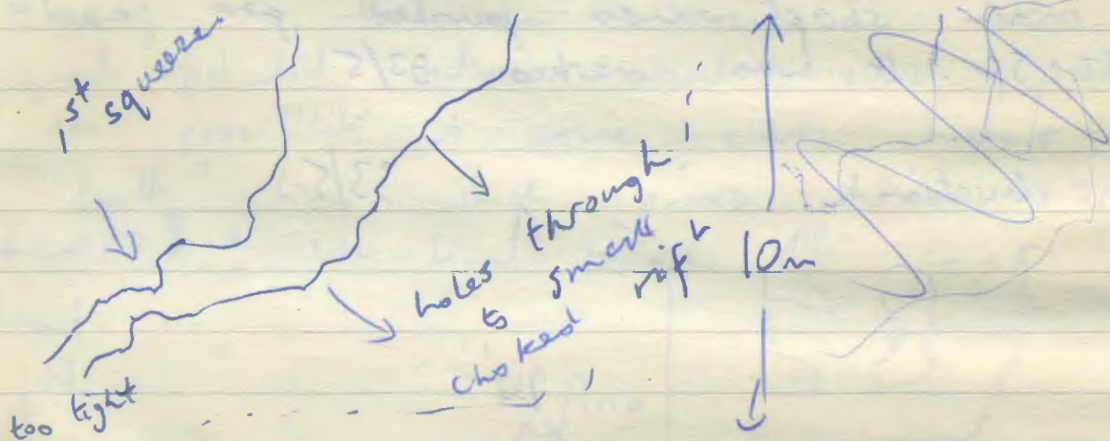
Plan.



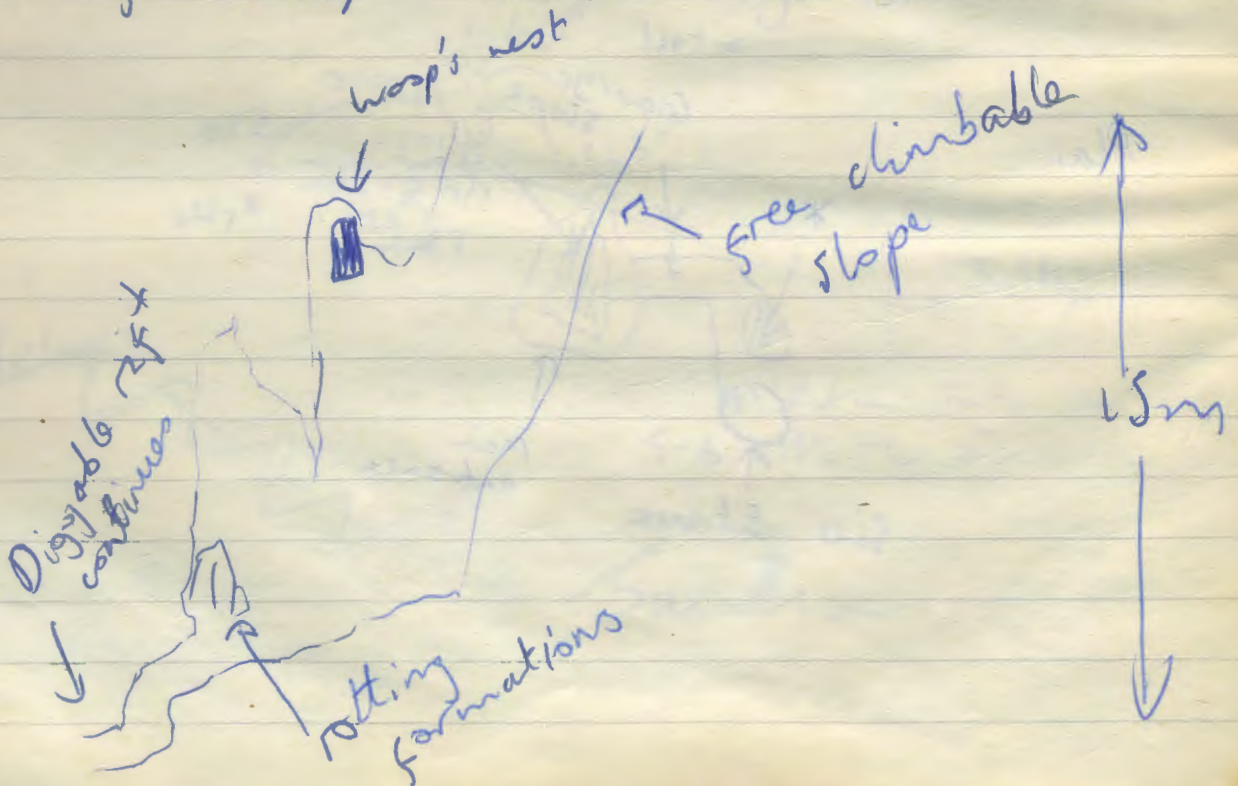
After this we looked around and found
 Optimista ~ 100m away from 33/5. A further
 100m away was a promising rift ~ 10m
 which we had a dig in. We got through
 one awkward squeeze and were stopped
 by another about 6' further on. This
 hole had an SIE mark and was
 left unmarked.

NEW
 CAVE
 →

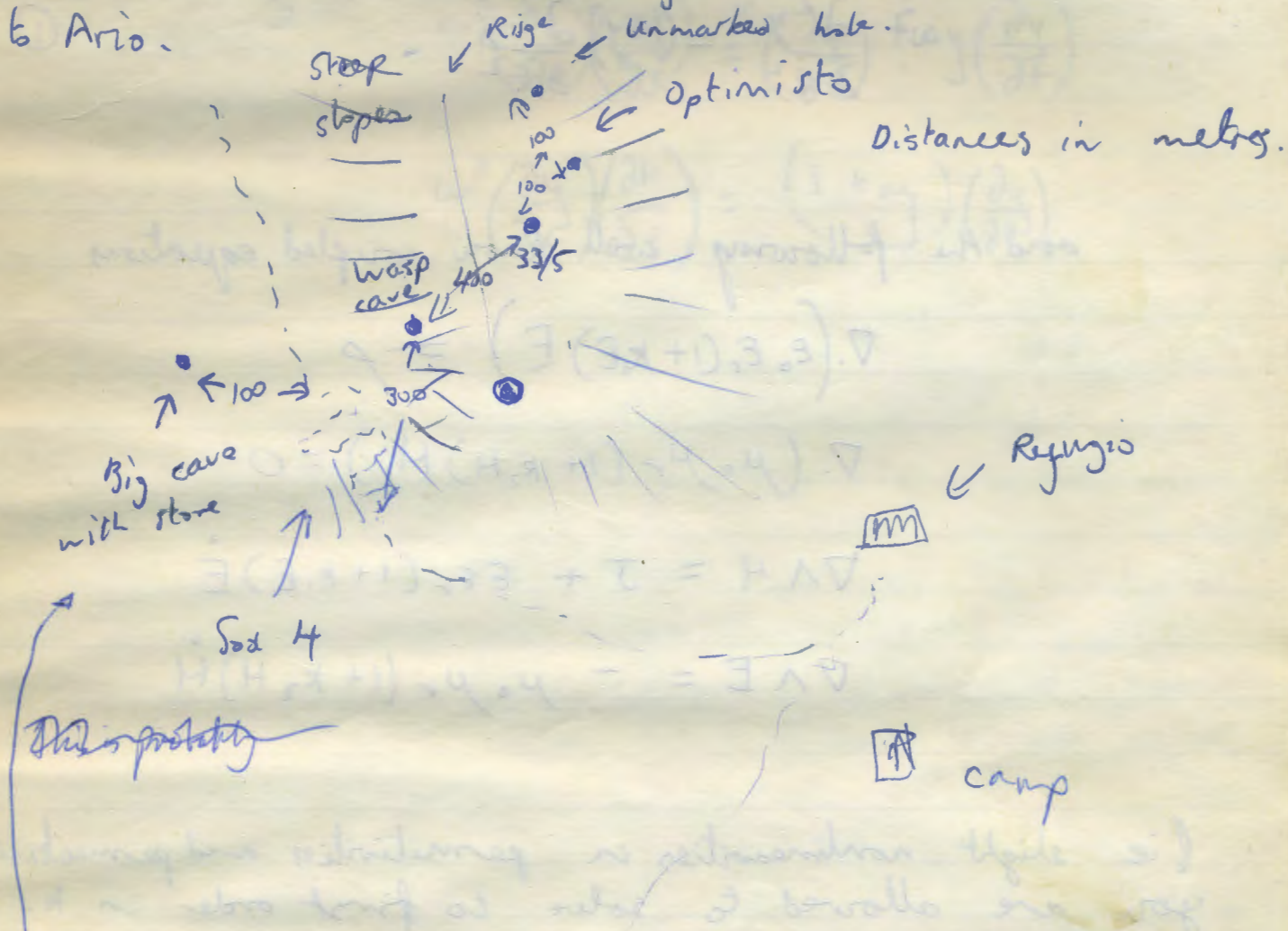
Elevation



On the way to the top of Sod 4
 we found an interesting hole with
 lots of wasps in it



We carried on and dumped the gear at the top of Sod 4 and went down to a large cave visible from the path below Sod 4. This has a large entrance and chamber and to the left is a small store with a wooden door. After this we returned to Ario.



This cave was the first found in the Ario area by John Singleton & myself in 1979. It then had very impressive ice formations in it. In 1982 myself & Andy Riley had another look (no ice this time) & found a climb up to the right leading to rift & high aens. A very narrow streamway seems to go under the store. From the height & position this might feed into the top end of the Xite streamway. Entrance reminded me a bit of Dow Cave.

Martin L.

Paul wants something to do! :-

Paul

solve the following for y as a function of x & t

$$\omega^2 \frac{d^2 y}{dx^2} = (1 + \alpha y) \frac{d^2 y}{dt^2}$$

$y \rightarrow 0$ at $x \rightarrow \pm \infty$ $\int_V y^2 dV$
 ① = constant with time.

and the following well know coupled equations

$$\nabla \cdot (\epsilon_0 \epsilon_r (1 + k_1 E) E) = \rho$$

$$\nabla \cdot (\mu_0 \mu_r (1 + k_2 H) H) = 0$$

$$\nabla \wedge H = J + \epsilon_0 \epsilon_r (1 + k_1 E) \dot{E}$$

$$\nabla \wedge E = -\mu_0 \mu_r (1 + k_2 H) \dot{H}$$

- (ie slight nonlinearities in permittivities and permeabilities
 - you are allowed to solve to first order in k_2 & k_1 ,
 - for simplicity you may assume $\rho = J = 0$)

$$\omega^2 \frac{\partial^2 y}{\partial x^2} = \frac{\partial^2 y}{\partial t^2} + ay \frac{\partial^2 y}{\partial t^2}$$

~~$$\frac{\partial y}{\partial x} \times \frac{\partial x}{\partial y} \Rightarrow$$~~

$$\omega^2 \frac{\partial y}{\partial x} = \left(\frac{\partial x}{\partial t} \right) \left(\frac{\partial y}{\partial t} \right) + ay \frac{\partial x}{\partial t} \left(\frac{\partial y}{\partial t} \right)$$

$$\Rightarrow \omega^2 \left(\frac{\partial y}{\partial x} \right) \left(\frac{\partial t}{\partial x} \right) = \left(\frac{\partial y}{\partial t} \right) + ay \left(\frac{\partial y}{\partial t} \right)$$

$$\omega^2 \left(\frac{\partial y}{\partial x} \right) \left(\frac{\partial t}{\partial x} \right) = (1 + ay) \left(\frac{\partial y}{\partial t} \right)$$

$$\text{Continuity equation } \frac{\partial \rho}{\partial t} + \nabla \cdot \mathbf{j} = -\frac{\partial \rho}{\partial t} = \omega$$

$$\left(\frac{\partial \rho}{\partial t}\right)_{\text{total}} = \left(\frac{\partial \rho}{\partial t}\right)_{\text{free}} + \left(\frac{\partial \rho}{\partial t}\right)_{\text{bound}} = \frac{\partial \rho}{\partial t} = \omega$$

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following $\left(\frac{\partial \rho}{\partial t}\right)_{\text{total}} = \left(\frac{\partial \rho}{\partial t}\right)_{\text{free}} + \left(\frac{\partial \rho}{\partial t}\right)_{\text{bound}} = \frac{\partial \rho}{\partial t} = \omega$

$$\nabla \cdot (\epsilon_0 \mathbf{E} (1 + \chi)) = \rho$$

$$\nabla \cdot (\mu_0 \mathbf{H} (1 + \chi_m)) = 0$$

$$\nabla \wedge \mathbf{H} = \mathbf{j} + \epsilon_0 \nabla \wedge (\chi \mathbf{E})$$

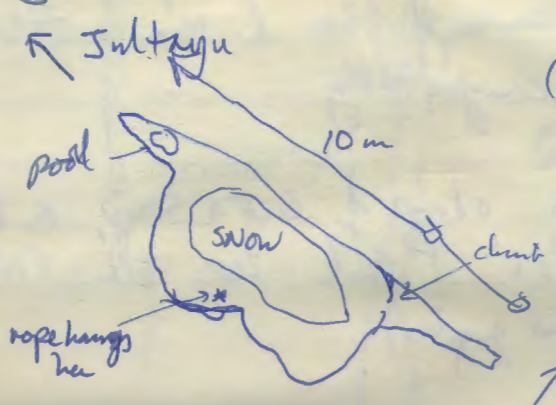
$$\nabla \wedge \mathbf{E} = -\mu_0 \nabla \wedge (\chi_m \mathbf{H})$$

In slight contradiction, in permittivity and permeability, we are allowed to solve the first one.

For simplicity, you may assume $\epsilon_0 = \epsilon$ and $\mu_0 = \mu$.

Sat 11 July (again)

39/5
OVCC
37/5 (UNLABELLED)
(SIE '86)
(LABELLED)



45m deep



Knocked this off this morning with the 50m barlow, a couple of m left at the bottom.

35/5

Then went & stuck my body in ~~35/5~~ ³⁵ (unlabelled) just on the cliff 50m below the horizontal tree. This is a pneumatic tube poking out of the hillside, floored with loose rocks and with a solid ceiling. I lay in it in my jeans & sweatshirt gardening it with my feet in the sun still - nice & cool. It goes off to the left still protruding but needs a lot of (small) rocks shifting. Note for gentlemen: do not dig this cave with a butt zip on your jeans & baggy knickers.

Shaft Boring Well in Area 5

I walked back from ~~37/5~~ ^{39/5} ~~contouring~~ contouring wond away from Jultayu, going up slightly until I got to the Valle Extranu which I followed up to Arco, (away from Jultayu)

About 100m horizontally from the horizontal tree & slightly up reached an area with a lot of shafts, nearly all ~~clear~~ obviously blocked, we could verify a more determined climb down. Since the place was obscure, I was on my own & nobody knew where it was, I decided not to try it.

Coming up the Valle Extranu (which from down there looks as if it is the ~~last~~ last but one valley) came across a steep fold cave. Big open gash going up inside at 45° about 20m ~~wide~~ wide and 3m high. Was up into a flat crawl at the top with a solid roof & chossy floor. Didn't put it. This cave is

easily distinguished by the ~~to~~ 30m 'nettle slide' pouring out of the entrance down the hill. A fair number of flies & these nettles STING. Jeans required to read antiseptic comfortably.

Margot arrived. We had a slug of cup a soup, a bit of bread and then we got some water. Poel has the FIEBRE DEL HENO sniffles (& the gags, wheezes, sneezes and gurgles).

Began to cloud over at 14:00 → 14:30, sun coming through cloud.
rumour has it, it was N.N.I.

O.K. own up, who bought the 'Sal de Regimen'. After reading the ingredients & discovering that there is actually no Sodium Chloride in it, but that there is Magnesium Sulphate & Calcium Stearate (well known laxatives) we have decided that it is the Spanish equivalent of Andrews, or Epsom salts. Well done Martin! I shouldn't think it would have a laxative effect unless you had a whole jar full, but it certainly doesn't replenish your Sodium.

12th July. 7/7. Dan, Jonathan & Graham
Having heard great reports of this cave, we dashed up in the heat. Eventually found water & Graham went down while Jonathan & I bashed a couple of bolts in. I followed Graham down part of shaft to spot between shaft wall & ice column. Went down between wall & ice & got VERY COLD indeed. This cave ought to be renamed FRIDGE CAVE. Graham went out while Jonathan discovered alternative ways on under the snow. Surfaced & re-rigged. Very cold indeed.