"interesting" to disentangle it!
Conclusion As we cavers say "This one seems to be a right little goer"
to be continued - - -

Notes on rigging: The ladder should be rigged to the very large flake shown on the elevation overleaf (10' up a climb to RHS) rather than the scrofulous key thing it's on now. (Only noticed the large flake on the way out.)

A longer wire on the 35m pitch would prevent any rope abrasion at the knob.

The snow climbs were done using the rope on the ~55m, but should be rigged seperately, as above procedure abrades the rope. They are too steep to be safely or readily free-climbed. A single bolt would provide a belay for both snow climbs (as on XSect AA' overleaf)

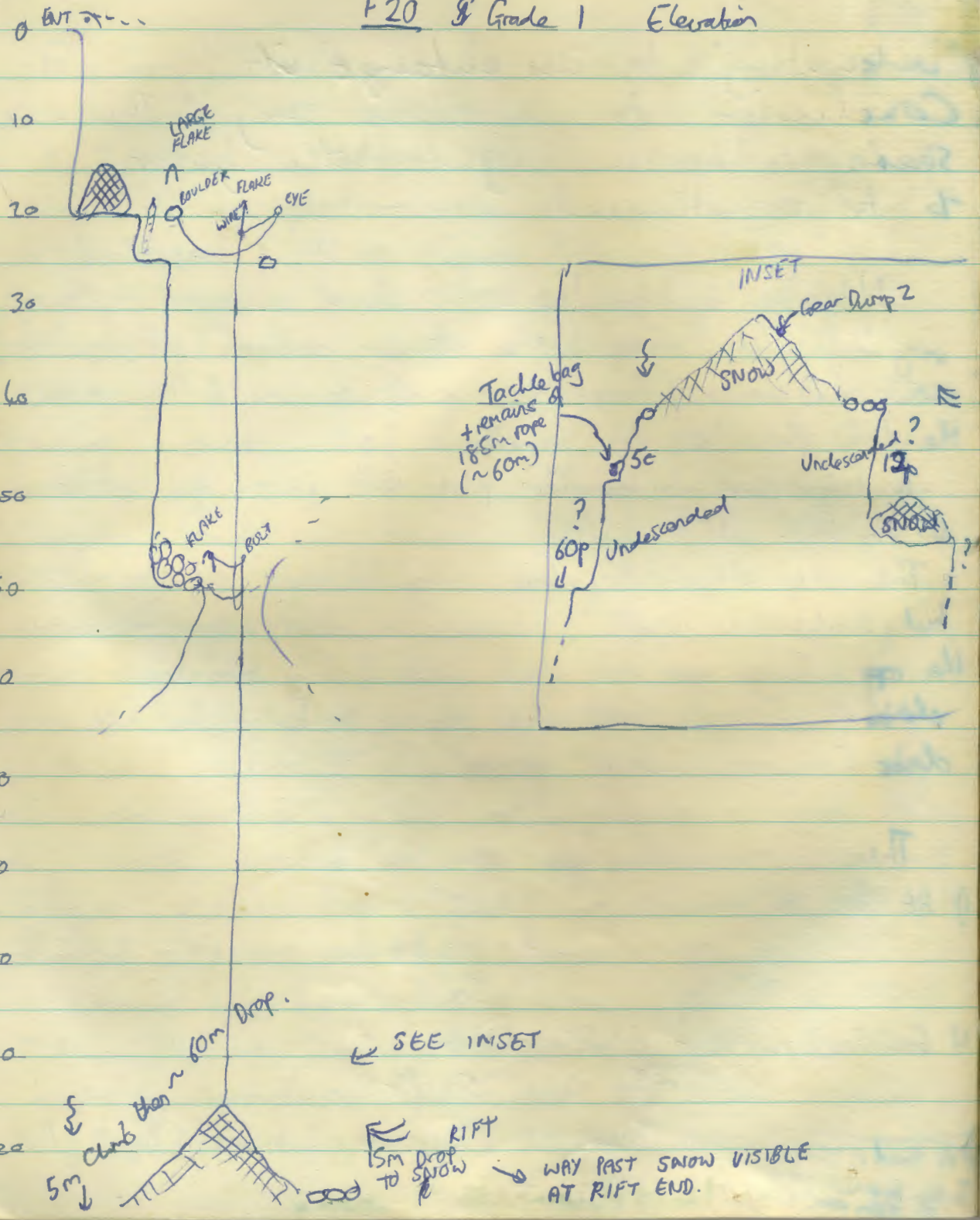
There is the following spare gear down the cave:

1) At foot of ladder :- 1 x 25' ladder
4 x rope protectors
1 x 5m tape

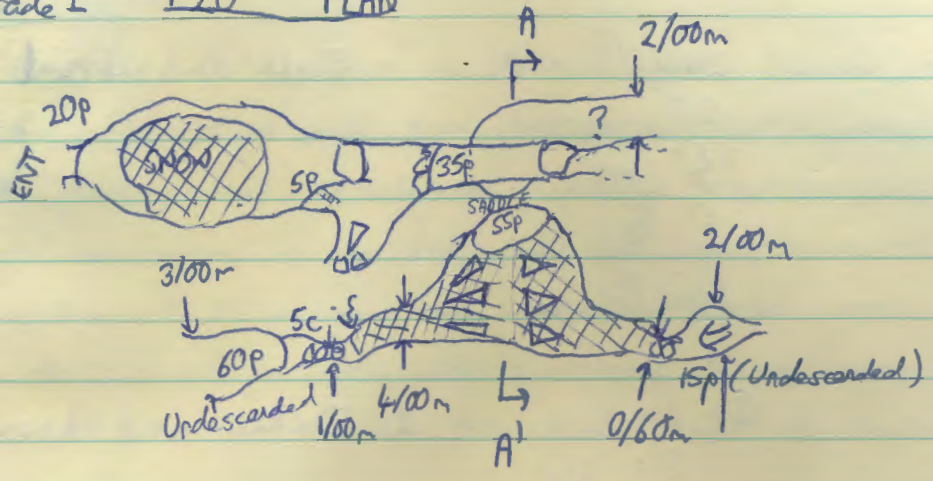
2) On Snow plug :- 1 x 40m Marlow
~~3~~ 5 x Krabs, 5 x Maillons
Bolting Kit (9 Wedges + 9 Anchors, 6 Hangers), Driver)
Hammer,
5 x 1m Tapes

3) At Head of ~66m Tackle bag with remains of 18m rope (~6m left)

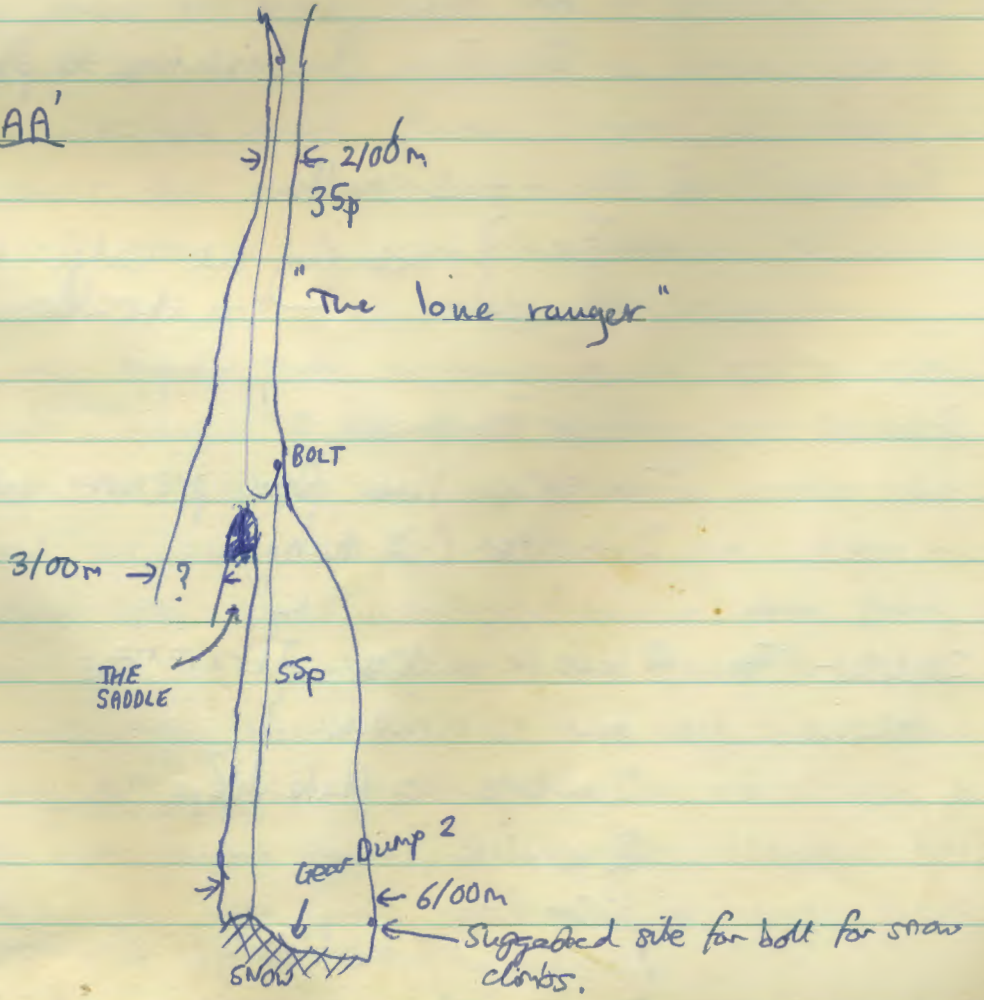
# F20 & Grade 1 Elevation



Grade 1 F20 PLAN




F20 XSect AA'



(84)

F7 Tackle List

Entrance (Gunnel) 2x25' ladders — Flake and thread
20m rope
4' Wire
6' Tape
Rope Protector

Strangeways — 1m wire — 2 Flakes and thread
2m wire
2m Tape
3m Tape } Deviation to flake

Achilles (1) 2 bolts + 2 maillons
1m Tape
2m Wire } Rebelay at ledge to 2 threads

Achilles (2) ~~Traverse line~~
Traverse line from previous pitch
2 bolts (Y hang)

Obelisk – Asterix — bolt + maillon } Traverse
bolt + maillon
2m tape to flake } Main Belay
2m wire
60m Rope
Deviation at Asterisk Ledge — 6m Wire + Maillon to Flake.

12/8/84

Ian and Phil emerged in the early hours, pleased with progress of F20. I got up about 9am, took the met readings, washed up, fetched water, and - a real red-letter day - polished and waxed my boots. Joined in the late morning by Ian and Phil; Phil soon made his way to Ario, keen to get in as much caving as possible before he goes. Ian then showed me FU56 and I attempted to get survey points done, but not a lot's visible from here, except for the col and Torcada Blanca itself.

We ambled over towards F20 to look at comparative heights, for if F20 should join the system, and was a mere 10metres higher, then it would be a 600 metre system. However, I haven't yet worked it out and there doesn't look much difference in the heights of the cave entrances. With some of the errors I'm getting in the calculations at the moment, we won't know probably until we get home.

We were distracted from our musings by the sight of more Spanish (Politrema?) cavers exploring the base of the depression, and then moving over towards F7A. Ian grew more indignant as we watched them ferret around, and eventually decided to approach them. It was a beautiful softly-softly approach, exchanging news in broken French. We kindly showed them all the entrances to Perdices (except the girl who couldn't apparently move without having her hand held) and explained the links with FU56. When asked about other caves over the ridge, Ian said 'mais, alors, nous ne pouvons pas permettre d'explorer over there; ce n'est pas notre region'. He seemed to manage to get

this particular phrase in at least four times. We followed up these little gems by impressing them with the size and duration of the expedition (they have 9 people here for less than 2 weeks; have been frenching about here for ~12 years), and with the equipment up at Top Camp. We then offered them tea, which they refused, but only after having observed what an excellent vantage point top camp has. We parted on very friendly terms. Ian and I then hewed up, and partook of sardines and tomato salad.

The day then elapsed in and I wheated to the tent to work out numbers. Ian headed off to Arlo in the mist, and I settled down to a solitary evening with a stove tent full of goodies.

15/8/84

Woken up by sheep raiding the cooking area, so decided to get up. Took the met. readings and tidied up a bit. I then donned shorts and suncream, and set off looking for F17, 18 and 19 which were located by Ian and Cathy earlier in the week (see earlier in the log). Found F17 as location is given and cave entrance is marked. I peered down lots of holes and found several that could be F18 or F19; nothing very exciting. Were these caves ever marked?

On the way down from P5 I came across a hole marked F21 1984 O which I cannot find recorded in the log. Names will have to be changed so it is not confused with Andy's

F21 – Now F29

F21. F21 is a shaft approx 4m x 1m down which there is a 3-second rattle. This shaft appears to emerge into daylight again about 30m below where there is a snow-plug. I don't know if there is a way round or down past the snow.

F 21 overlooks the snowfield behind FU56 (? 20m above vertically)

F21 → C2 declination = 343.5° inclination = −2.1 units (−11.9°)

F21 → Torcada Blanca peak dec = 261° inclination = +3.0 units (+16.7°)

F21 → col Punta Inglesiana = 256° inclination = +2.25 units (+12.7°)

Felt hungry by this stage so abandoned the search for F18 and C9 and made my way back to Top camp

Saturday 18 August – Sunday 19 August. Stephen G.

Arrived ~2100 and set about eating as much of the remaining food as possible. Have taken Graham's tent and some bits and pieces down to Ario. Could whoever is last to leave Top Camp not forget a) the met. instruments (including thermometer) and b) to dismantle the 3 cairns at the end of the ridge (and possibly also the small cairns along the ridge)? Please leave the 5 survey cairns around Top Camp.

SUNDAY 19/8/84 Phil S.

AM. 20-40 from Ario to do a carry: No sign of Ukey, Chris or Jeston who were ~~expected~~ doing

(88)

YES

F21. Are they still down there or have they gone to Lagos? Only one is Evelyn's nuckoos in the Starlost. I eat all I can but they isn't quite instantly edible. IDEA: is it possible to cache the tinned food somewhere near Top Cay for next year? (including 2 cans of Cornflakes & 2 cans of Moloko which are unopened.)

I have sorted out a mixture of food + rope to take to Arico. Left. 21-10. PMS

F18 → C2 = 293° (dec)
F18 → El Jocu = 106° (dec)
+2.4 m (inc)

F18 ~10 m / deep N-S trending rift down to snow plug + breakdown. Entrance ~3x1 m. 1 m diam hole ~3 m to S.

F18 → F 063° (dec)
-3.25 m (inc)

F19 → C2 275° (dec)

F19 → E1 Jcm 107° (dec)
+2·8 m (inc)

F19 → F 059° (dec)
- 3·0 (inc)

F19 ; NE-SW trending rift, ~2 m wide × ~6 m long. ~10 m deep, bdwn floor sloping down to NE. Snow filled

19/8/84 - try looking after the F7 survey at the back-well, a bit further on.

(90)

# Tackle List F7

Executioner : 1m Wire to Flake + Maillon
2m Tape to thread + Maillon
to form abseiling / hardline. 20m Rope

---

Howler : 6m Wire, 4m Tape + 2 Maillons around
huge Thread.
Spreader on 6m wire, Max 25' Ladder to Rebelay.

Rebelay : Thread. ~~3~~ 2m Wire. ~~3~~ 2m Tape, 2 maillons
2 Rope Protectors.
35m Rope.

---

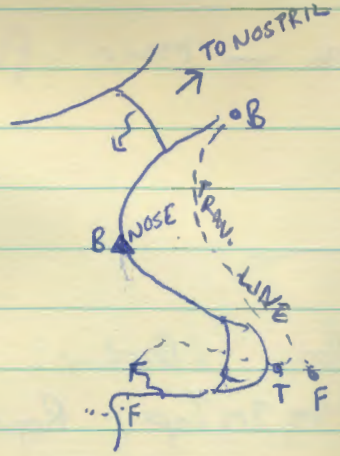
Nostril : Bolt, 1m Wire, Maillon
Maillon, Thread, 2m Tape (Handhold to Ladder + Hardline)
Giant Thread, 8m Wire + Maillon. Note : Wire must be
(in Squeeze) stiff + not kinked.
8m Tape + Maillon (Haul through on wire)
85m Rope.
1 Rope Protector.

---

Bogey : Belay to Boulders (10m Wire, 5m Tape))
Bolt + Maillon,
Flake, Tape, Maillon
Thread, Wire(1m), Maillon
} Traverse Line
} 1st Belay

Rebelay : Flake, 2m Wire, 2m Tape, 2 maillons. Rope Protector.
Rope 80m

Note : Not recommended.
To avoid strenuous rebelay, water + rib points, a bolt should be placed on the nose of the traverse




▲ Recommended Bolt Site

WATERFALL PITCH
2m wire + 2m tape } flakes
2m wire + 2m tape }
6m wire } deviation to flake
30m rope

(a2)

## Traverse around blind gat

1m Tape, Maillon around choched boulder in Riff (Low)
Bolt + Maillon, 10m Rope.

Recommended: Extra Bolt at head of climb. (Same rope length)

---

## Pitch below El Batard

4m + 4m tape round chockstone - Secondary

1½m wire + maillon — Main - flake
& 30m Rope.

Deviation 2m Tape + Krab.

---

## Avalanche Pit

Flake, 2m Tape Maillon (Backup)
~~Thread~~ Flake, 2m Wire, 2m Tape, Rope Protector
30m Rope.

---

## Hot Tub

Backup 1 Tape ~~(2m?)~~ 3m, Maillon High Flake
" 2 Wire 10m (?) Maillon Head height
flake

(93)
end

Both obvious flakes on close inspection not actually attached to wall - NOT RECOMMENDED !

Main belay 4-bang 2 bolts 2 maillons 1 RP

Rope 130m !! (Pitch length ~ 115m)

(B+E)

Sunday 19th Aug. FZ0 (Andy's Hole) Derigging

Jeslyn, Ukey, Chris.

Messed about in the morning, which meant walking up to Fio from B.C. in the dirt, the dust & the heat. Collected cave gear from Fio & were given elaborate description of tackle in cave by Ian, which we only ½ listened to. Walked v. slowly up to T.C. with Ian who promptly started to demolish a few tents. Eventually wandered in the direction of FZ0 & then remembered we had no tackle bags & sent back Ukey for a couple. At the entrance a decisively change - "This is a brand new overcuit - it has no nicks in it" quothe Jeslyn, stinky flame sizzling the knee of aforesaid suit. Mmmm?? Ukey zapped down 1st pitch & short ladder pitch, I fiddled about with all the borrowed gear & eventually followed down to the saddle. T'others started de-tackling with Ukey at bottom of Easy Rider pitch. Silence for quite a while then a plaintive "Didn't Ian say there was some tackle at the bottom - like a [illegible] rope & bolting kit" from Ukey. Pause. "Er, hmm, could be, think so, yeh, 'somat like that". So back again to retrieve it. Sat with Ukey eating that "(my teeth are very strong the calcium runs in the family (?))" chocolate at the snow after getting in a panic over the traverse (never have liked them). Ascending entrance pitch was fine, except

that I failed to recognise the pitch head (funny don't remember doing a chargeover on the way down) until I fell over Ukeys rucksack. No comment. Mammoth haul of rope out was not done in the most efficient manner (eroded to core - sorry!) - Ukey + I called Boris while Jeffyn felt sick. As it was dark ie v 12:10 am when we emerged, the initial plan to walk back to Lago was somewhat modified - & we spent v 4hrs stumbling across to T.C., Ukey carrying Boris + Jeffyn 2 tackle bags. Navigation was a bit tricky, especially as each time we stopped, 2 people would doze off. At last got back to Bog Alley after numerous stops at snow fields to refill Jeffyns generator (Troll overcoat had a few close shaves there) + so to T.C. Heated up minced beef + pdq emptied the dore tent + crawled in, mucky lack of pits + karrimats. Whatever Ukey says, it was cold.

My 1st SRT trip - none of us were really with it + so made a bit of a meal of it ("or if you're slow" was the initial estimate) Walk from F20 → T.C. made the previous days ~~scramble~~ amble down the Canas Gorge path in darkness seem like a Sunday morning stroll in Loath Park. Not for the faint hearted. Nice cave though. Can't think of owt else to report as am sitting on Santander → Plymouth ferry with a spirit boat making in my leg holes.

CM

(B1)

# Instructions for reading Meteorological Instrume

Instruments to be read and reset / emptied at 0900 h each morning

1) Rain Gauge :

(i) Insert is ground so that rim is 12 inches above ground surface

(ii) Remove upper funnel section and empty internal bottle and internal bucket of water. Replace bucket, bottle, an funnel

(iii) To measure rainfall, pour water (or melted snow, applicable) from bottle into measuring cylinder. Rea amount of precipitation from base of meniscus.

(iv) If the raingauge bottle has overflowed into th bucket, add water from bucket to measuring cyl before taking reading

(v) Record reading in tables in this log book

vi) If rain has fallen, but this is insufficient to give a reading on the measuring cylinder, record "Tr" (= trace) in the log book.

vii) If something goes wrong and you spill the raingauge contents (or something similar), be honest; its better to have no record for that day than a misleading one.

(viii) Repeat from step (ii)

2) Maximum and Minimum thermometers

(i) In the tables in this log book, record the temperatures from the base of the metal sliders in each thermometer.

(ii) To reset the thermometers use the magnet to drag the sliders back into contact with the mercury (try turning the magnet the other way if this proves difficult!)

iii) Replace the thermometers in their original position (if it was necessary to move them)

Thanks.

(B3)

Please put sunrises/cloud cover and approx height of clouds (either below you) at various times of the day, if you can, + any other general observations of the weather.

| Date (0900h) | Rain Fall | Temperature Max | Temperature Min | Comments or Observations |
|---|---|---|---|---|
| 14.7 | Nill | — | 7°C | Cloud level below Ridges to North ~~los Lagos?~~ + Not extensive Slight breeze. |
| 15/7 | Nil | 38°C | 8°C | NONE |
| 16/7 | Nill | 35°C | 6°C | Cloud at Ario level. |
| 17/7 | Nill | 32°C | 8°C | Very little cloud at all, even valley of Lagos is visable |
| 18/7 | Nill | 32°C | ?(14°C on thermometer – needle probably jogged down!) | No cloud as yesterday |
| 19/7 | None | ← (25°C on thermometer, see above) | ? 16°C | Almost completely clear – haze in distance at (?) Ario level. Strong winds in violent gusts started last night |
| 20/7 | None | 18° | 15°c | Cloud level below ridges to North. Some wispy high level cloud. Fairly candy. Strong winds again in violent gusts last night. |
| 21/7 | None | 33°C | 12°C | Clouds slightly below Ario level; some wispy high level clouds. Cloud level higher. gauge. Calm. Low level clouds thinned out greatly in |
| 22/7 | Nil | 24.3 | 12.7°C | Thermometer relocated out shade site – previous readings (taken in a tent) probably spurious 1/8 cloud cover. Mist over Los Lagos |
| 23/7 | Nil | 21.9 | 15.5 | 1/8 Cloud cover. Mist over Los Lagos Gusty |
| 24/7 | Trace was it down? | 22.5 | 7.5 | Mist at 8am Still over Lagos at 9. |

BF

| DATE (0900) | RAIN FALL | TEMPERATURE (°C) MAX | MIN | COMMENTS, OBSERVATIONS |
|---|---|---|---|---|
| W 25.7.84 | 0 | 16.9 | 7.2 | Mist top at Top Camp level. 2/8 cloud cover. |
| T 26.7.84 | Tr | 12.3 | 5.2 | 0/8 cloud cover. Mist level ~1500 m |
| F 27.7.84 | Nil | 17.0 | 8.5 | 0/8 cloud cover Visibility good mist/cloud level below Aro / Babias. |
| S 28/7/84 | Nil | 17.5 | 13.0 | 0/8 cloud cover Visibility good Mist Lagos or below. |
| S 29.7.84 | Nil | 22.2 | 14.9 | 0/8 Cloud. Hazy. Rain + high winds pros assoc with frontal systems at ~2300 and ~0700. |
| M 30.7.84 | 0.15 | 23.1 | 11.7 | 4/8 Cloud. Hazy over Los Lagos. |
| T 31.7.84 | 12.9 | 18.5 | 5.0 | Mist + rf. |
| W 1.8.84 | 2.70 | 9.9 | 5.1 | 0/8 Cloud cover. No mist in valleys. |
| Th 2-8-84 | Nil | 16.5 | 9.0 | 0/8 cloud cover |
| F 3.8.84 | 1.85 | 19.1 | 7.3 | Mist and rf. 4.95 mm of rf in ? frontal thunder storm ~0430 – 1100 |
| S 4.8.84 | 8.80 | 8.3 | 2.0 | 4/8 cloud cover. No mist in valleys |
| S 5.8.84 | 0.51 | 6.1 | 0.2 | Overnight Frost. 1/8 Cloud cover No mist in valleys. |
| M 6.8.84 | Tr | 10.0 | 2.0 | 1/8 cloud cover. No mist/cloud at Aro. Cloud at Lagos |
| T 7.8.84 | Nil | 6.5 | 13.0 | 0/8 cloud cover Mist at Aro. Cloud at Lagos |
| W 8.8.84 | 1.1 | 4.0 | 14.5 | 8/8 cloud. Mist – Visibility = 25 ft. |
| Th 9-8-84 | 0.05 | 6.9 | 2.4 | 7/8 cloud. |
| F 10-8-84 | Nil | 7.1 | 3.6 | Taken 12 noon. 7/8 cloud cover : mist |
| Sa 11-8-84 | Nil | 8.9 | 3.6 | 1/8 cloud cover. Mist in valleys |
| Su 12-8-84 | Nil | 8.9 | 4.7 | 1/8 cloud cover Mist in valleys |
| M 13-8-84 | Nil | 12.7 | 6.9 | 1/8 cloud cover. Taken 6.30 am |
| T 14-8-84 | NIL | 16.5 | 8.5 | Mostly sunny at Aro. |
| Su 19/8 | 0 | 16.9 | 6.0 | 1/8 Cloud cover. Hazy in valleys. |
| M 20/8 | 0 | 20.9 | 13.1 | |

(15)

2

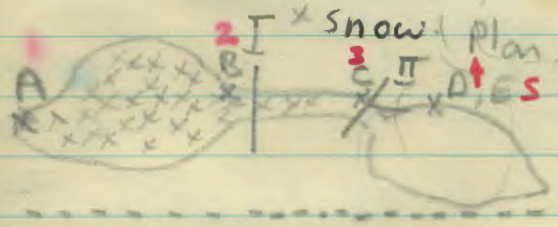
Clino readings − = down + = up.

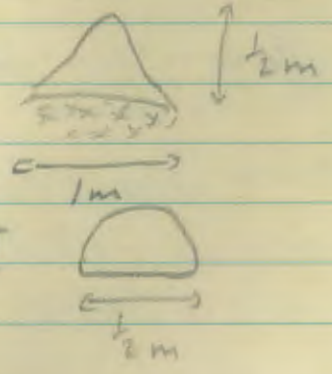
①

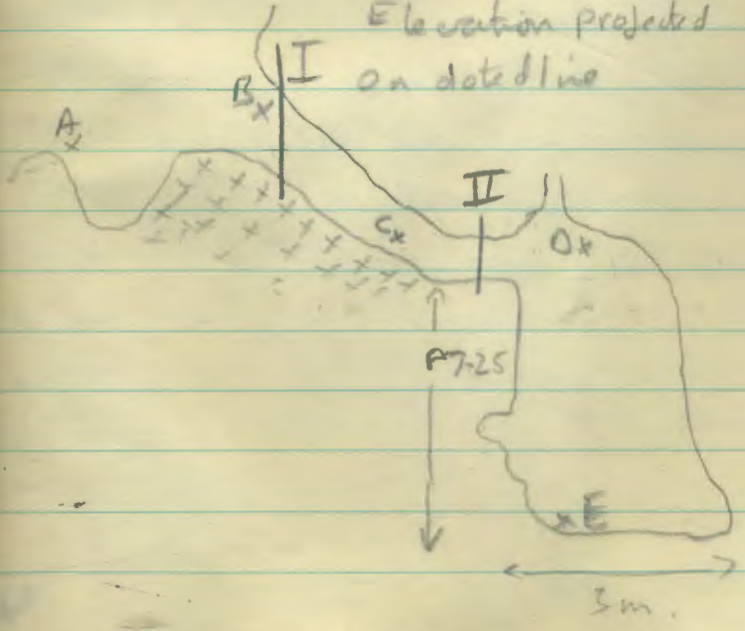
# Survey Note For Poza de las Perdicas.

16.7.84 – Survey from F7C to top of Shrangeways Pitch.

| Stations | Tape | Compass | Clino |
|---|---|---|---|
| ① A → B ② | 5.94 | 177 | +2° |
| ③ C → B ② | 4.49 | 017 | +39° |
| ③ C → D ④ | 1.34 | 248 | +11° |
| ④ D → E ⑤ | 7.25 | — | −90° |



(B7)

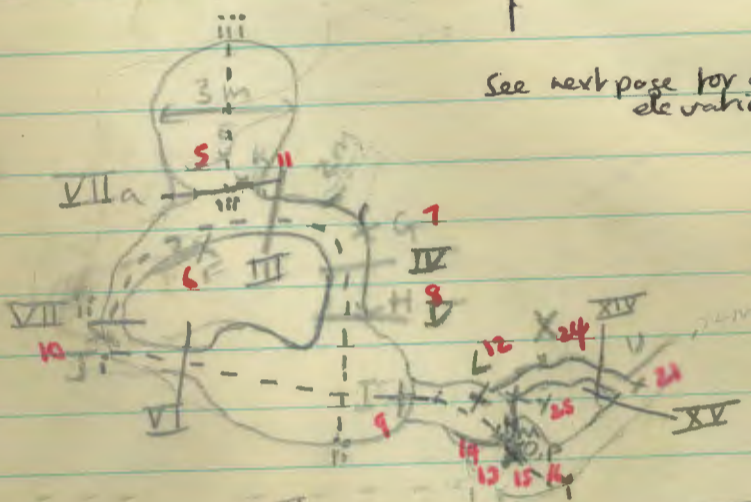
(2)

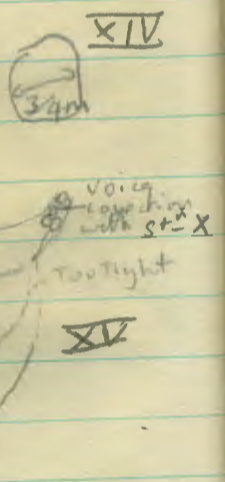
| Station | Tape | Compass | Clino |
|---|---|---|---|
| (6) F → E (5) | 2·40 | 253 | +23 |
| (6) F → G (7) | 2·28 | 298 | −20 |
| (8) H → G (7) | 4·59 | 214 | +10 |
| (8) H → I (9) | 7·76 | 073 | −50 |
| (10) J → I (9) | 9·51 | 032 | −39 |
| (10) J → K (11) | 3·84 | 266 | +45 |
| (5) E → K (11) | 0·96 | 067 | −5 |
| (9) I → L (12) | 3·20 | 015 | −53 |
| (13) M → L (12) | 4·63 | 265 | +64 |
| (15) O → N (14) | 1·30 | 285 | +22 |
| (15) O → P (16) | 5·74 | — | −90 |

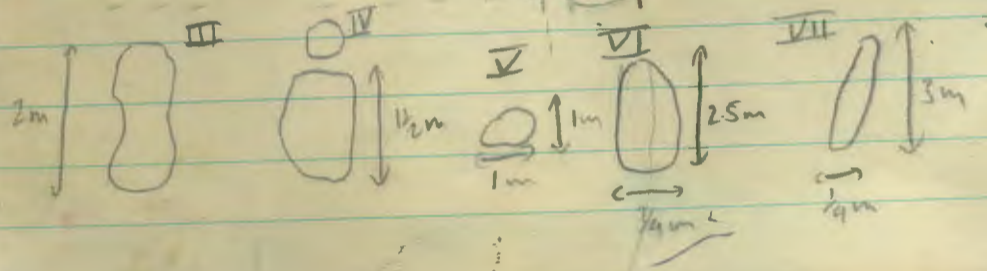
(21) U

| Station | Tape | Compass | Clino |
|---|---|---|---|
| (22) V → X (24) | 5·72 | 198 | −5 |
| (25) Y → X (24) | 3·71 | 336 | +23 |
| (25) Y → L (12) | 1·15 | 288 | +58 |
| (9) I → L (12) | 3·2 | 015 | −53 |
| (13) M → L (12) | 4·63 | 265 | +64 |
| O → M | 1·30 | 285 | +22 |
| (13) M → N (14) | 2·52 | 270 | −75 |
| (15) O → N (14) | 1·3 | 285 | +22 |
| (15) O → P (16) | 5·74 | — | −90 |

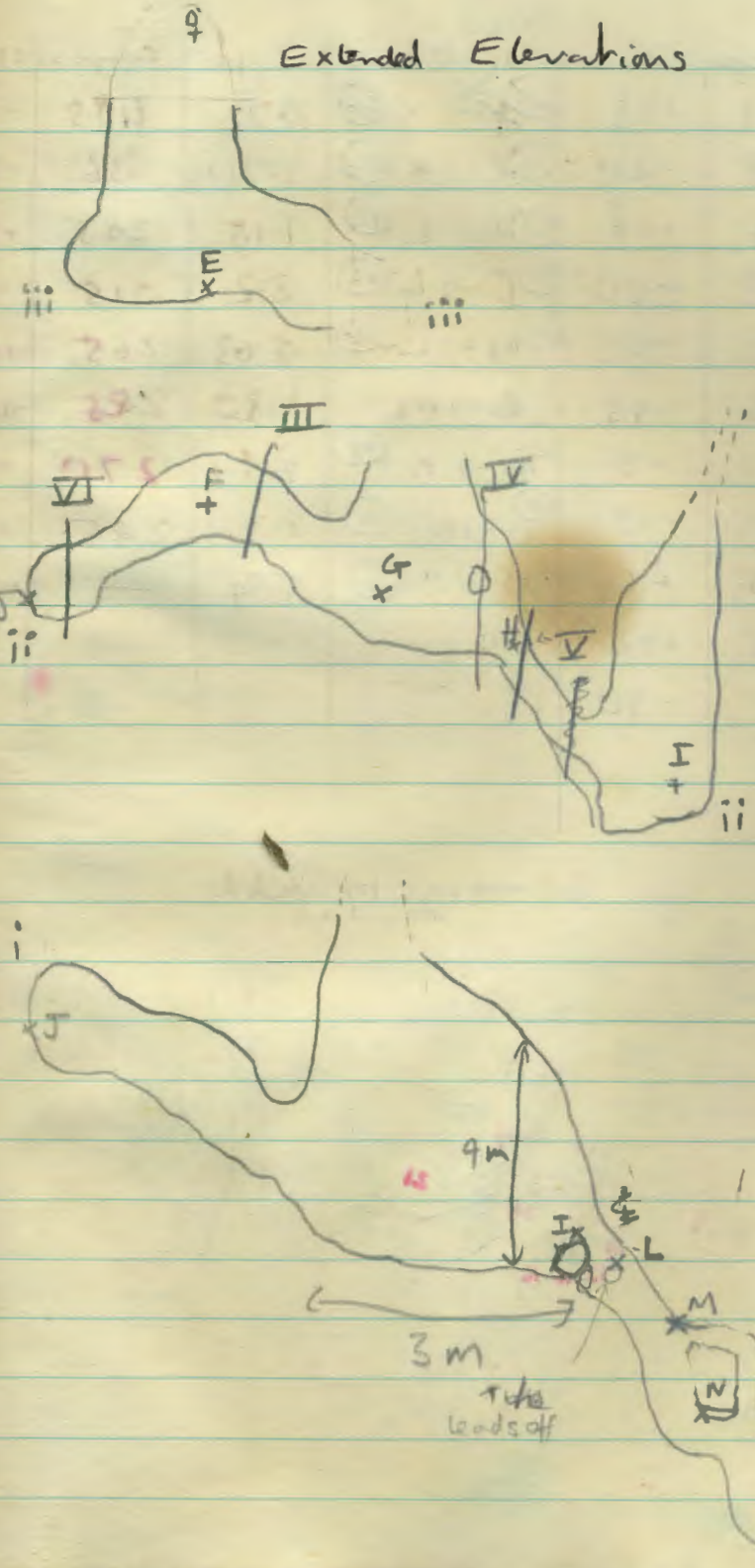
See next page for extended elevations.



Extended Elevations From Previous Page.

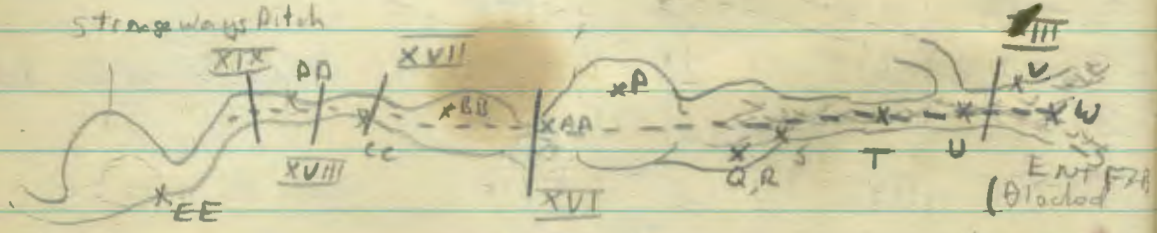


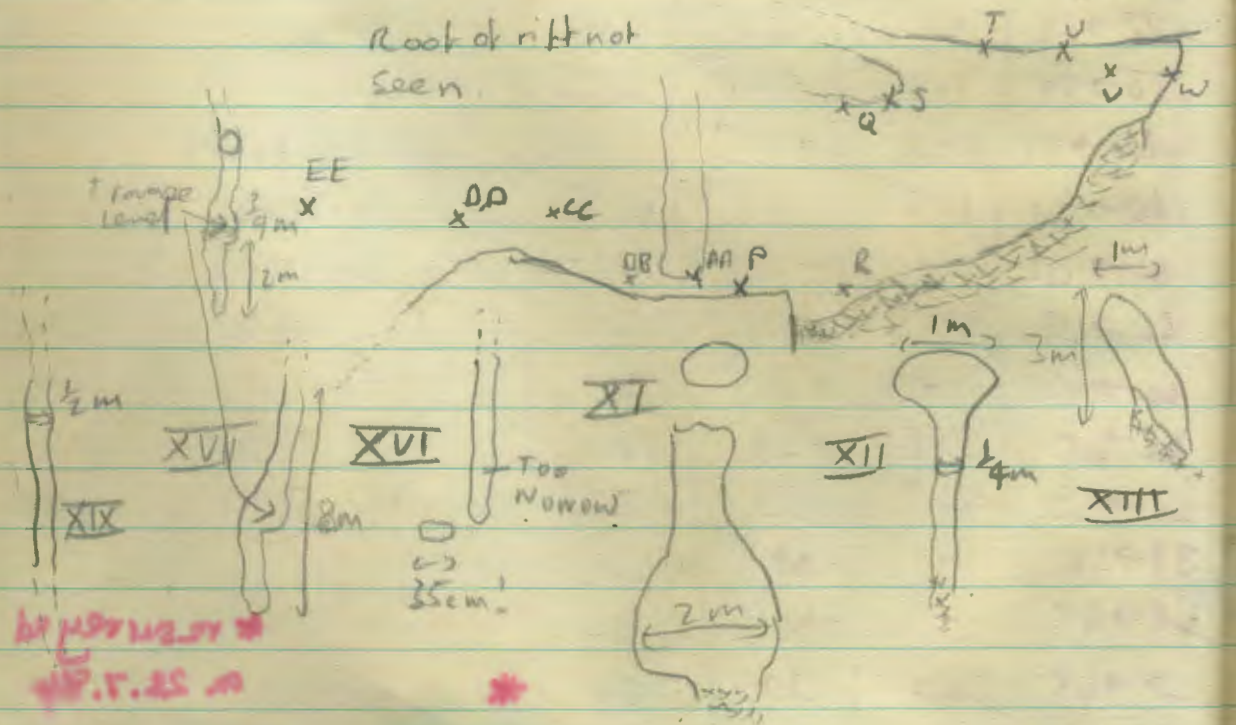
(89)

| Station | Tape | Compass | Clino | Station | Tape | Compass | Clino |
|---|---|---|---|---|---|---|---|
| (16) P → (17) | 2.04 | 050 | −5 | (23) W → V (22) | 4.06 | 193 | −24 |
| (16) → (17) | 12.52 | — | ~~190~~ | (25) P → AA (26) | 2.77 | ~~132~~ | +7 |
| (19) S → (18) | 0.84 | 136 | −22 | (27) BB → AA (26) | 1.78 | 027 | −11 |
| (19) S → T (20) | 3.89 | 329 | +38 | (27) BB → CC (28) | 5.49 | ~~157~~ | +59 |
| (21) U → T (20) | 3.28 | 146 | +20 | (29) DD → CC (28) | 2.15 | 018 | −7 |
| (21) U → V (22) | 1.87 | 332 | +2 | (29) DD → EE (30) | 4.95 | 160 | 0 |

(4)

See Previous Page



(BIO.)

MBL (Compass)
CFAW (Tape)
IH (Drawing)

# Peru Las Perdices  Survey 17/7/84

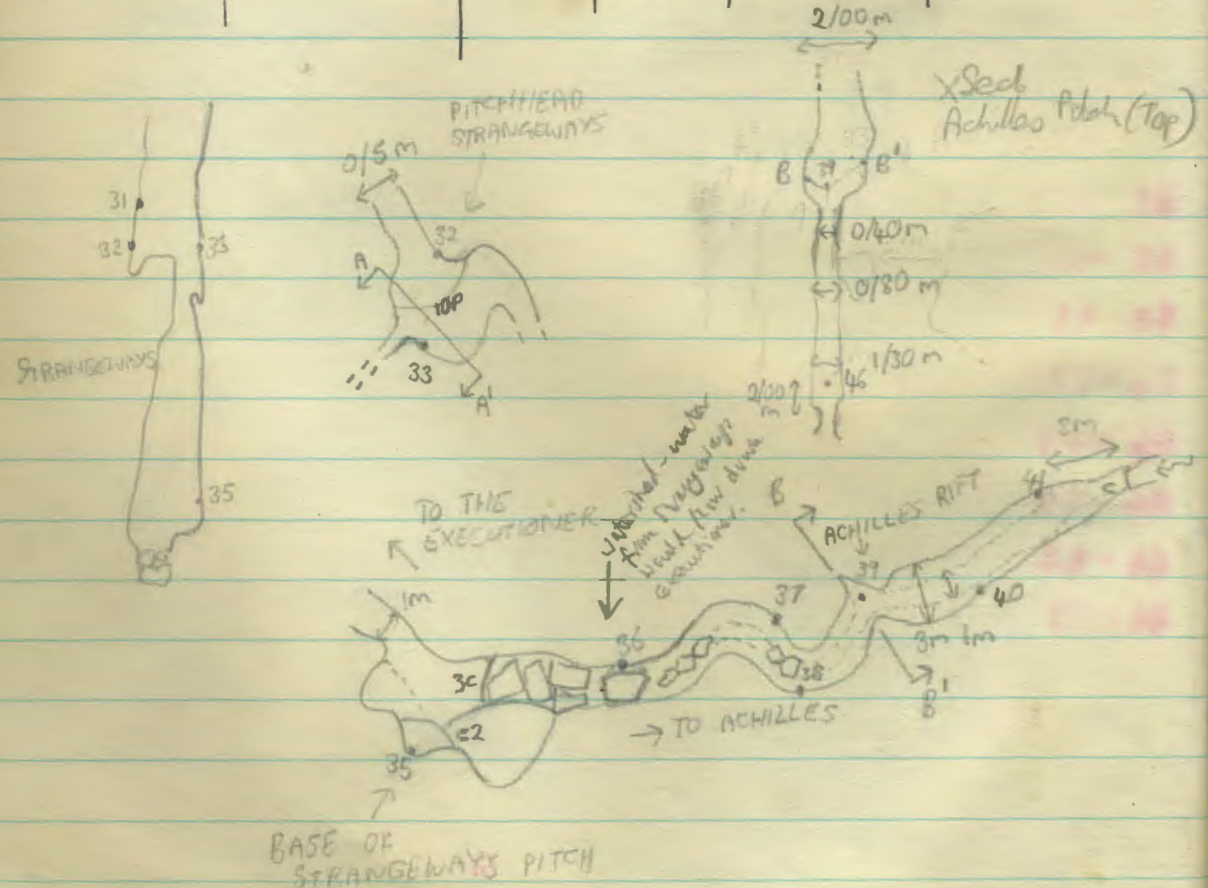
Notes: The survey commences at station EE (near the top of straaqueys. As this is equivalent to no. 31, I list the first leg of our survey as 31 (EE) → 32. Clinometer readings are in % unless stated otherwise. (reading difficulties)

| Stn | Compass | Cling | Distance | |
|---|---|---|---|---|
| 30 31(EE) → 31 32 | – | −∞ (VERT) | 1/60 | |
| 31 32 → 32 33 | 210 | 00° | 1/76 | |
| 33 33' → 34 | 305 | 00° | 7/00 | Note: 33' is 4m below 33. |
| 33 33 → 35 | – | −∞ (VERT) | 10/00 | |
| 35 → 36 | 092 | −46 −25 | 5/15 | Width at 36 = 3/0m |
| 37 → 36 | 330 | +43 +25 | 3/82 | |
| 37 → 38 | 280 | −29 −16 | 2/29 | |
| 38 → 39 | 164 | −127 −52 | 2/73 | |
| 40 → 39 | 052 | +19 +11 | 4/16 | Width (40) = 1m 1/00 |
| 40 → 41 | 165 | −99 −45 | 4/98 | " (41) 0/60 |
| 41 → 42 | – | −∞ (VERT) | 3/27 | " (42) 0/80 Floor Ht. 1/70 |
| 42 → 43 | 008 | 00° | 1/43 | " (43) 0/80 " 1/70 |
| 44 → 43 | – | +∞ (VERT) | 1/65 | (44) " 1/70 |
| 44 → 45 | 358 | −48 −26 | 4/43 | (45) 1/00 " 3/00 |
| 46 → 45 | 249 | 00° | 3/77 ✓ | (46) 0/70 " 1/20 |
| 39 → 46 54 | – | −00 VERT | 11/80 ✓ | |
| 39 46 → 47 55 | – | −∞ VERT | 29/30 ✓ | * resurveyed on 28.7.84 |
| 47 → 48 | 340 | 00 | 5/20 | * |
| 46 → 54 | 249 | 00 | 1/86 ✓ | |

(B11)

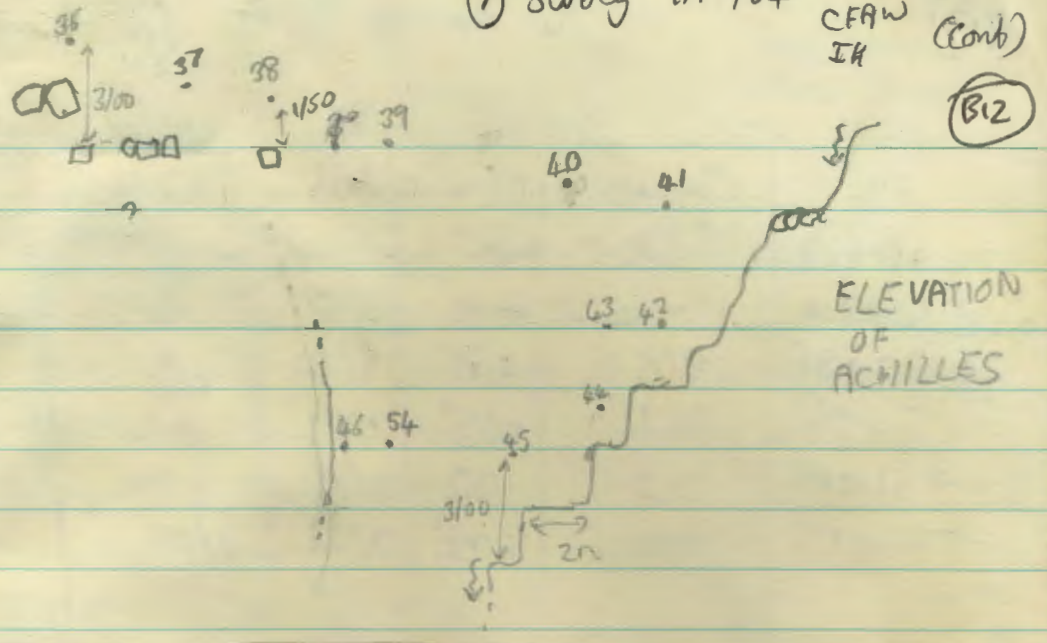
# Survey 17/7/84 MBL CFAW IH (Cont)

| Stn | Compass | Clino | Dist | Stn Width | Height above Floor |
|---|---|---|---|---|---|
| 48→49 | 320 | 00 | 8/00* | * = Hauler | |
| 49→* | – | +∞ (VERT) | 8/50 | rotating head | |
| 50→35 | 205 | -61° | 8/25 | ↓ clino is ° | |
| 50→51 | 319 | -13° | 2/03 | 0/40 | 7/50 |
| 52→51 ~~52~~ | 242 | 00 | 2/19 | 1/80 | 1/70 |
| 52→53 | 314 | +08° | 2/56 | 1/00 | – |

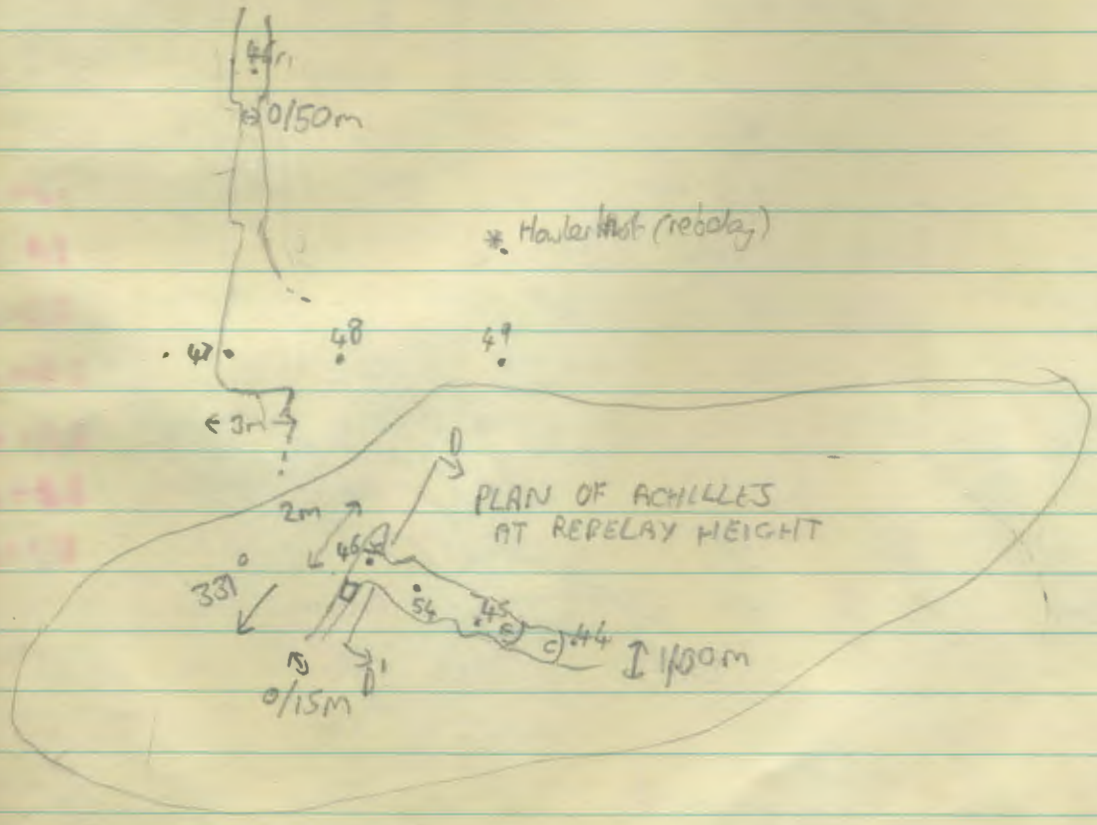


(7) Survey 17/7/84 MBL CFAW IH (Cont)

B12



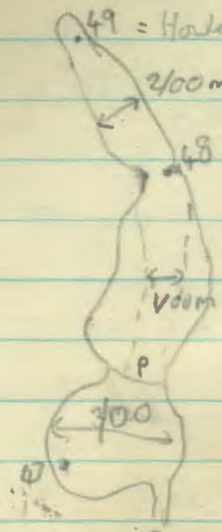

ELEVATION OF ACHILLES BELOW REBELAY ALONG OO'

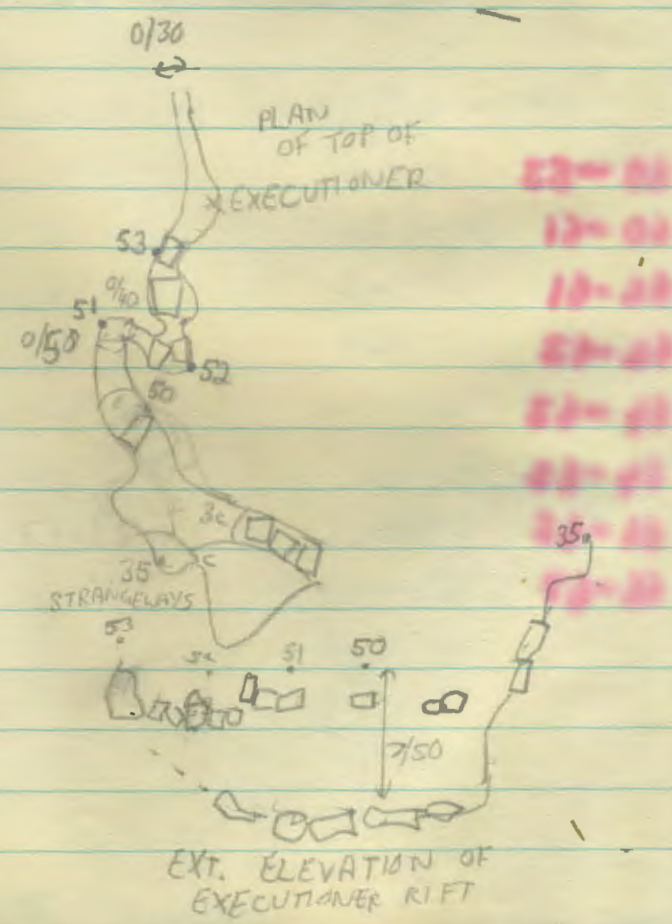


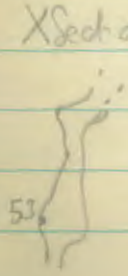
B13

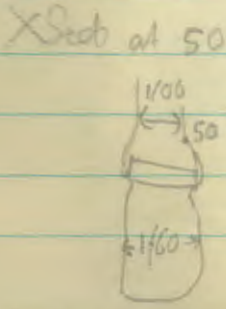
(8) Survey 17/7/84 MBL CFAW (Comb) IH

# Plan of Voice connection with Howler



(B14)

Pozo Las Pedrices Survey 18/7/84 SD
GN
FW.

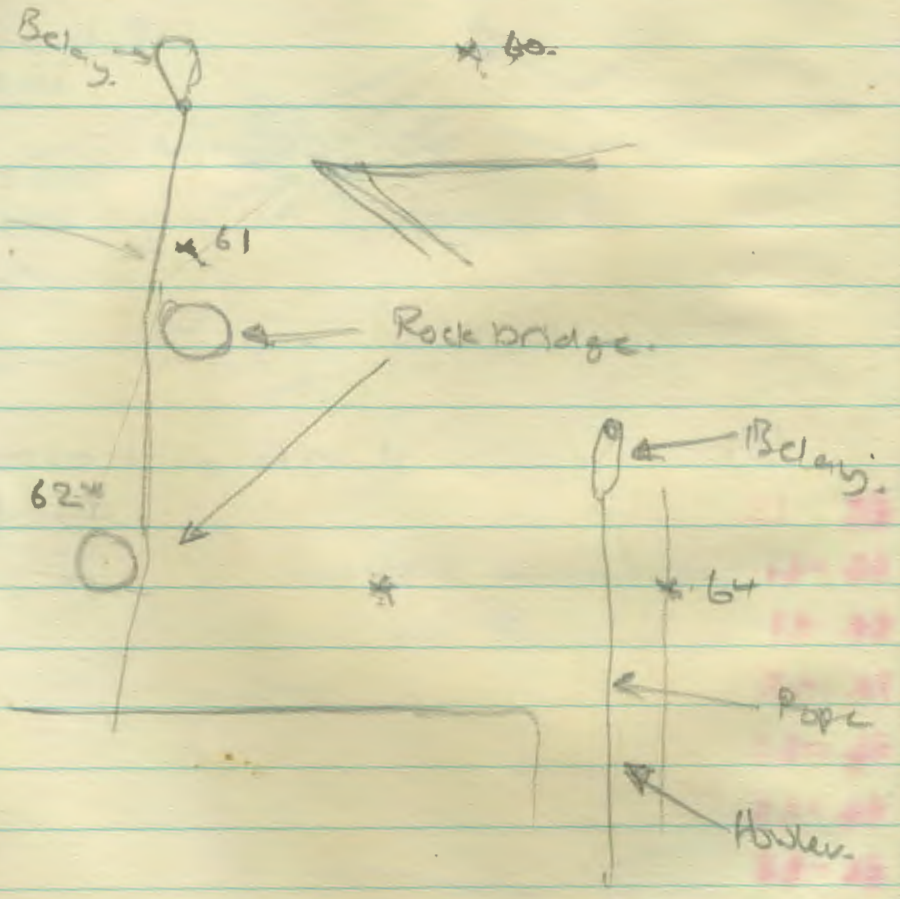
~~Survey starts at station 53~~
~~from the previous survey, which we shall call station 60.~~
~~This station is~~

Survey starts at station 53 from the previous survey which we have called station 60. It is just below the rope on the Excavation or.

| Station. | | Distance | Compass | Clino |
|---|---|---|---|---|
| 60-53 | 61→60 | 7.79 | 164.5 | +58° |
| 60-61 | 61→62 | 3.05 | 285 | -82° |
| 62-61 | 63→62 | 5.44 | 314.5 | +46° |
| 62-63 | 63→64 | 2.76 | 208.5 | -23° |
| 64-63 | 65→64 | 4.20 | 265 | +61° |
| 64-65 | 65→66 | 3.30 | — | -90° |
| 66-65 | 67→66 | 22.17 | — | +90° |
| 66-67 | 67→68 | 3.20 | 213.5 | -20° |

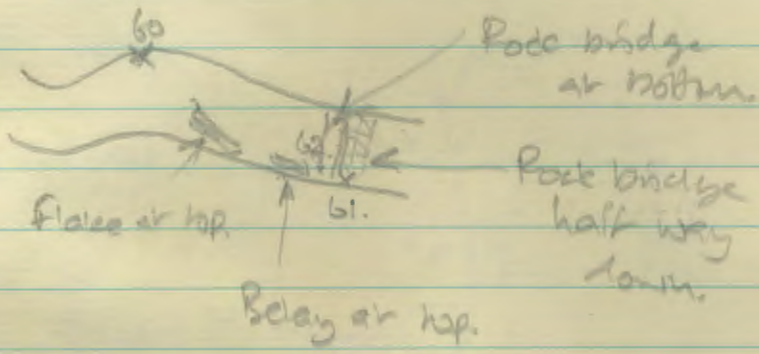
B15

Elevation of the Executioner to top of the Howler.

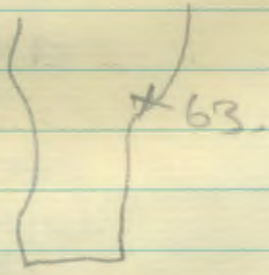


(BH)

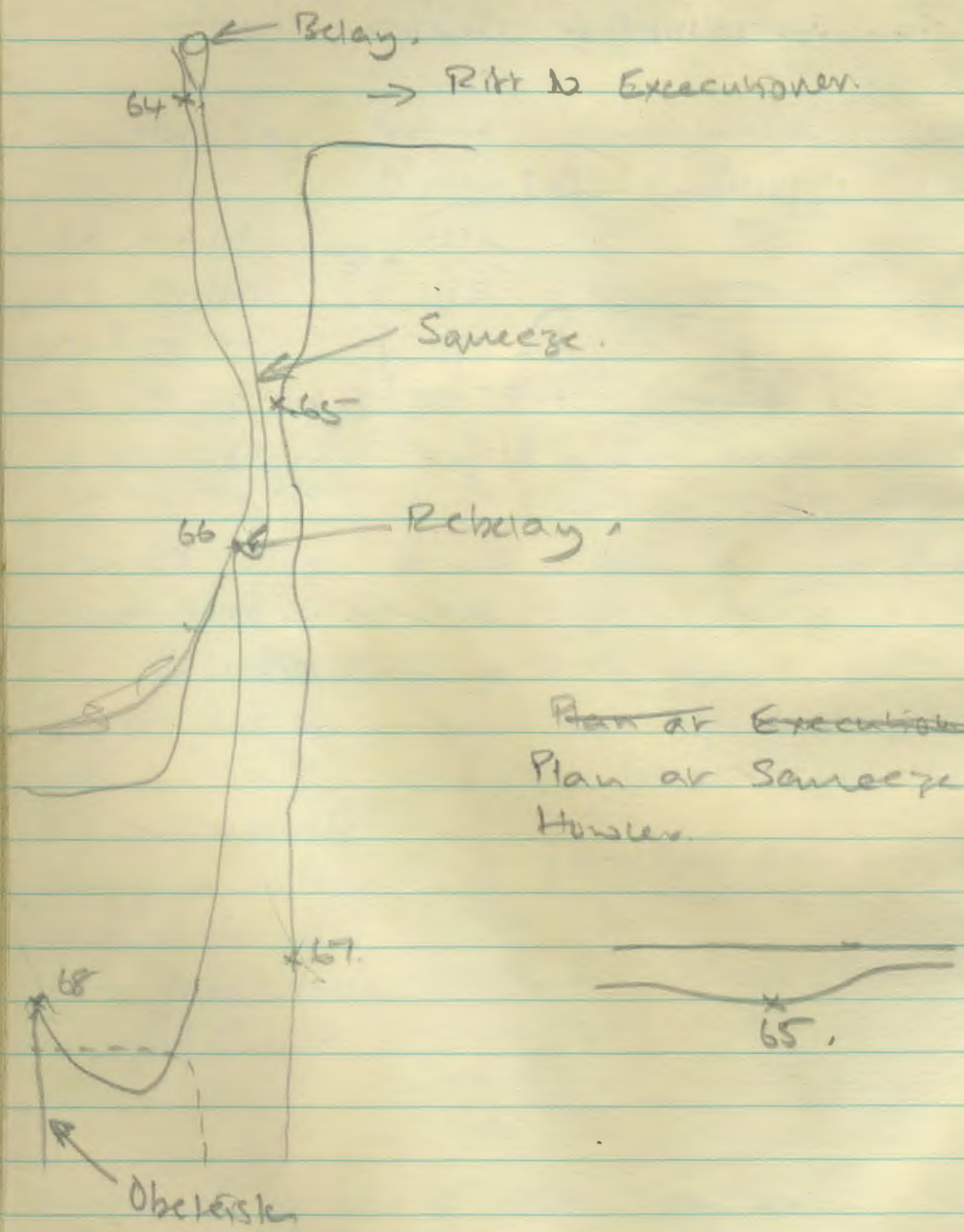
Plan of Excecutioner to top of Howler.




Cross section of rift at section 63.



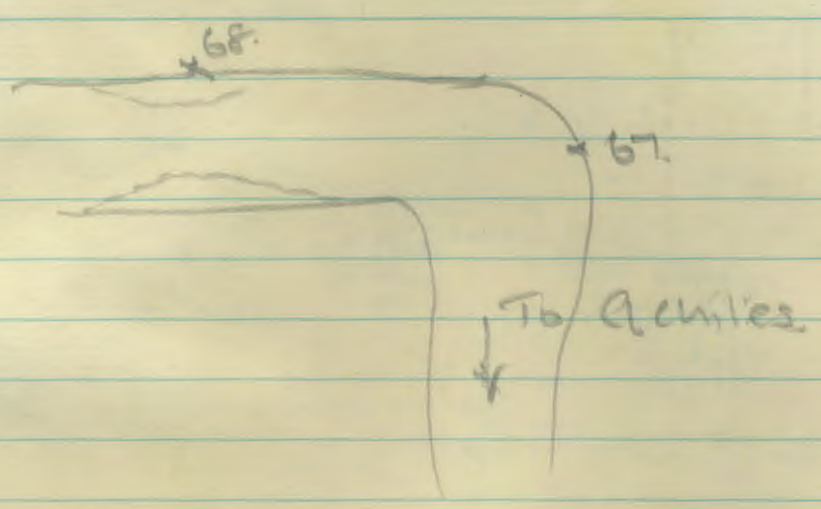
Cross section of the Howler.




~~Plan of Execution~~

Plan of Squeeze on Howler.

Plan of top of Obelisk,




The Station 68. is at the bottom of the knob in the middle of the top of the Obelisk.

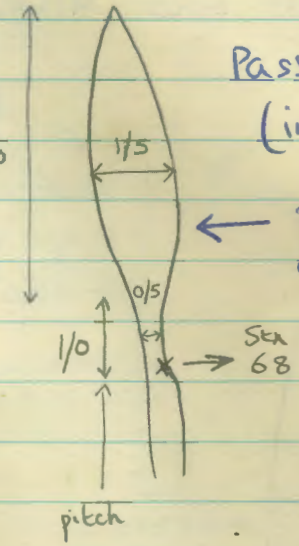
B19

Survey Trip 22 July 1984 Stephen Gale, Silvia Dacre, Dave Horsley.
Pozu Las Perdices

| Survey Leg | Sloping Distance (m) | Inclination (degrees) | Declination (degrees) |
|---|---|---|---|
| 68 → 69 | 35/2 | -90 | — |
| 69 → 70 | 11/5 | -90 | — |
| 70·S=70* → 71 | 3/9 | -21 | 027 |
| 71 → 72 | 81/75 | -87·81* ~~-90~~ | 350* |

* This reading taken from 1/6 m above ~~height~~ position of previous stn 70.

Stn 68 : knot on wall - main belay on flake at pitch head of Obelisk.



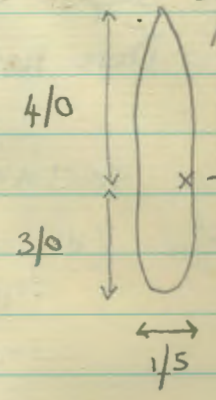

Passage cross-section (into cave)

← Plan view (over page) drawn at this height.

N.b. vadose trench steeply incised from base of previous pitch forms traverse to top of Obelisk.

* corrected on basis of notes 3 pages hence.

Plan view at stn 68.



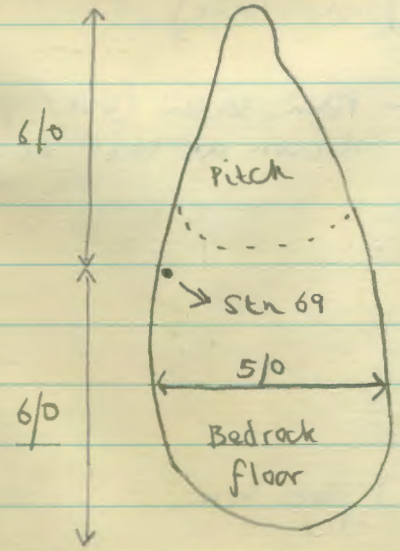

Declination from Stn 68 to end of shaft = 200 degrees

→ Stn 68 at this point, but below level of plan

The shaft which constitutes leg 68 → 69 is vertical-walled and has a plan view similar to that of stn 68 above.

Stn 69 : Flake on wall of chamber at deviation where Obelisk ends and Asterix starts

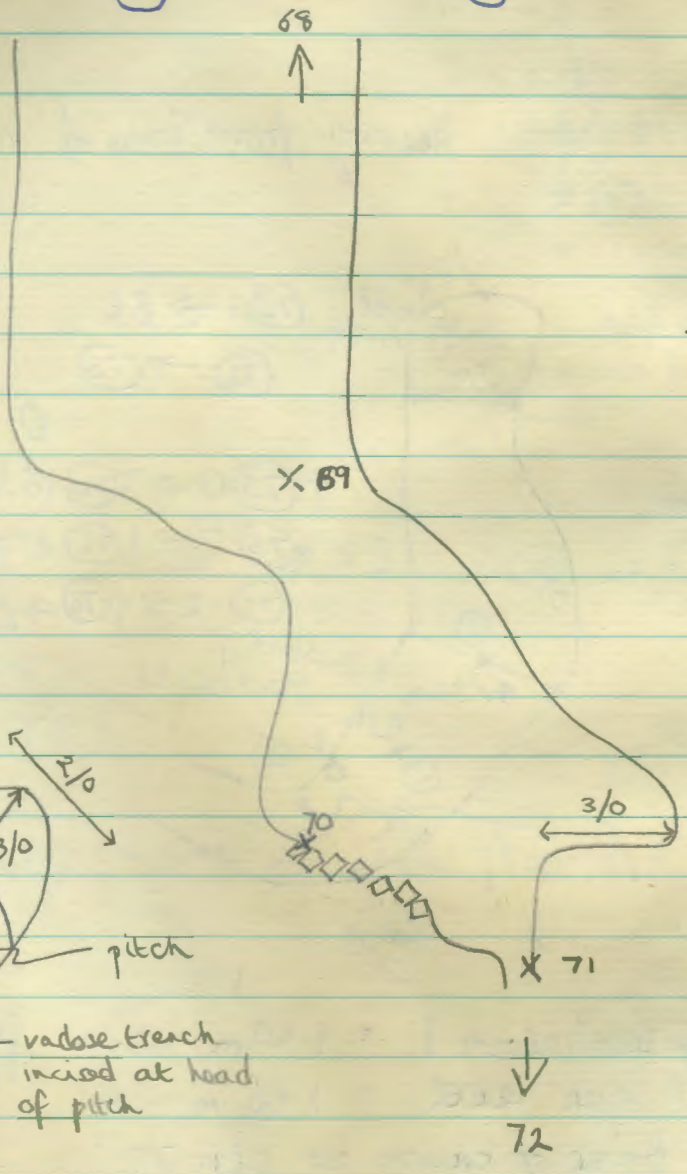
Plan view at stn 69.



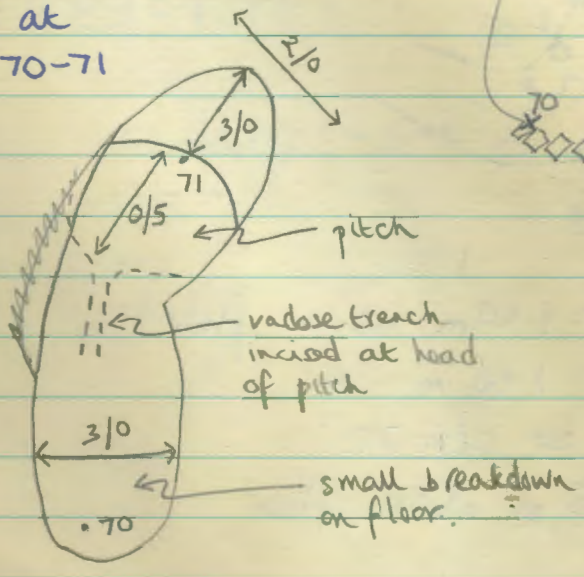

Declination along length of chamber = 020 degrees

B21

Projected elevation along 020-200 degrees



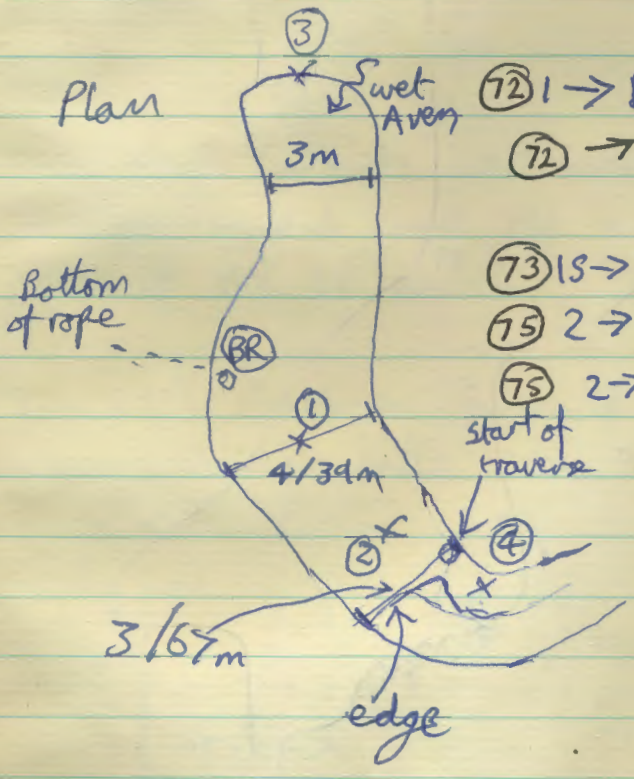

Plan at stns 70-71




Stn 71: at Knot at base of main belay at head of Nostril pitch.

Stn 72: on floor of chamber at base of Nostril pitch

24/7/84 Survey from base of nostril



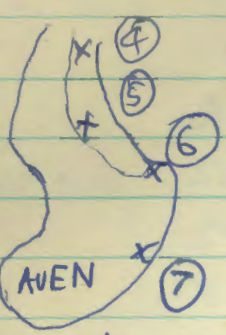

| | D | B | I |
|---|---|---|---|
| (72) 1 → BR | 3/12 | 350 | |
| (72) → (73) | 1·60 | — | +90 |

| | D | B | I |
|---|---|---|---|
| (73) 15 → 3 (74) | 16/80 | 035 | +18 |
| (75) 2 → 1 (72) | 6/70 | 7/5 | -29 |
| (75) 2 → 4 (76) | 4/44 | 163 | -11 |

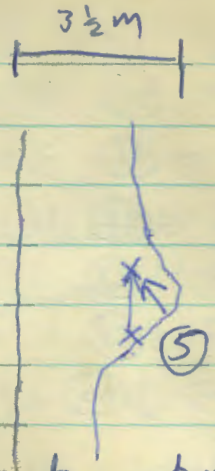
15 is eye level above 1 = 1·60 m above floor
2 is at eye level = 1·60 m " "
1 over base of cairn ≡ stn 72
3 is standing. = 1·75 m above floor

(B23)

Plan.




(Bogie)




Section out of cave (towards base of rostrit)

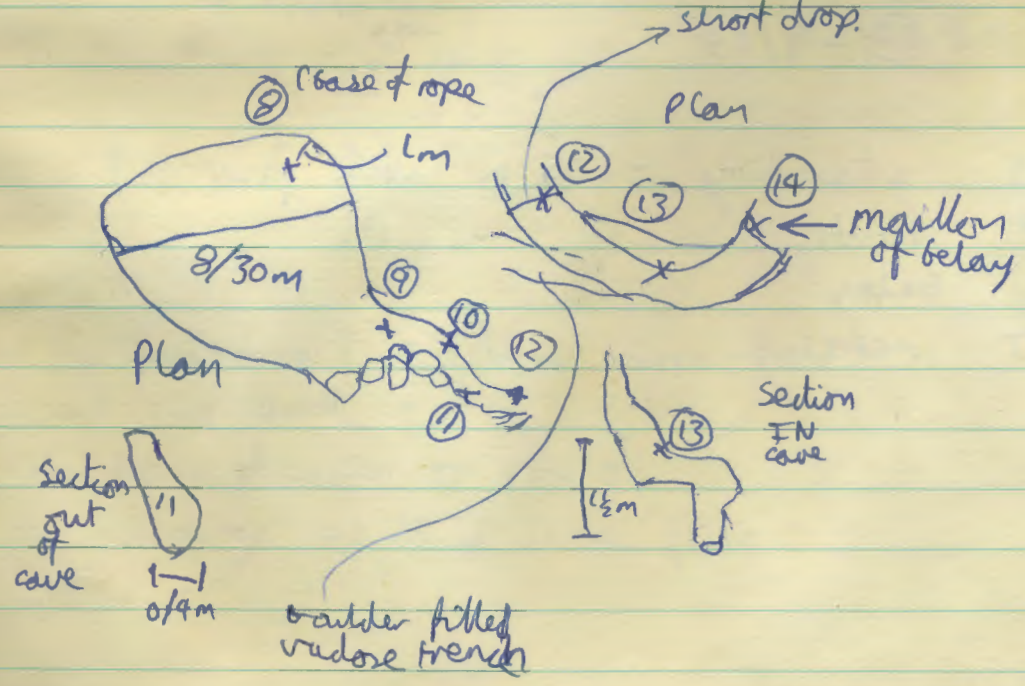
| | D | B | I |
|---|---|---|---|
| (77) 5 → 4 (76) | 1/92 | ~~3/12~~ 318 | ~~-53~~ |
| 5 (77) → 6 (78) | 3/12 | 65 | +13 |
| (78) 6 → 7 (79) | 5/85 | 130 | -61 |
| (79) 7 → 8 (80) | 49/58 | | -90 |

5 standing - 1.75 m above floor
4 rock
6 belay
7 rebelay

B24

| | | | D | B | I |
|---|---|---|---|---|---|
| (81) | 9→78 | (80) | 7/50 | 335 | -21/5 |
| (81) | 9→10 | (82) | 3/40 | 188/5 | -55/5 |
| (83) | 11→10 | (82) | 1/15 | 090 | +32 |
| (84) | 12→11 | (83) | 1/29 | 65/5 | +42 |
| (84) | 12→13 | (85) | 1/79 | 171/5 | -18 |
| (86) | 14→13 | (85) | 2/10 | 296 | +26 |

9 standing
8 floor (base of bowie rope)
10 ½m above floor (wall
11 wall
12 edge

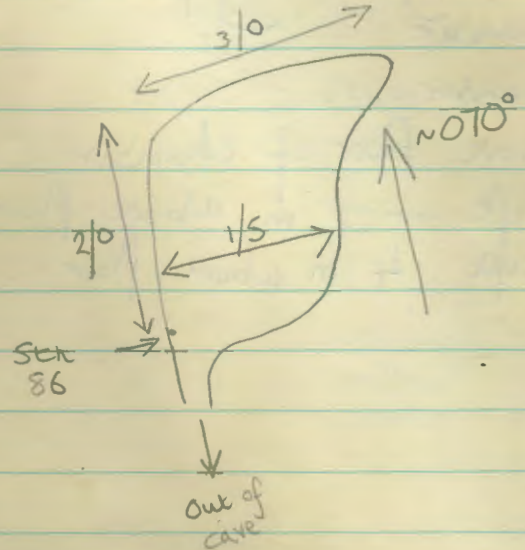


(62)

Survey trip 24 July 1984: Stephen Gale, Mike Bernard Lee.

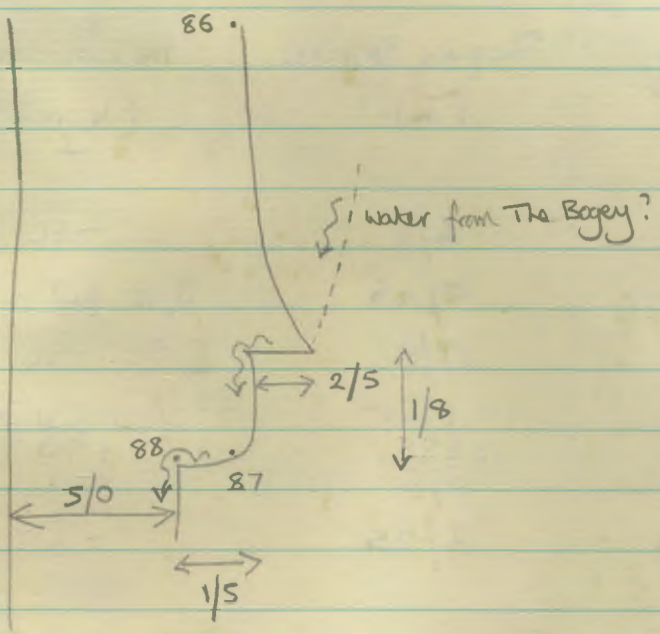
| Survey Leg | Sloping Distance (m) | Inclination (degrees) | Declination (degrees) |
|---|---|---|---|
| 86 → 87 | 6/4 | -90 | — |
| 87 → 88 | 0/65 | 0/10 fall in height | 110 |
| 88 → 89 | 17/5 | -90 | — |
| 89 → 90 | 1/6 | 0/20 fall in height | 105 |
| 90 → 91 | 1/625 | +90 | |
| 91 → 92 | 5/2 | -1 | 175 |
| 92 → 93 | 2/25 | -45 | 155 |

Stn 86: maillon on main belay on pitch below Bogey




Plan view at level of stn 86

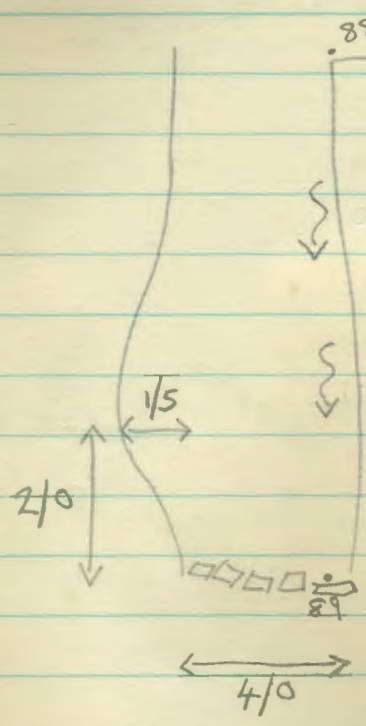
Projection through 295°



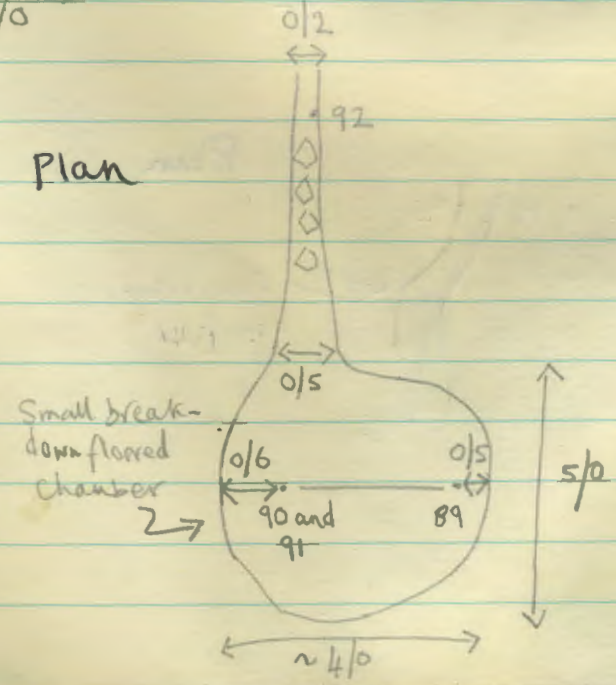

Stn 87 on floor
Stn 88 on floor at lip by rebelay point
Stn 89 on floor of chamber
Stn 90 on floor of chamber
Stn 91 1.625 m above floor of chamber
Stn 92 on wall of rift —— m above floor
Stn 93 on wall of rift 4 m above floor

52

# Projection through 295°

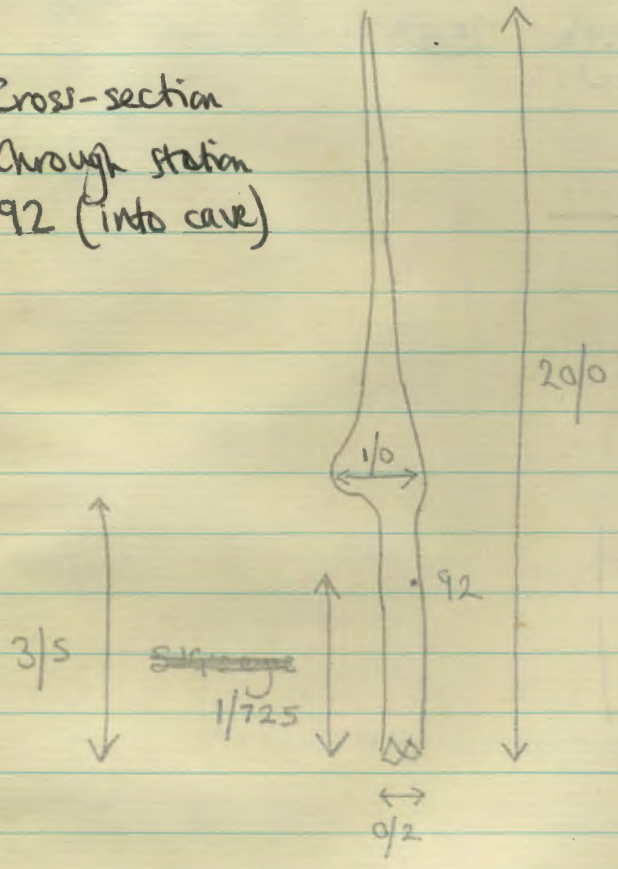



Water sinks in floor

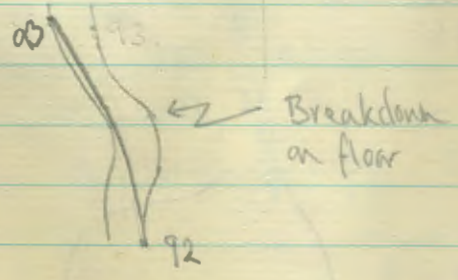


B28

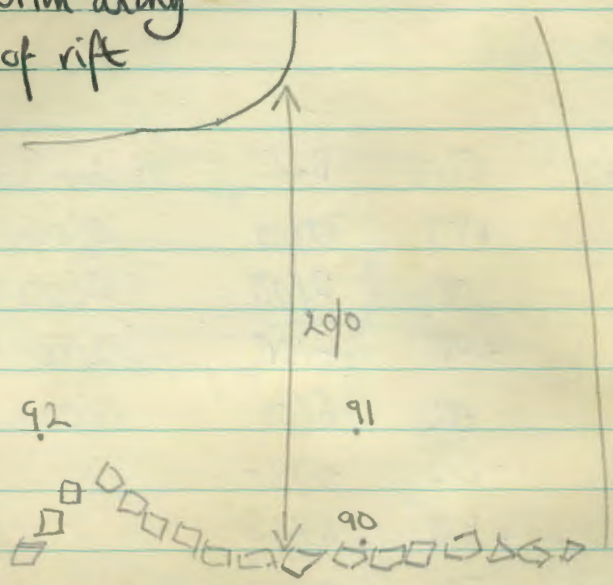
Cross-section
through station
92 (into cave)




Plan



Projection along line of rift



(B30)

27/7/84 Survey of F11 Martin Hicks and Ian Hoyle

Surveying from bottom out.

| Station | Compass | Clino | Dist | Ht above Floor | Width at Stn. |
|---|---|---|---|---|---|
| 1→2 | - | +90 | 37/10 | 0/00 | 2/00 |
| 1→3 | 290 | 00 | 2/00 | 0/00 | 0/15 |
| 1→4 | - | +90 | 2/00 | 2/00 | 2/00 |
| 4→5 | 102 | 00 | 6/00 | 0/00 | 0/50 |
| 6→2 | 129 | -30 | 2/67 | - | - |
| 6→7 | - | +90 | 4/15 | - | - |
| 8→7 | 130 | -34 | 2/12 | - | |
| 8→9 | 159 | +73 | 12/95 | - | - |
| ~~9~~ 10→9 | 192 | -52 | 3/55 | - | - |
| 11→10 | 192 | -10 | 1/30 | - | - |

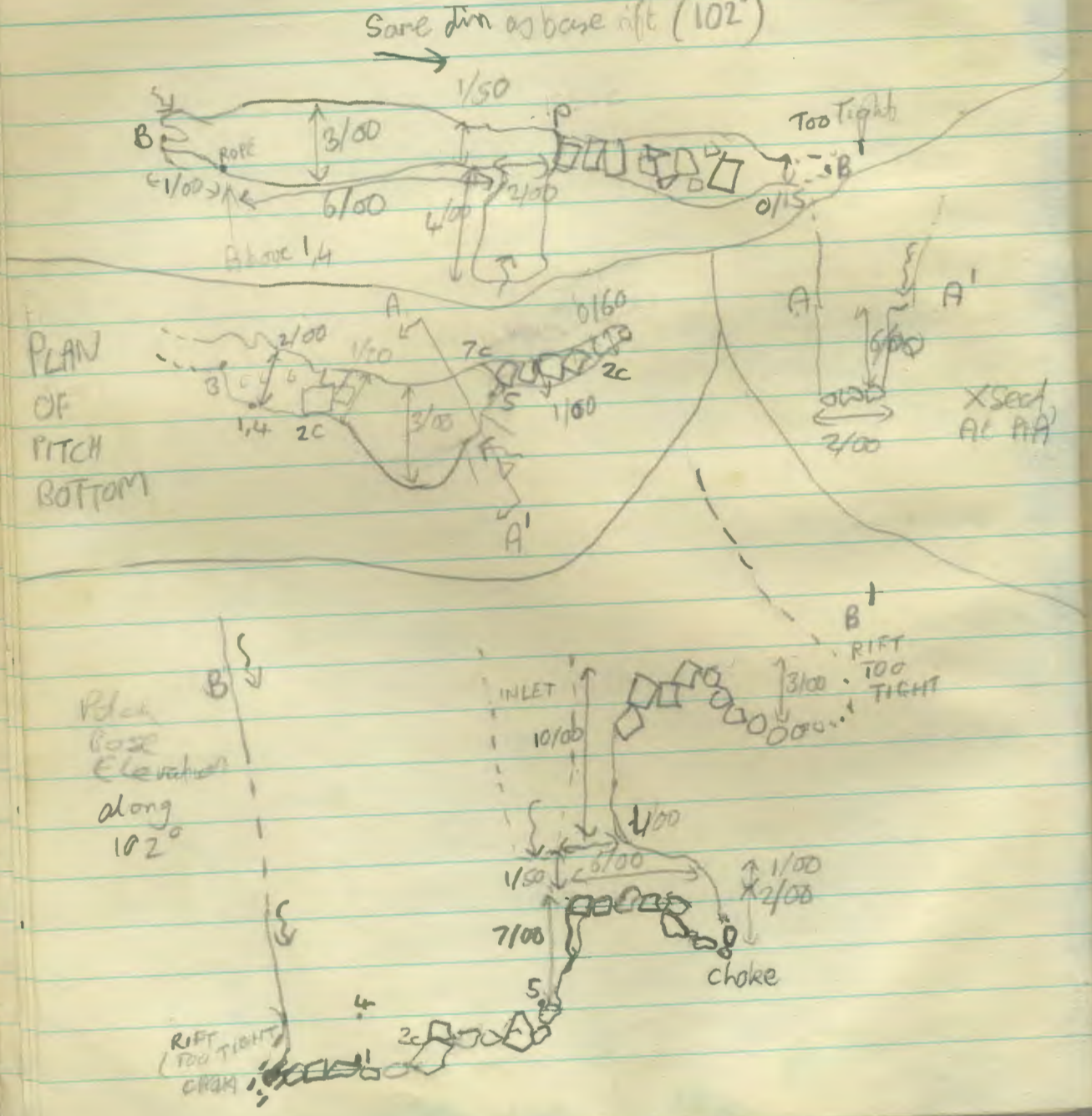
Location of F11 ; Altitude @ 50m above Poru Jareda Blanca

| Station | Clino | Compass |
|---|---|---|
| F11 → Top Camp Cairn ~~054~~ | -13/0 | 060 |
| F11 → The Spike (Secondary to Verdelluenga) | +13/0 | 101 |
| F11 → F7 | ~-30/5 | ~047 |

(B31)

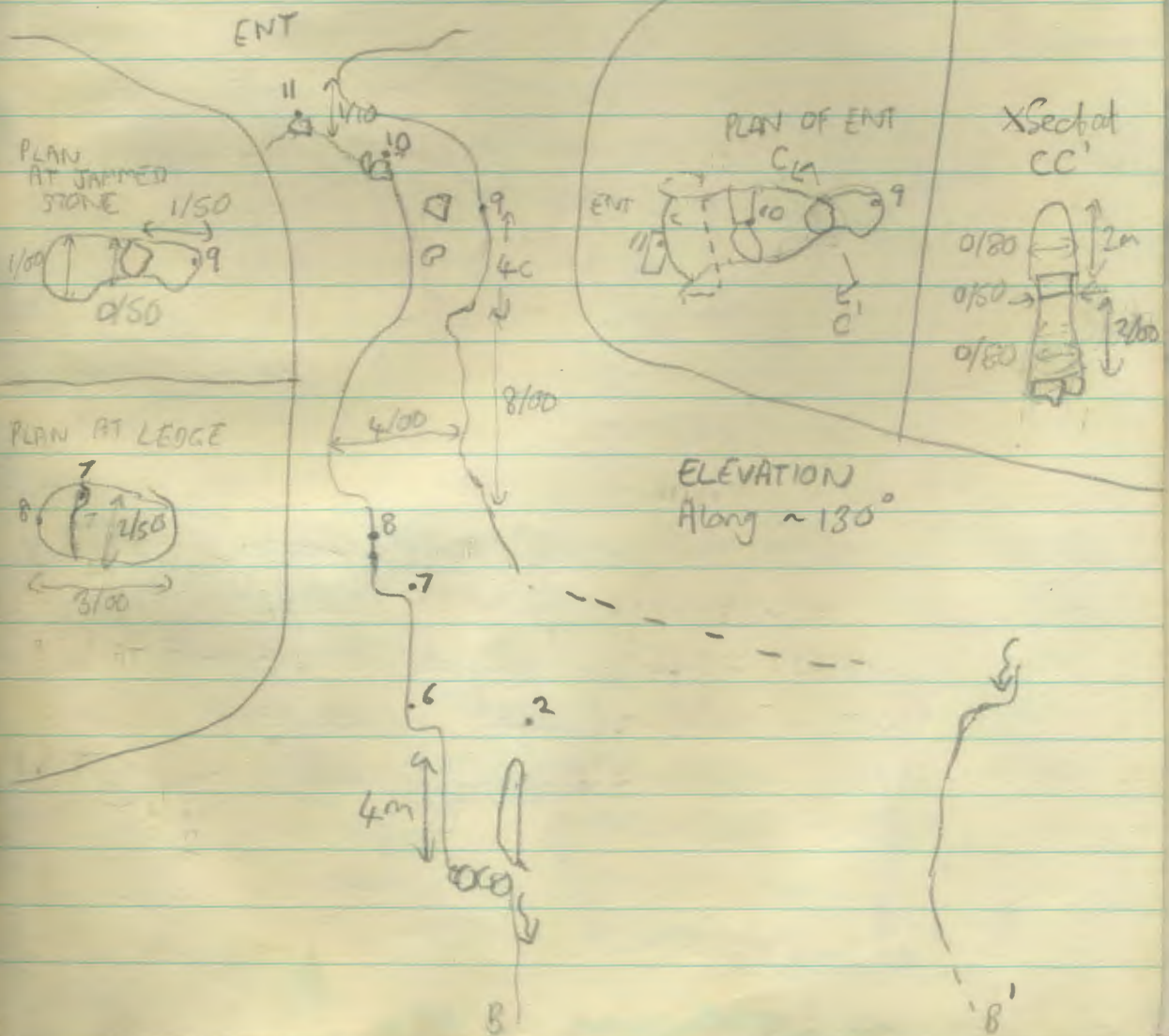
Survey of F11 27/7/84 Drawn IH

# Plan at 20m Above Floor (BB')



B32

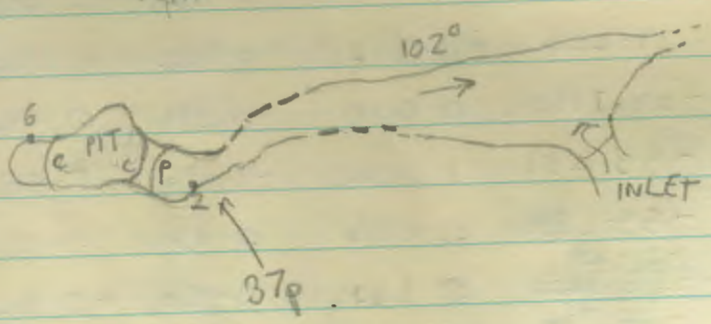
Drawn TH SURVEY OF F11 27/7/84



(623)

SURVEY OF FILL 27/7/84 Drawn IH

PLAN AT PITCH HEAD



sin Δ×L

(cos Δ×L)

(sin Δ×L)

| Vertical Distance | Cumulative Vertical Distance | Horiz Distance North | Cumulative Horiz Distance North | Horiz Distance East | Cumulative Horiz Distance East |
|---|---|---|---|---|---|
| 0.207 | 0.000 | -5.928 | 0.000 | 0.311 | 0.000 |
| -2.826 | 0.207 | -3.337 | -5.928 | -1.020 | 0.311 |
| 0.256 | -2.619 | -0.493 | -9.265 | -1.219 | -0.709 |
| -7.250 | -2.363 | 0.000 | -9.758 | 0.000 | -1.928 |
| -0.938 | -9.613 | 0.646 | -9.758 | 2.112 | -1.928 |
| -0.780 | -10.551 | 1.006 | -9.112 | -1.891 | 0.184 |
| -0.797 | -11.331 ~~-11.348~~ -12.128 | 3.747 | -8.106 | 2.528 | -1.707 |
| -5.945 | ~~-17.293~~ -18.073 | ~~[illegible]~~ 1.458 | -4.359 | 4.770 | 0.821 |
| 5.985 | ~~-11.308~~ 12.088 | -6.268 | -2.901 | -3.917 | 5.591 |
| 2.715 | ~~-8.593~~ 9.373 | -0.189 | -9.169 | -2.708 | 1.674 |
| 0.084 | ~~-8.509~~ -9.289 | -0.374 | -9.358 | -0.880 | -1.034 |
| | | | -9.732 | | -1.914 |
| -2.556 | -18.073 | 1.860 | -2.901 | 0.498 | 5.591 |
| -4.161 | -20.629 | 0.177 | -1.041 | 2.022 | 6.089 |
| -2.434 | -24.790 | 0.000 | -0.864 | -0.652 | 8.111 |
| -0.487 | -27.224 | -0.312 | -0.864 | 1.164 | 7.459 |
| -5.740 | -27.711 | 0.000 | -1.176 | 0.000 | 8.623 |
| -0.178 | -33.451 | 1.306 | -1.176 | 1.557 | 8.623 |
| ~~+~~12.520 | -33.629 | 0.000 | 0.130 | 0.000 | 10.180 |
| 0.315 | -21.109 ~~-46.119~~ | 0.560 | 0.130 | -0.541 | 10.180 |
| 2.395 | -20.794 ~~-45.834~~ | 2.627 | 0.69 | -1.579 | 9.639 |
| -1.122 | -18.399 ~~-43.439~~ | 2.555 | 3.317 | -1.723 | 8.060 |
| 0.065 | -19.521 ~~-44.561~~ | 1.650 | 5.872 | -0.877 | 6.337 |

1535

| | Stn | Sloping Distance | Inc | Dec | cos ∠ × L Horizontal Distance | Cumulative Horizontal Distance |
|---|---|---|---|---|---|---|
| 1 | A | 5.94 | +2 | 177 | 5.936 | |
| 2 | B | 4.49 | -39 | 197 | 3.489 | |
| 3 | C | 1.34 | +11 | 248 | 1.315 | |
| 4 | D | 7.25 | -90 | — | 0.000 | |
| 5 | E | 2.40 | -23 | 073 | 2.209 | |
| 6 | F | 2.28 | -20 | 298 | 2.142 | |
| 7 | G | 4.59 | -10 | 034 | 4.520 | |
| 8 | H | 7.76 | -50 | 073 | 4.988 | |
| 9 | I | 9.51 | +39 | 212 | 7.391 | |
| 10 | J | 3.84 | +45 | 266 | 2.715 | |
| 11 | K | 0.96 | +5 | 247 | 0.956 | |
| | S E | | | | | |
| 12 | I 9 | 3.20 | -53 | 015 | 1.926 | |
| 13 | L 12 | 4.63 | -64 | 085 | 2.030 | |
| 14 | M 13 | 2.52 | -75 | 270 | 0.652 | |
| 15 | N 14? | 1.30 | -22 | 105 | 1.205 | |
| 16 | O 15 | 5.74 | -90 | — | 0.000 | |
| 17 | P 16 | 2.04 | -5 | 050 | 2.032 | |
| 18 | ~~Q~~ R 17 | 12.52 | +90 | — | 0.000 | |
| 19 | ~~K~~ Q 18 | 0.84 | +22 | 316 | 0.779 | |
| 20 | S 19 | 3.89 | +38 | 329 | 3.065 | |
| 21 | T 20 | 3.28 | -20 | 326 | 3.082 | |
| 22 | U 21 | 1.87 | +2 | 332 | 1.869 | |

| Vertical Distance (sin A × L) | Cumulative Vertical Distance | Horiz Distance North (cos A × L) | Cumulative Horiz Distance North | Horiz Distance East (sin A × L) | Cumulative Horiz Distance East |
|---|---|---|---|---|---|
| | -19.456 | | | | |
| 1.651 | ~~-44.496~~ | 3.614 | 7.522 | 0.834 | 5.460 |
| | -17.805 | | | | |
| | ~~-62.845~~ | | 11.136 | | 6.294 |
| | -19.521 | | | | |
| -0.324 | ~~-44.561~~ | -3.525 | 5.872 | -1.145 | 6.337 |
| | -19.845 | | | | |
| -1.450 | ~~-44.885~~ | -3.120 | 2.347 | 1.389 | 5.192 |
| | -21.295 | | | | |
| 0.975 | ~~-46.335~~ | 0.188 | -0.773 | -0.579 | 6.581 |
| | -20.320 | | | | |
| | ~~-45.360~~ | | -0.585 | | 6.002 |
| 0.338 | -33.451 | -1.839 | -1.176 | 2.043 | 8.623 |
| 0.340 | -33.113 | -1.557 | -3.015 | -0.793 | 10.666 |
| 4.706 | -32.773 | -2.603 | -4.572 | 1.105 | 9.873 |
| 0.262 | -28.067 | -2.030 | -7.175 | -0.659 | 10.978 |
| 0.000 | -27.805 | -4.651 | -9.205 | 1.693 | 10.319 |
| -1.600 | -27.805 | 0.000 | -13.856 | 0.000 | 12.012 |
| | -29.405 | | | | |
| 0.000 | ~~-25.485~~ | -1.524 | -13.856 | -0.880 | 12.012 |
| | -29.405 | | | | |
| -4.000 | ~~-25.485~~ | 0.000 | -15.380 | 0.000 | 11.132 |
| | -33.405 | | | | |
| 0.000 | ~~-21.485~~ | 4.015 | -15.380 | -5.734 | 11.132 |
| | -33.405 | | | | |
| | ~~-21.485~~ | | -11.365 | | 5.398 |
| -10.000 | -29.405 | 0.000 | -15.380 | 0.000 | 11.132 |
| -2.176 | -39.405 | -0.163 | -15.380 | 4.664 | 11.132 |
| -1.614 | -41.581 | -2.998 | -15.543 | 1.731 | 15.796 |
| -0.631 | -43.195 | 0.382 | -18.541 | -2.168 | 17.527 |
| -2.151 | -43.826 | -1.616 | -18.159 | 0.463 | 15.359 |

B37

| Stn | Sloping Distance | Inc | Dec | Horizontal Distance (cos A × L) | Cumulative Horizontal Distance |
|---|---|---|---|---|---|
| Y 24 | 4·06 | +24 | 013 | 3·709 | |
| W 23 | | | | | |
| | | | | | |
| U 21 | 3·72 | −5 | 198 | 3·706 | |
| X | 3·71 | −23 | 156 | 3·415 | |
| Y | 1·15 | +58 | 288 | 0·609 | |
| L 12 | | | | | |
| | | | | | |
| P 16 | 2·77 | +7 | 132 | 2·749 | |
| AA 26 | 1·78 | +11 | 207 | 1·747 | |
| BB 27 | 5·49 | +59 | 157 | 2·828 | |
| CC 28 | 2·15 | +7 | 198 | 2·134 | |
| DD 29 | 4·95 | 0 | 160 | 4·950 | |
| EE/31 30 | 1·60 | −90 | — | 0·000 | |
| 32 31 | 1·76 | 0 | 210 | 1·760 | |
| 33 32 | 4·00 | −90 | — | 0·000 | |
| ~~38~~ 38' | 7·00 | 0 | 305 | 7·000 | |
| 34 | | | | | |
| | | | | | |
| 33 32 | 10·00 | −90 | — | 0·000 | |
| 35 | 5·15 | −25 | 092 | 4·667 | |
| 36 | 3·82 | −25 | 150 | 3·462 | |
| 37 | 2·29 | −16 | 280 | 2·201 | |
| 38 | 2·73 | −52 | 164 | 1·681 | |

| Vertical Distance (sin Δ × L) | Cumulative Vertical Distance | Horizontal Distance North (cos Δ × L) | Cumulative Horizontal Distance North | Horizontal Distance East (sin Δ × L) | Cumulative Horizontal Distance East |
|---|---|---|---|---|---|
| -0.794 | -45.977 | -2.514 | -19.775 | -3.218 | 15.822 |
| -3.521 | -46.771 | -3.401 | -22.289 | 0.911 | 12.604 |
| -3.270 | -50.292 | 0.000 | -25.690 | 0.000 | 13.515 |
| 0.000 | -53.562 | 1.416 | -25.690 | 0.199 | 13.515 |
| -1.650 | -53.562 | 0.000 | -24.274 | 0.000 | 13.714 |
| -1.942 | -55.212 | 3.980 | -24.274 | -0.139 | 13.714 |
| 0.000 | -57.154 | 1.351 | -20.294 | 3.520 | 13.575 |
| 0.000 | -57.154 | -0.487 | -18.943 | -1.270 | 17.095 |
| | -57.154 | | -19.430 | | 15.825 |
| -11.800 | -45.977 | 0.000 | -19.775 | 0.000 | 15.822 |
| | -57.777 | | -19.775 | | 15.822 |
| | | | | | |
| -29.300 | -45.977 | 0.000 | -19.775 | 0.000 | 15.822 |
| 0.000 | -75.277 | 6.126 | -19.775 | 0.214 | 15.822 |
| -10.730 | -75.277 | 0.000 | -13.649 | 0.000 | 16.036 |
| -0.620 | -86.007 | 3.075 | -13.649 | -1.705 | 16.036 |
| -1.685 | -86.627 | -2.203 | -10.574 | -1.915 | 14.331 |
| | -88.312 | | -12.777 | | 12.416 |
| | | ~~3.081~~ | | ~~1.437~~ | |
| -7.216 | -39.405 | 3.081 | -15.380 | 1.437 | 11.132 |
| -0.457 | -46.621 | 1.493 | -12.299 | -1.298 | 12.569 |
| 0.000 | -47.078 | 1.028 | -10.806 | 1.934 | 11.271 |
| +0.356 | -47.078 | 1.761 | -9.778 | -1.824 | 13.205 |
| -6.606 | -46.722 | 3.978 ~~3.833~~ | -8.017 | -1.103 | 11.384 |

B39

| Stn | Sloping Distance | Inc | Dec | Horizontal Distance (cos∠ × L) | Cumulative Horizontal Distance |
|---|---|---|---|---|---|
| 39 | 4·16 | -11 | 232 | 4·084 | |
| 40 | 4·98 | -45 | 165 | 3·521 | |
| 41 | 3·27 | -90 | — | 0·000 | |
| 42 | 1·43 | 0 | 008 | 1·430 | |
| 43 | 1·65 | -90 | ~~—~~ | 0·000 | |
| 44 | 4·43 | -26 | 358 | 3·982 | |
| 45 | 3·77 | 0 | 069 | 3·770 | |
| 46 | 1·56 | 0 | 249 | 1·360 | |
| 54 | | | | | |
| 39 | 11·80 | -90 | — | 0·000 | |
| 54 | | | | | |
| 39 | 29·30 | -90 | — | 0·000 | |
| ~~47~~/80 (55) | 6·13 ~~5·20~~ | 0 | 002 ~~340~~ | 6·130 | |
| ~~48~~ 81 (56) | 10·73 | -90 | ~~320~~ | 0·000 | |
| ~~49~~ 82 (57) | 3·57 | -10 | 331 | 3·516 | |
| 83 (58) | 3·37 | -30 | 221 | 2·919 | |
| 68/84 | | | | | |
| 35 | 8/25 | -61 | 025 | 3·400 | |
| 50 | 2·03 | -13 | 319 | 1·978 | |
| 51 | 2·19 | 0 | 062 | 2·190 | |
| 52 | 2·56 | +8 | 314 | 2·535 | |
| 53/60 | 7·79 | -58 | 344·5 | 4·128 | |

| Vertical Distance (sin Δ×L) | Cumulative Vertical Distance | Horizontal Distance North (cos Δ×L) | Cumulative Horizontal Distance North | Horizontal Distance East (sin Δ×L) | Cumulative Horizontal Distance East |
|---|---|---|---|---|---|
| −3·020 | −53·328 | 0·110 | −4·039 | −0·410 | 10·288 |
| −3·913 | −56·348 | −2·649 | −3·929 | 2·695 | 9·878 |
| −1·078 | −60·261 | −2·233 | −6·578 | −1·212 | 12·568 |
| −3·673 | −61·339 | 0·177 | −8·811 | 2·028 | 11·356 |
| −3·300 | −65·012 | 0·000 | −8·634 | 0·000 | 13·384 |
| −22·170 | −68·312 | 0·000 | −8·634 | 0·000 | 13·384 |
| −1·094 | −90·482 | −2·507 | −8·634 | −1·660 | 13·379 |
| | −91·576 | note loop error | −11·141 | | 11·719 |
| | | | | | |
| −35·200 | −88·812 | 0·000 | −12·777 | 0·000 | 12·416 |
| −11·500 | −123·512 | 0·000 | −12·777 | 0·000 | 12·416 |
| +1·600 | −135·012 | 0·000 | −12·777 | 0·000 | 12·416 |
| −1·398 | −133·412 | 3·244 | −12·777 | 1·653 | 12·416 |
| −81·690 | −134·810 | 3·077 | −9·533 | −0·542 | 14·069 |
| +1·600 | −216·500 | 0·000 | −6·456 | 0·000 | 13·527 |
| +5·191 | −214·900 | 13·088 | −6·456 | 9·165 | 13·527 |
| | −209·709 | | 6·632 | | 22·692 |
| | | | | | |
| +3·248 | −216·500 | −5·810 | −6·456 | −0·765 | 13·527 |
| −0·847 | −213·252 | −4·168 | −12·266 | 1·274 | 12·762 |
| +1·533 | −214·099 | −0·858 | −16·434 | 0·773 | 14·036 |
| +0·702 | −212·566 | 1·285 | −17·292 | 2·755 | 14·809 |
| −5·117 | −211·864 | −1·823 | −16·007 | 2·173 | 17·564 |
| −49·580 | −216·981 | 0·000 | −17·830 | 0·000 | 19·737 |

(Ex1)

| Stn | Sloping Distance | Inc | Dec | Horizontal Distance (cos Δ × L) | Cumulative Horizontal Distance |
|---|---|---|---|---|---|
| 61 | 3.05 | -82 | 285 | 0.424 | |
| 62 | 5.44 | -46 | 134.5 | 3.779 | |
| 63 | 2.76 | -23 | 208.5 | 2.541 | |
| 64 | 4.20 | -61 | 085 | 2.036 | |
| 65 | 3.30 | -90 | — | 0.000 | |
| 66 | 22.17 | -90 | — | 0.000 | |
| 67 | 3.20 | -20 | 213.5 | 3.007 | |
| 68 | | | | | |
| | | | | | |
| 68 | 35.20 | -90 | — | 0.000 | |
| 69 | 11.50 | -90 | — | 0.000 | |
| 70 | 1.60 | +90 | — | 0.000 | |
| 70* | 3.90 | -21 | 027 | 3.641 | |
| 71 | 81.75 | -87.81 | 350 | 3.124 | |
| 72 | 1.60 | +90 | — | 0.000 | |
| 73 | 16.80 | +18 | 035 | 15.978 | |
| 74 | | | | | |
| | | | | | |
| 72 | 6.70 | +29 | 187.5 | 5.860 | |
| 75 | 4.44 | +11 | 163 | 4.358 | |
| 76 | 1.92 | +53 | 138 | 1.155 | |
| 77 | 3.12 | +13 | 065 ~~245~~ | 3.040 | |
| 78 | 5.85 | -61 | 130 | 2.836 | |
| 79 | 49.58 | -90 | — | 0.000 | |

| L × sin(inclination) | | cos(bearing) × Horiz dist | | sin(bearing) × Horiz dist | |
|---|---|---|---|---|---|
| Vertical Distance (sin∠ × L) | Cumulative Vertical Distance | Horizontal Distance North (cos∠ × L) | Cumulative Horizontal Distance North | Horizontal Distance East (sin∠ × L) | Cumulative Horizontal Distance East |
| +2.749 | -266.561 | -6.324 | -17.830 | +2.949 | 19.737 |
| -2.802 | -263.812 | -1.905 | | -0.285 | |
| -0.609 | -266.614 | 0.000 | | -0.975 | |
| -0.863 | -267.223 | -0.398 | | -0.873 | |
| -0.553 | -268.086 | -1.683 | | +0.252 | |
| -0.921 | -268.639 | -0.827 | | +1.696 | |
| -6.400 | -269.560 | 0.000 | | 0.000 | |
| -0.100 | -275.960 | -0.220 | | +0.603 | |
| -17.500 | -276.060 | 0.000 | | 0.000 | |
| -0.200 | -293.560 | -0.411 | | 1.533 | |
| | | | | | |
| +1.625 | -293.760 | 0.000 | | 0.000 | |
| -0.091 | -292.135 | -5.179 | | 0.453 | |
| -1.591 | -292.226 | -1.442 | | 0.672 | |
| 1.770 | -293.817 | | | | |
| 3.226 | -292.047 | | | | |
| 0.577 | -288.821 | | | | |
| 3.272 | -288.244 | | | | |
| -6.079 | -284.972 | | | | |
| -11.631 | -291.051 | | | | |
| -5.27 | -302.682 | | | | |
| 0.999 | -307.952 | | | | |
| 0.893 | -306.953 | | | | |
| -2.890 | ~~-309.343~~ | | | | |
| | -306.060 | | | | |

BH3

(L × cos[inclination])

| Stn | (L) Sloping Distance | Inc | (Bearing) Dec | Horizontal Distance (cos Δ × L) | Cumulative Horizontal Distance |
|---|---|---|---|---|---|
| 80 | 7·50 | +21·5 | 135 | 6·978 | |
| 81 | 3·40 | −55·5 | 188·5 | 1·926 | |
| 82 | 1·15 | −32 | 270 | 0·975 | |
| 83 | 1·29 | −42 | 245·5 | 0·959 | |
| 84 | 1·79 | −18 | 171·5 | 1·702 | |
| 85 | 2·10 | −26 | 116 | 1·887 | |
| 86 | 6·40 | −90 | — | 0·000 | |
| 87 | 0·65 | −9 | 110 | 0·642 | |
| 88 | 17·50 | −90 | — | 0·000 | |
| 89 | 1·60 | −7 | 105 | 1·587 | |
| ~~Stn~~ | | | | | |
| 90 | 1·625 | +90 | — | 0·000 | |
| 91 | 5·20 | −1 | 175 | 5·199 | |
| 92 | 2·25 | −45 | 155 | 1·591 | |
| 93\|95 | 2·31 | +50 | 338 | 1·484 | |
| 96 | 4·73 | +43 | 126 | 3·459 | |
| 97 | 1·12 | +31 | 161 | ~~96~~ 0·960 | |
| 98 | 9·13 | +21 | 150 | 8·523 | |
| 99 | 7·02 | −60 | 166 | 3·510 | |
| 100 | 12·10 | −74 | 033 | 3·335 | |
| 101 | 5·27 | −90 | — | 0·000 | |
| 102 | 1·70 | +36 | 105 | 1·375 | |
| 103 | 12·80 | +4 | 157 | 12·76 | |
| 104 | 3·12 | −50 | 164 | 2·005 | |

| Vertical Distance sin( ) * L | Cumulative Vertical Distance | Horizontal Distance North cos( ) * L | Cumulative Horizontal Dist North | Horizontal Distance East (sin( ) * L) | Cumulative Horizontal Distance East |
|---|---|---|---|---|---|
| -21.37 | -308.450 | | | | B44 |
| 15.35 | -323.800 | | | | |
| 1.761 | -308.450 | | | | |
| -0.064 | -306.689 | | | | |
| -3.598 | -306.753 | | | | |
| -4.757 | -311.510 | | | | |
| 3.801 | -316.267 | | | | |
| -5.411 | -312.466 | | | | |
| 4.402 | -317.877 | | | | |
| 3.585 | -313.475 | | | | |
| | -309.89 | | | | |
| 0.216 | [illegible] | | | | |
| 2.376 | -309.674 | | | | |
| -1.785 | [illegible] -307.298 | | | | |
| -3.225 | -309.083 | | | | |
| -100.63 | -312.308 | | | | |
| -3.730 | -412.938 | | | | |
| -1.372 | -414.310 | | | | |
| 3.283 | | | | | |
| 6.711 | | | | | |
| -0.152 | | | | | |

(145)

| Stn | Sloping Distance | Inc | (bearing) Dec | Horizontal Distance cos( ) x L | Cumulative Horizontal Distance |
|---|---|---|---|---|---|
| 105 | 21.37 | -90 | — | 0.000 | |
| 106 | 22.10 | +44 | 191 | 15.897 | |
| 107 | 7.83 | +13 | 262 | 7.629 | |
| 108 | 3.70 | -1 | 172 | 3.699 | |
| 109 | 6.79 | -32 | 203 | 5.758 | |
| 110 | 7.40 | -40 | 249 | 5.668 | |
| 111 | 6.04 | +39 | 110 | 4.694 | |
| 112 | 7.17 | -49 | 081 | 4.704 | |
| 113 | 6.02 | +47 | 342 | 4.106 | |
| 114 | 6.96 | +31 | 303 | 5.966 | |
| 107 | | | | | |
| | | | | | |
| 113 | 6.20 | +2 | 277 | 6.196 | |
| 115 | 3.42 | +44 | 181 | 2.460 | |
| 116 | 2.57 | -44 | 157 | 1.849 | |
| 117 | 4.34 | -48 | 192 | 2.900 | |
| 118 | 100.63 | -90 | — | 0.000 | |
| 119 | 6.67 | -34 | 006 | 5.530 | |
| 120 | 2.52 | -33 | 028 | 2.113 | |
| 121 | | | | | |
| | | | | | |
| 41/FA | 4.86 | +42.5 | 201 | 3.583 | |
| FB 142 | 7.83 | +59 | 218 | 4.033 | |
| FC 143 | 4.35 | -2 | 133 | 4.347 | |

B47

| Stn | | Sloping Distance | Inc | Dec | |
|---|---|---|---|---|---|
| FD | 144 | 7·23 | +71 | 136 | 2·354 |
| FE | 145 | 3·68 | +83 | 271 | 0·448 |
| FF | 146 | 3·23 | +82 | 262 | 0·450 |
| FG | 147 | 11·10 | +83 | 217 | 1·353 |
| FH | 148 | 4·46 | +70 | 272 | 1·525 |
| FI | 149 | 2·09 | -48 | 222 | 1·398 |
| FJ | 150 | 2·09 | -32 | 339 | 1·772 |
| FK | 151 | 2·75 | +4 | 213 | 2·743 |
| FL | 152 | 1·63 | +4 | 154 | 1·626 |
| FM | 153 | 2·35 | +1 | 283 | 2·350 |
| FN | 154 | 3·20 | -49 | 172 | 2·099 |
| FO | 155 | 12·30 | +50 | 271·5 | 7·906 |
| FP | 156 | ~2·5 | ~+80 | 285 | 0·434 |
| FQ | 157 | | | | |

that I failed to recognise the pitch head (funny don't remember doing a chargeover on the way down) until I fell over Ukeys rucksack. No comment. Mammoth haul of rope out was not done in the most efficient manner (eroded to core - sorry!) - Ukey + I called Boris while Jeffyn felt sick. As it was dark ie v 12:10 am when we emerged, the initial plan to walk back to Lago was somewhat modified - & we spent v 4hrs stumbling across to T.C., Ukey carrying Boris + Jeffyn 2 tackle bags. Navigation was a bit tricky, especially as each time we stopped, 2 people would doze off. At last got back to Bog Alley after numerous stops at snow fields to refill Jeffyns generator (Troll overcoat had a few close shaves there) + so to T.C. Heated up minced beef + pdq emptied the dore tent + crawled in, mucky lack of pits + karrimats. Whatever Ukey says, it was cold.

My 1st SRT trip - none of us were really with it + so made a bit of a meal of it ("or if you're slow" was the initial estimate) Walk from F20 → T.C. made the previous days ~~scramble~~ amble down the Canas Gorge path in darkness seem like a Sunday morning stroll in Loath Park. Not for the faint hearted. Nice cave though. Can't think of owt else to report as am sitting on Santander → Plymouth ferry with a spirit boat making in my leg holes.

CM

(B+E)

Sunday 19th Aug. FZ0 (Andy's Hole) Derigging

Jeslyn, Ukey, Chris.

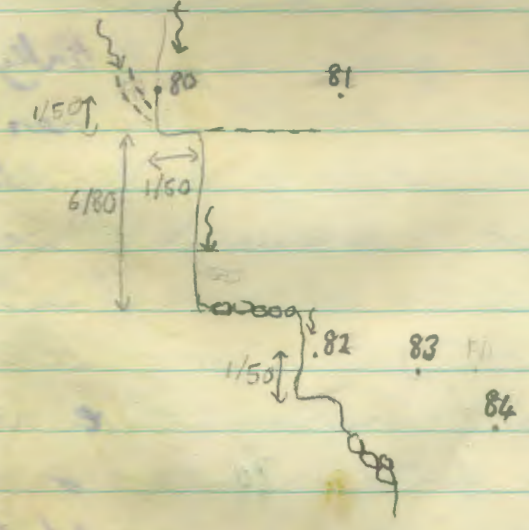
Messed about in the morning, which meant walking up to Fio from B.C. in the dirt, the dust & the heat. Collected cave gear from Fio & were given elaborate description of tackle in cave by Ian, which we only ½ listened to. Walked v. slowly up to T.C. with Ian who promptly started to demolish a few tents. Eventually wandered in the direction of FZ0 & then remembered we had no tackle bags & sent back Ukey for a couple. At the entrance a decisively change - "This is a brand new overcuit - it has no nicks in it" quothe Jeslyn, stinky flame sizzling the knee of aforesaid suit. Mmmm?? Ukey zapped down 1st pitch & short ladder pitch, I fiddled about with all the borrowed gear & eventually followed down to the saddle. T'others started de-tackling with Ukey at bottom of Easy Rider pitch. Silence for quite a while then a plaintive "Didn't Ian say there was some tackle at the bottom - like a [illegible] rope & bolting kit" from Ukey. Pause. "Er, hmm, could be, think so, yeh, 'somat like that". So back again to retrieve it. Sat with Ukey eating that "(my teeth are very strong the calcium runs in the family (?))" chocolate at the snow after getting in a panic over the traverse (never have liked them). Ascending entrance pitch was fine, except

* Drawing. (BSC)

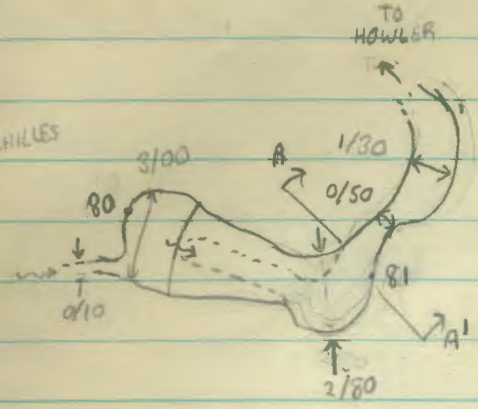
Achilles Rift (Down) Survey F7 Phil and Tan* 28/7/84

| Station | Compass | Clino | Distance | Height at Stn | Width at Stn |
|---|---|---|---|---|---|
| 47 = 80 | | | | | |
| 80 → 81 SS → S6 | 002 | 00 | 6/13 | 1/50 (at 80) | 3/00 |
| 81 → 82 S6 → S7 | - | -90 | 10/73 | | |
| 82 → 83 S7 → S8 | 331 | -10 | 3/57 | 1/50 (at 82) | 1/20 (at 82) |
| 83 → 84 S8 → S9 | 221 | -30 | 3/37 | - | 0/60 (at 84) |

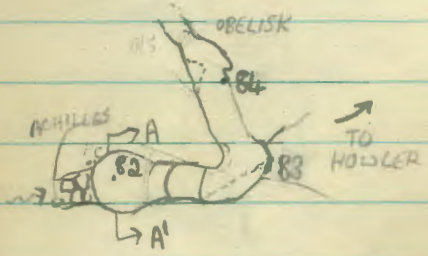
Obelisk knot = 84



B51




Plan at 80 + 81 Height




PLAN AT BASE OF HOWLER / CONNECTION WITH ACHILLES

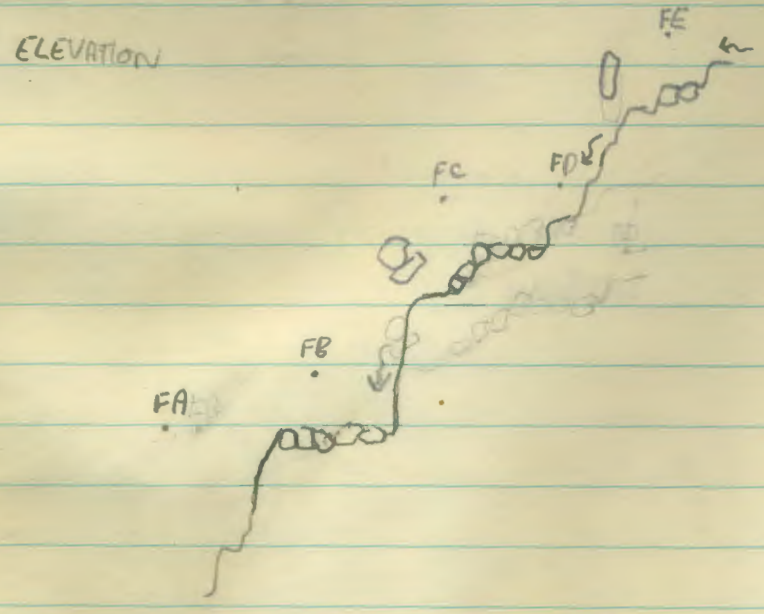

XSection along AA' showing pitch to Obelisk

* Drawing B52

28/7/84 Achilles Rift (cup) Survey F7 Phil and Ian*

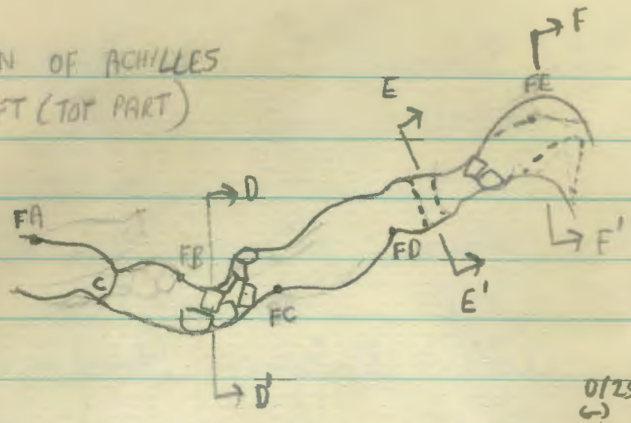
| Station | Compass | Clino | Distance | Widths at Stn | Height from Floor |
|---|---|---|---|---|---|
| FB → FA 142-41 | 021 | -42/5 | 4/86 | 0/75 (FB) | 1/30 (FB) |
| FB → FC 142-143 | 218 | +59 | 7/83 | 1/50 (FC) | → |
| FD → FC 144-143 | 313 | +02 | 4/35 | 0/70 (FD) | 1/30 (FD) |
| FD → FE 144-143 | 136 | +71 | 7/23 | 1/00 (FE) | 3/00 (FE) |

Note FA = 41

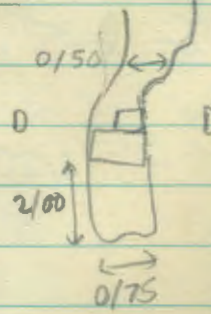


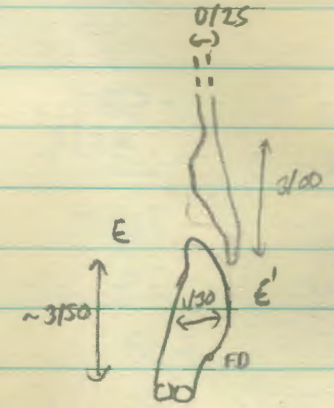
B53

PLAN OF ACHILLES RIFT (TOP PART)



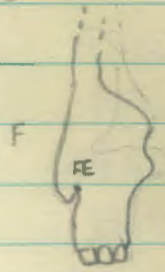

XSect DD'




XSect at rock bridge (FD projected onto Section)

XSect AA'



BST

BASTARD RIFT → HOT TUB  F7 Survey  Ian, Mike, Sean  29/7/84

| Station | Compass | Clino | Distance | Ht. at Stn. | Width at Stn. |
|---|---|---|---|---|---|
| 95 = 93 | | | | | |
| 96 → 95 | 158 | -50 | 2/31 | - | 0/27 (95) |
| 97 → 96 | 306 | -43 | 4/73 | 3/97 (96) | - |
| 98 → 97 | 341 | -31 | 1/12 | - | 0/60 (97) |
| 99 → 98 | 330 | -21 | 9/13 | 1/20 | 0/60 (99) |
| 100 → 99 | 346 | +60 | 7/02 | - | - |
| 101 → 100 | 213 | +74 | 12/10 | - | - |
| 102 → 101 | - | +90 | 5/27 | 1/70 (102) | 4/10 (102) |
| 103 → 102 | 285 | -36 | 1/70 | - | - |
| 104 → 103 | 337 | -04 | 12/80 | - | - |
| 105 → 104 | 344 | +50 | 3/12 | - | - |
| 105 → 106 | - | -90 | 21/37 | 1/00 (106) | - |
| 107 → 106 | 011 | -44 | 22/10 | - | - |
| 108 → 107 | 082 | -13 | 7/83 | 1/00 (108) | - |
| 109 → 108 | 352 | +01 | 3/70 | 1/00 (109) | - |
| 109 → 110 | 203 | -32 | 6/79 | 1/00 (110) | |

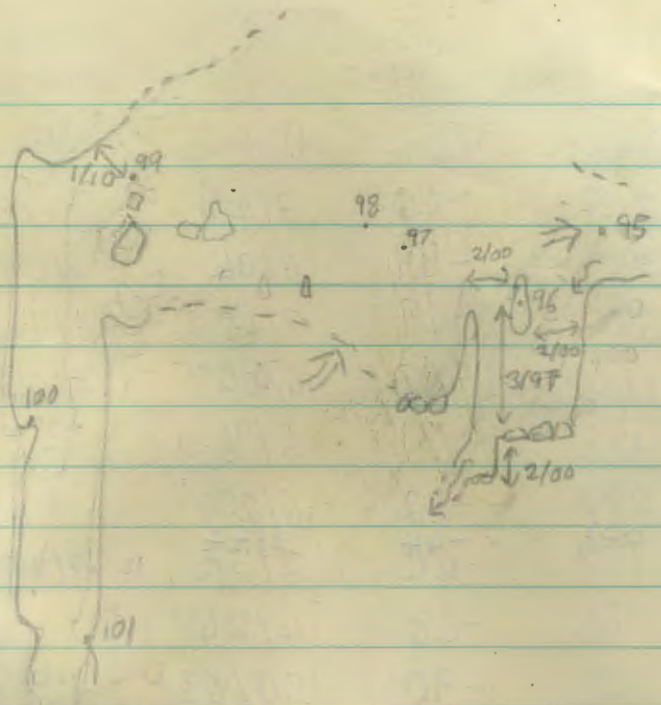
BSC

| Station | Compass | Clino | Distance | Height at Stn. | Width at Stn |
|---|---|---|---|---|---|
| 110 → 111 | 249 | -40 | 7/40 | 3/85 (111) | - |
| 112 → 111 | 290 | -39 | 6/04 | 1/00 (112) | - |
| 112 → 113 | 081 | -49 | 7/17 | 1/00 (113) | - |
| ~~NB.~~ 114 → 113 | 162 | -47 | 6/02 | 2/00 (114) | - |
| 107 → 114 | 123 | -31 (SSV.) | 6/96 | - | - |
| 113 → 115 | 277 | +02 | 6/20 | - | 0/73 (115) |
| ~~116 → 115~~ | ~~001~~ | ~~-44~~ | ~~3/42~~ | | |
| 116 → 117 | 157 | -44 | 2/57 | 0/20 (116) | 1/00 (116) |
| 117 → 118 | 192 | -48 | 4/34 | - | - |
| 118 → 119 | - | -90 | 100/63 | - | - |
| 120 → 119 | 186 | +34 | 6/67 | - | - |
| 121 → 120 | 208 | +33 | 2/52 | 0/00 | 0/60 |

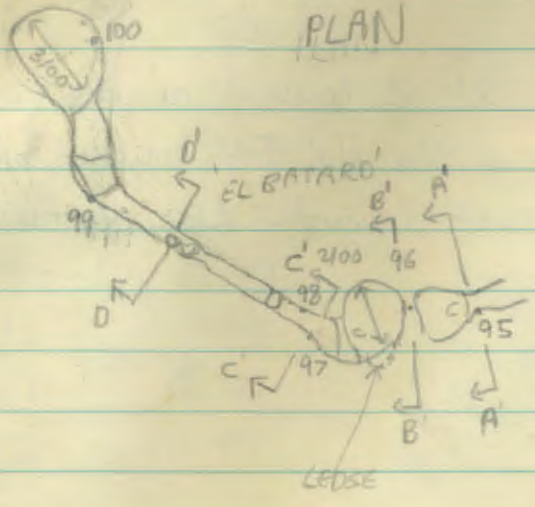
Station 121 is located at the entrance of the hole 'half way' up the Hot Tub boulder pile, that leads OUT of the cave towards LAGO VICTORIA in Torcada Blanca

856

'EL BATARD'
ELEVATION

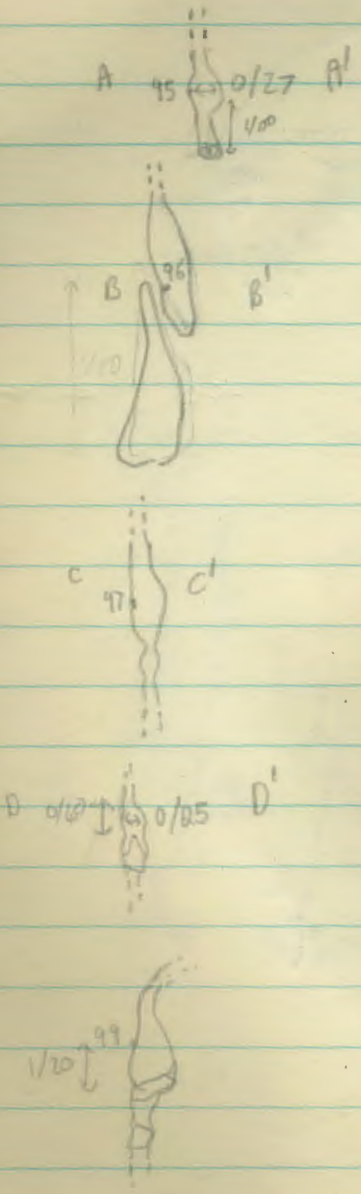



PLAN



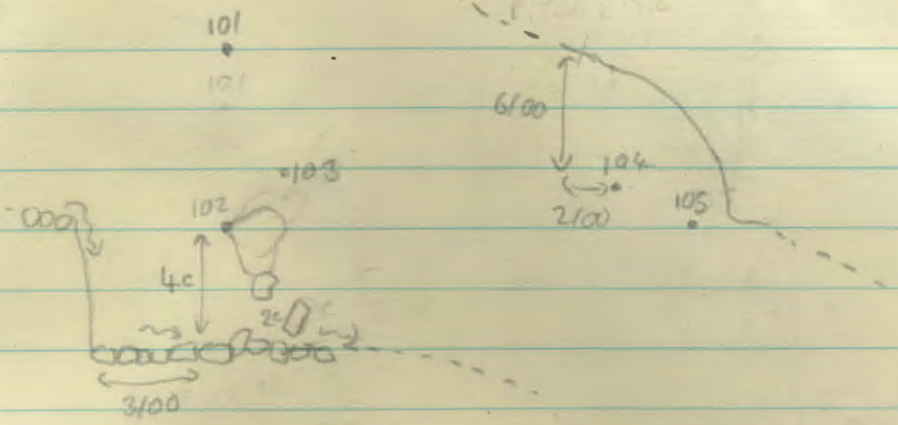
B57

# CROSS SECTIONS OF EL BATARD

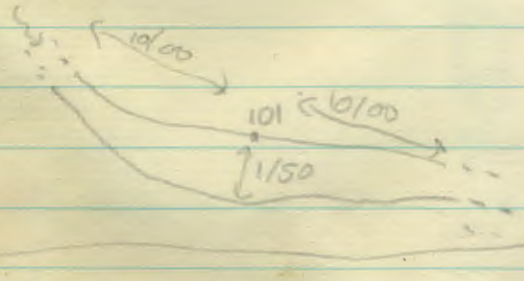


B58

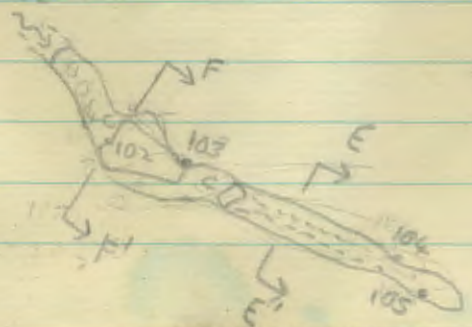
ELEVATION



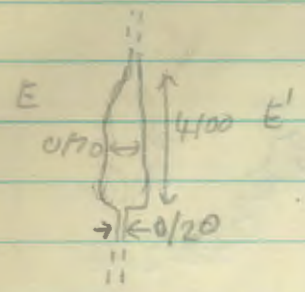

PLAN AT 101 STN HEIGHT



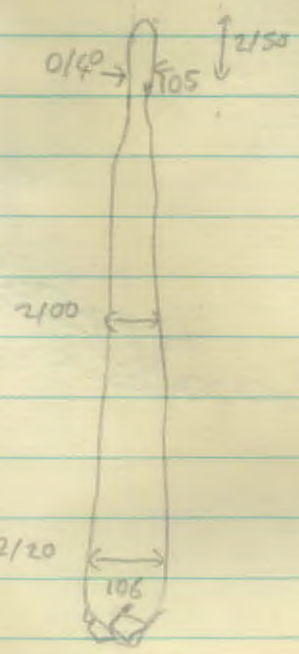

PLAN AT 102 STN HEIGHT



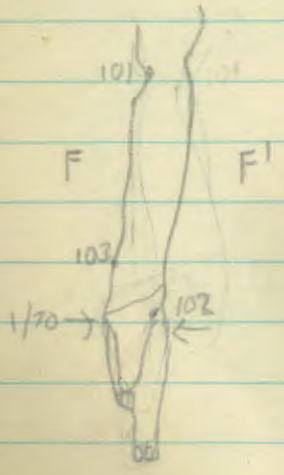
XSection EE'



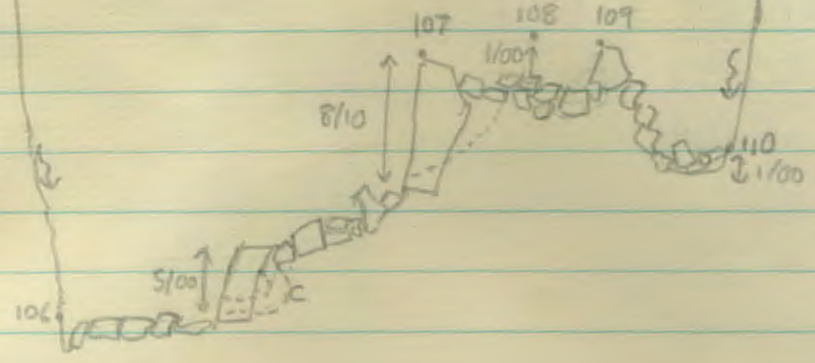

XSECTION
At STN 105



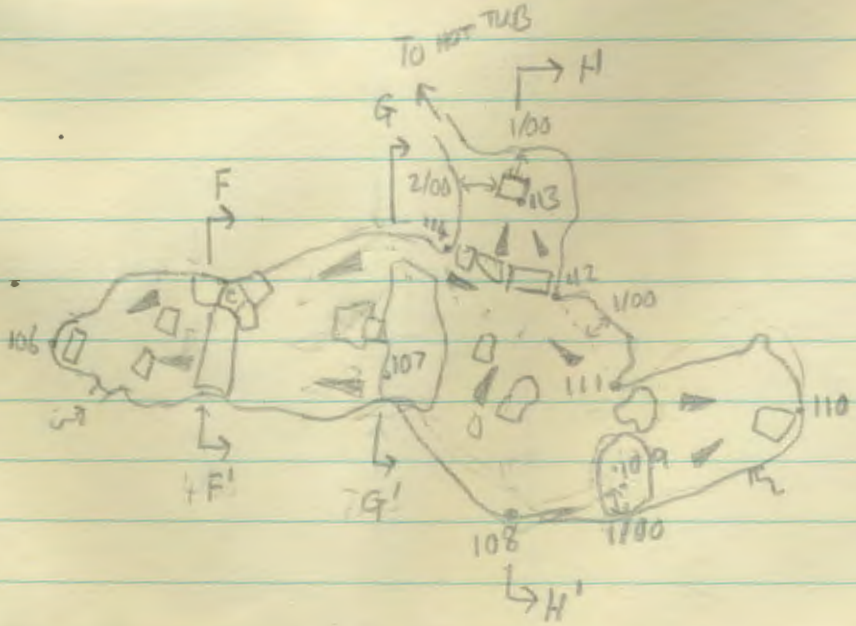

XSECTION FF'



ELEVATION OF BIG CHAMBER

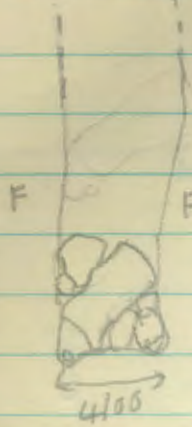



PLAN OF BIG CHAMBER

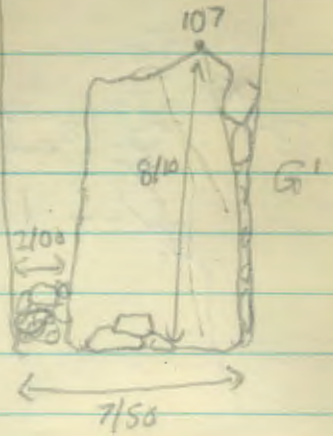


B61

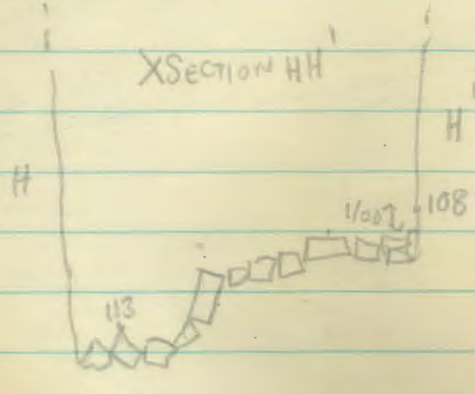
XSECTION FF'

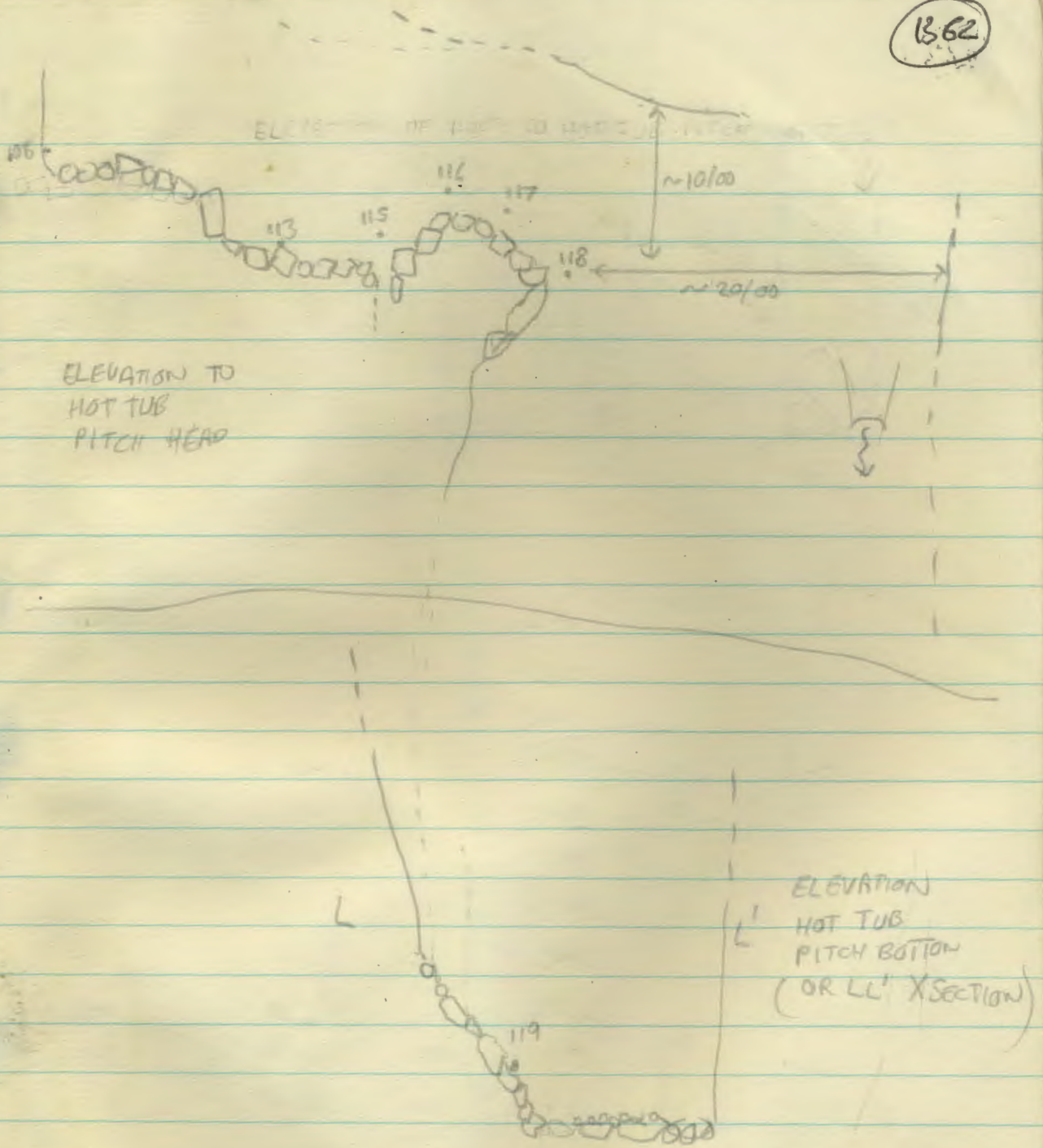



XSECTION GG'

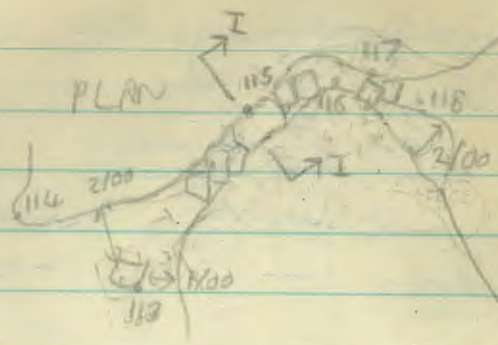


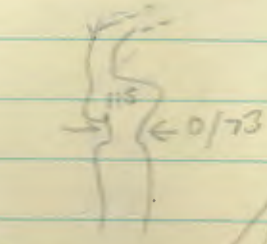

XSECTION HH'

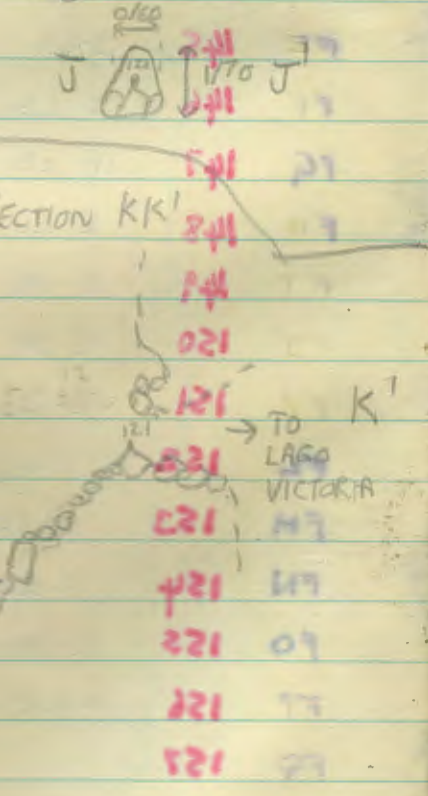


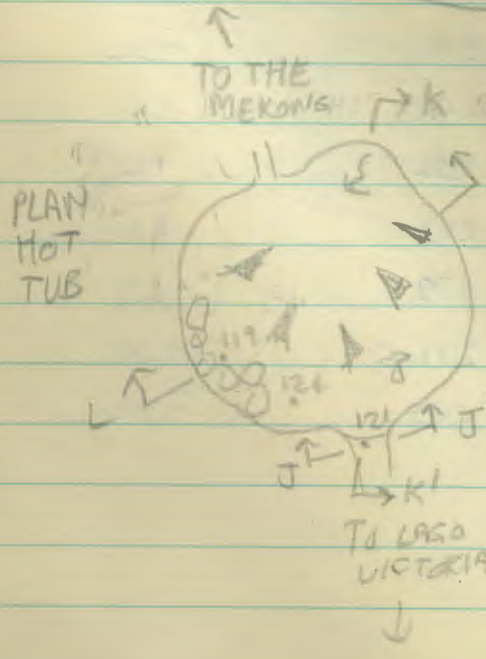

106
113
115
116
117
118
~10'00
~20'00
ELEVATION TO
HOT TUB
PITCH HEAD
L
L'
119
ELEVATION
HOT TUB
PITCH BOTTOM
(OR LL' XSECTION)

B63


PLAN
I
115
117
116
116
2/00
114
2/00
1/00
113
I
HOT TUB


XSection II'
115
0/73


XSECTION JJ'
0/00
J
1/70
J'
XSECTION KK'
121
TO LAGO VICTORIA
K
K'

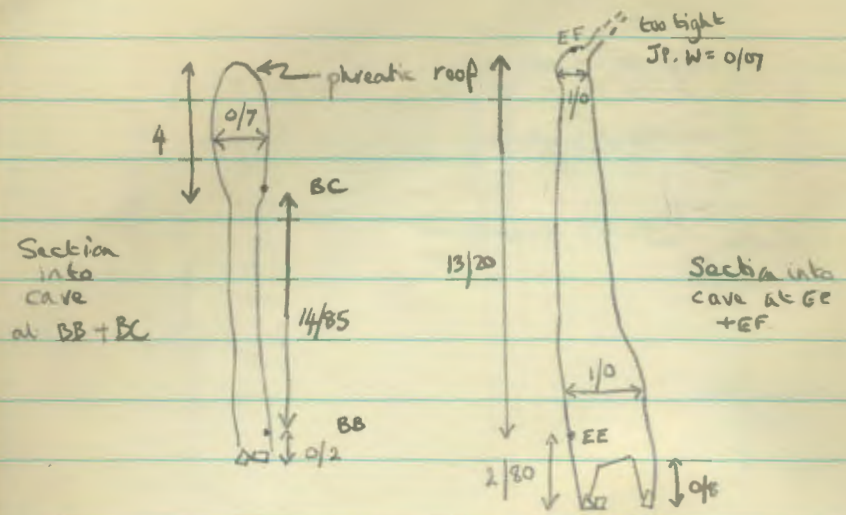

TO THE MEKONG
K
L'
PLAN HOT TUB
119
124
121
J
J'
K'
TO LAGO VICTORIA

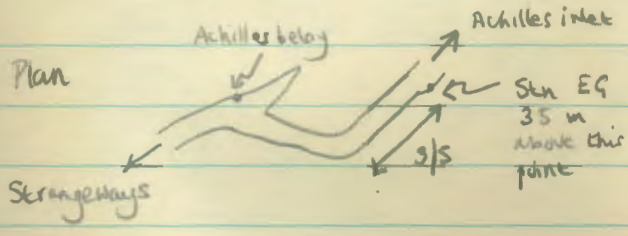
(B64)

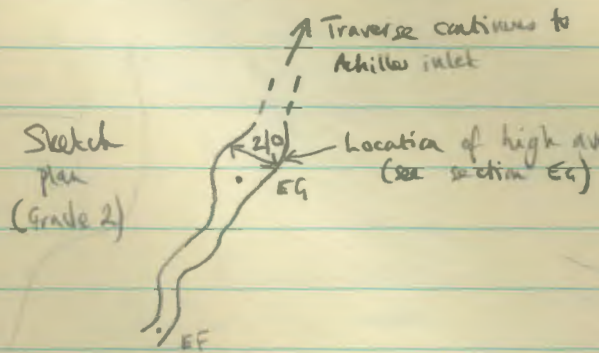
29 July 1984 Survey: Strangeways Rift, Achilles Inlet.
Stephen G., Phil R., Ukey.

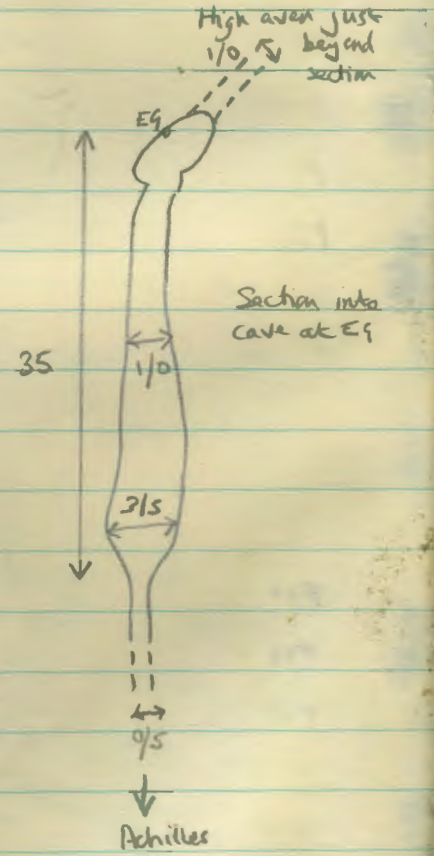
| SEN | | Sloping Distance (m) | Declination (degrees) | Inclination (degrees) |
|---|---|---|---|---|
| BB | | 14.85 | — | +90 |
| BC | | | | |
| EE | | 13.20 | — | +90 |
| EF | | | | |
| FE | 145 | 3.68 | 271 | +83 |
| FF | 146 | 3.23 | 262 | +82 |
| FG | 147 | 11.10 | 217 | +83 |
| FH | 148 | 4.46 | 272 | +70 |
| FI | 149 | 2.09 | 222 | -48 |
| FJ | 150 | 2.09 | 339 | -32 |
| FK | 151 | 2.75 | 213 | +4 |
| FL | 152 | 1.63 | 154 | +4 |
| FM | 153 | 2.35 | 283 | +1 |
| FN | 154 | 3.20 | 179 | -49 |
| FO | 155 | 12.30 | 271.5 | +50 |
| FP | 156 | ~2.5 | 285 | ~+80 |
| FQ | 157 | | | |

B65

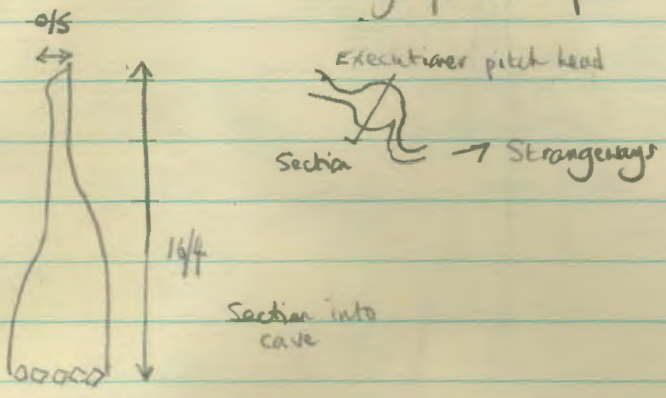

phreatic roof
4
0/7
BC
14/85
BB
0/2
Section into cave at BB + BC
EE
too tight
Jp. W = 0/07
1/0
13/20
Section into cave at EE + EF
1/0
EE
2/80
0/6

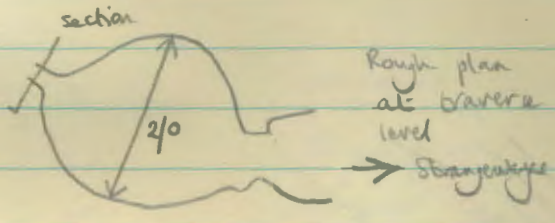

Achilles below
Achilles inlet
Plan
Strangeways
Stn EG
35 m
above this point
3/5


Traverse continues to Achilles inlet
Sketch plan (Grade 2)
2/0
Location of high aven (see section EG)
EG
EF

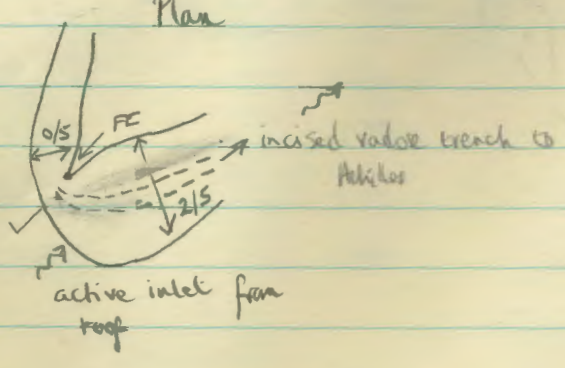

High aven just beyond section
1/0
EG
Section into cave at EG
35
1/0
3/5
0/5
Achilles

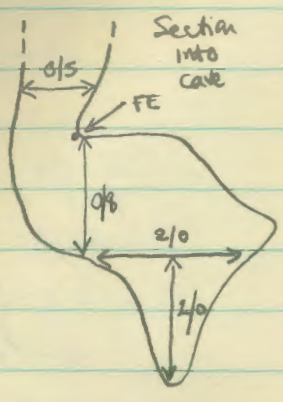
Executioner rift sketches



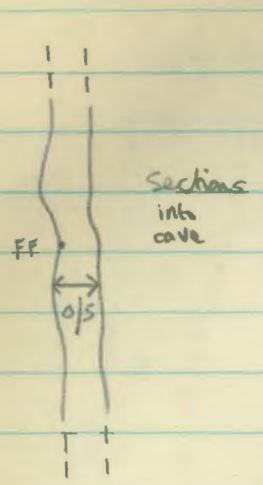



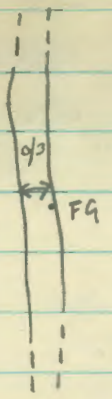

Achilles inlet sketches

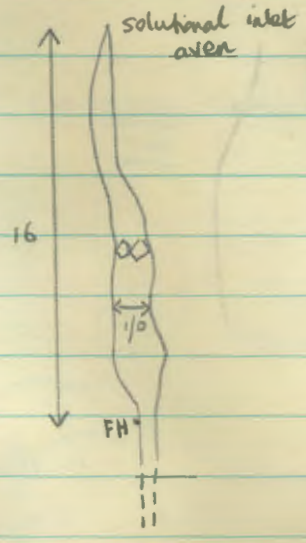


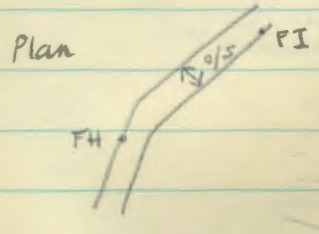



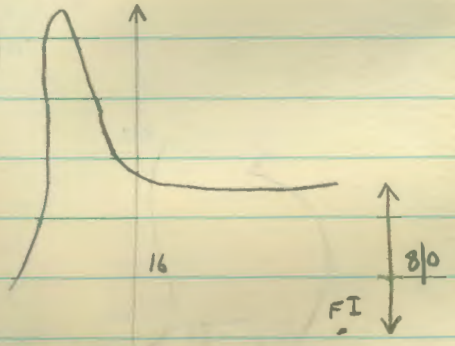
B57

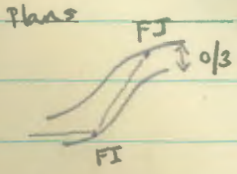


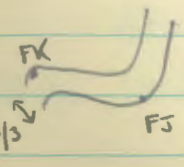



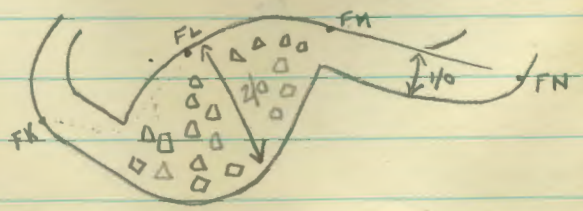



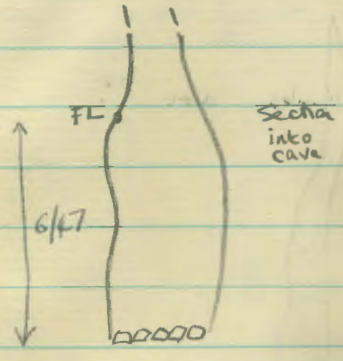

Roof ~ 8 m above FJ, floor not visible


elevation through roof - floor not visible



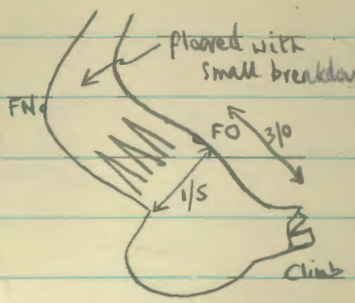

Height of FL above floor = 6/47

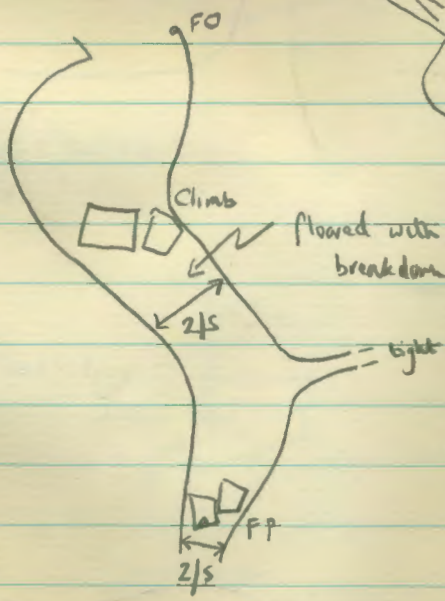





· FN is 5/58 m above floor strewn with small breakdown

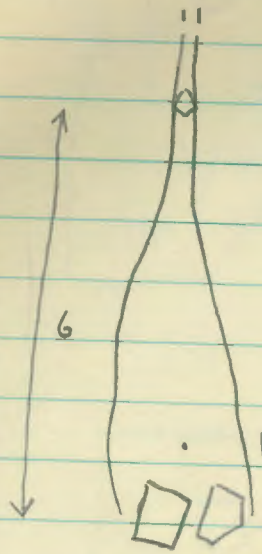
Plans



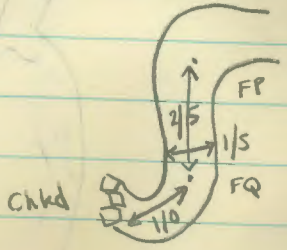

Stn FP = 2/5 m above floor

(369)

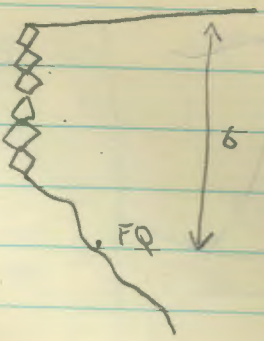



FQ ~ 10m above FP floor

Section into cave




~~Collapsed boulders~~ a flow

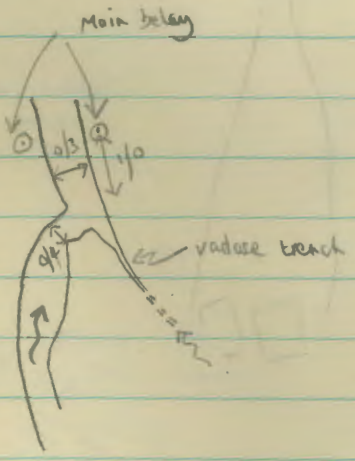


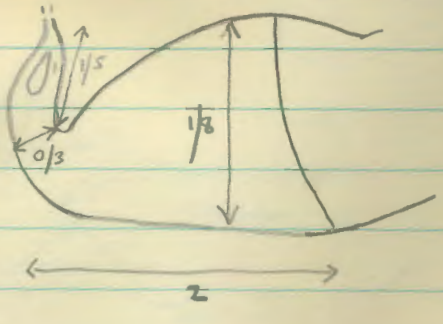
(B70)

31 July 1984 Survey: Achilles, Nostril, Bogie. Stephen G.

Note calcite vein aligned 020 in Obelisk.

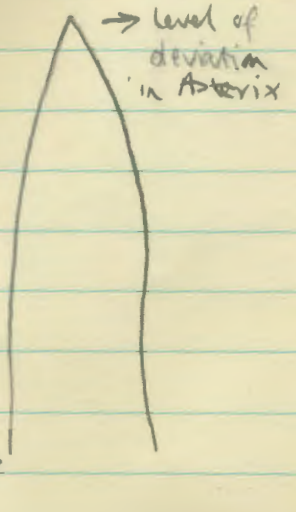
Plan: rebelay 2 on Achilles



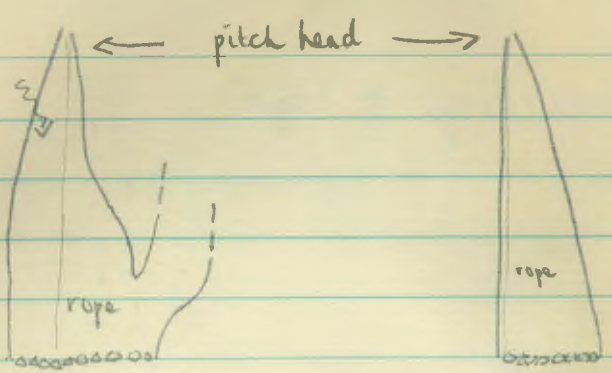




Plan: top of Nostril

Elevation from 200 degrees, head of Nostril.

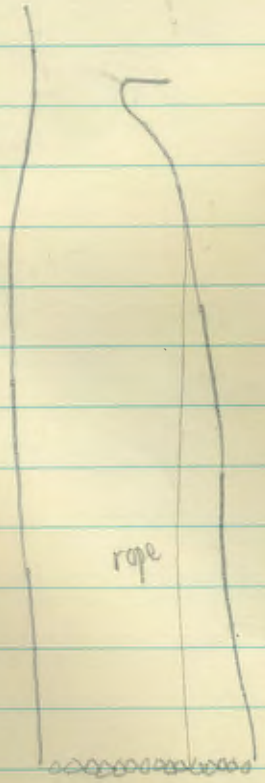


871




Elevations

Nostril

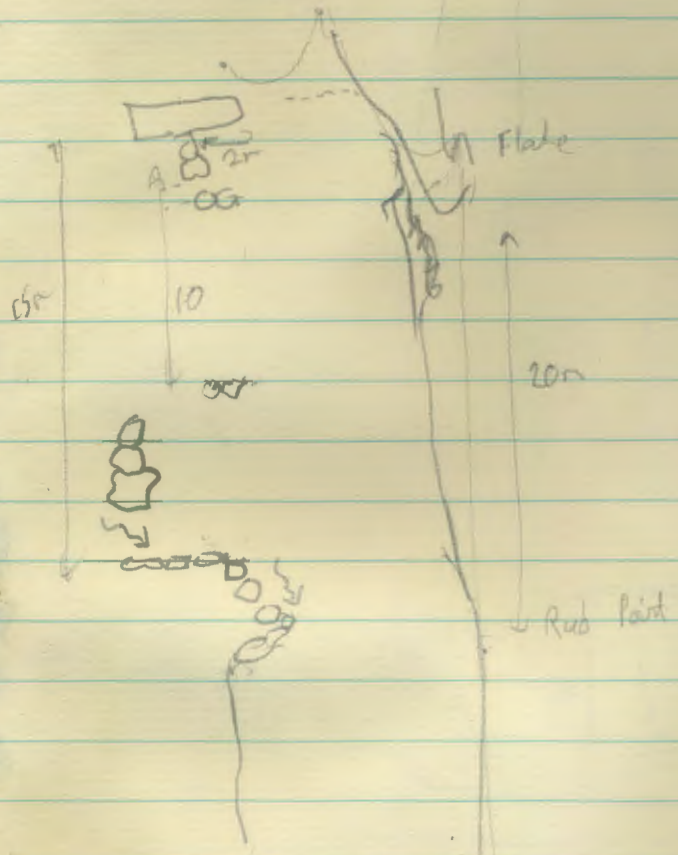



Bogie

B72
end

# Sketch Plans / Diags of Bogie

ELEVATION




Plan