

(31)

INSTRUCTIONS FOR READING METEOROLOGICAL INSTRUMENTS

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

i) Rain Gauge :

- (i) Insert in 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, and funnel
- (iii) To measure rainfall, pour water (or melted snow applicable) from bottle into measuring cylinder. Read amount of precipitation from base of meniscus.
- (iv) If the rain gauge bottle has overflowed into the bucket, add water from bucket to measuring cylinder before taking reading
- (v) Record reading in tables in this log book

- v) 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 rain gauge contents (or something similar), be honest: it's 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.

(83)

Please put sun-glasses/hood/cover and approx height of clouds (~~with~~ below you) at various times of the day, if you can, + any other general observations of the weather.

Date	Rain	Temperature		Comments or Observations
		Max	Min	
(0900h) 14/7	Nil	—	7°C	Cloud level below ridges to North Los Lagos? + Nat extensive slight breeze.
15/7	Nil	38°C	8°C	NONE
16/7	Nil	35°C	6°C	Cloud at Ario level.
17/7	Nil	32°C	8°C	Very little cloud at all, even valley of cages is visible
18/7	Nil	32°C	? (14°C on thermometer - needle probably jagged down!)	No cloud as yesterday
19/7	None	16°C (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°C	15°C	Cloud level below ridges to North. Some wispy high level cloud. Fairly calm. Strong winds again in violent gusts last night.
21/7	None	33°C	12°C	Clouds slightly below Ario level; rather wispy high level clouds. Cloud level higher gauge. Calm. Low level clouds thinned out greatly in Thermometer relocated at shade site - prev. one readings (taken in a tent) probably spurious 1/8 cloud cover. Mist over Los Lagos
22/7	Nil	4.3	12.7°C	
23/7	Nil	21.9	15.5	1/8 Cloud cover. Mist over Los Lagos Gusty
24/7	Fog was at dawn	22.5	7.5	Mist at 8am SKM also hazy at 9.

TEMPERATURE
(°C)

DATE
(0900)

RAIN
FALL

MAX MIN

COMMENTS, OBSERVATIONS

DATE (0900)	RAIN FALL	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 Arno/Bobias}
S 28.7.84	Nil	17.5	13.0	0/8 cloud cover. Visibility good. ^{Mist lower or below}
S 29.7.84	Nil	22.2	14.9	0/8 Cloud. Hazy. ^{Rain + high winds prob assoc with front at 2000 and 2700.}
M 30.7.84	0.5	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 ~ 0900-1100
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 rise. 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 Arno. ^{Cloud at Lagos}
T 7.8.84	Nil	6.5	13.0	0/8 cloud cover. Mist at Arno. 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. ^{gently falling from E.}
F 10.8.84	Nil	7.1	3.6	Taken 12 noon. 7/8 cloud cover - mist
S 11.8.84	Nil	8.9	3.6	1/8 cloud cover. Mist in valleys
S 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 Arno.
S 15.8.84	0	16.9	6.0	1/8 Cloud cover. Hazy in valleys.
M 20.8	0	20.9	13.1	

(15)

2

Handwritten notes in the top right corner, including the number "100" and some illegible scribbles.

Faint handwritten notes in the middle right section, including the number "100" and some illegible scribbles.

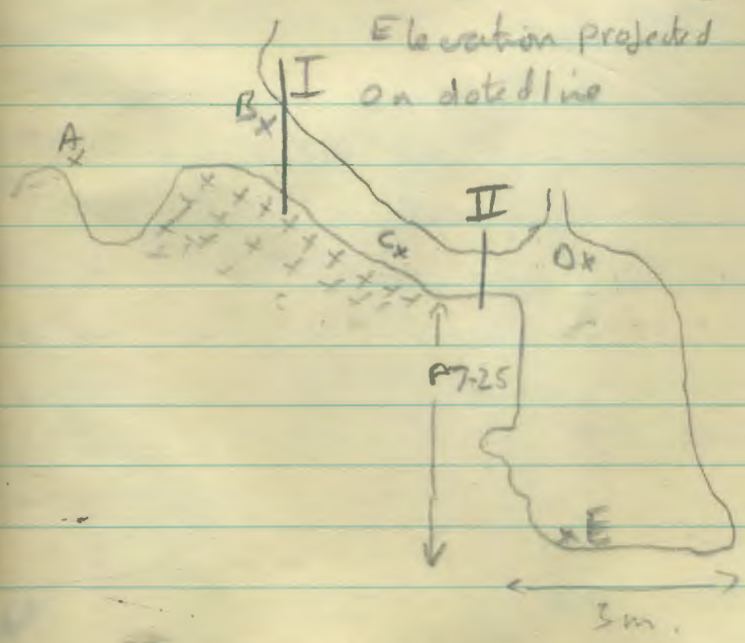
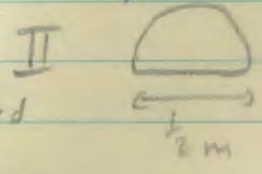
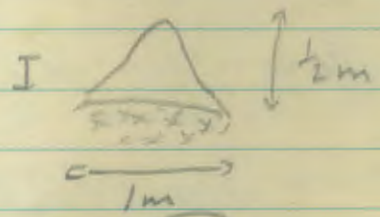
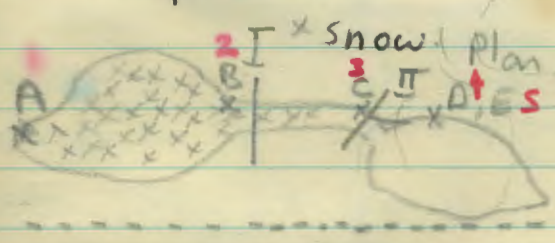
Small handwritten marks or symbols, including a pink asterisk-like shape and a blue mark.

Clino readings - = down + = up.

Survey Note For Pozo de las Perlicas.

16.7.84 - Survey from F7C to top of skranseways pitch.

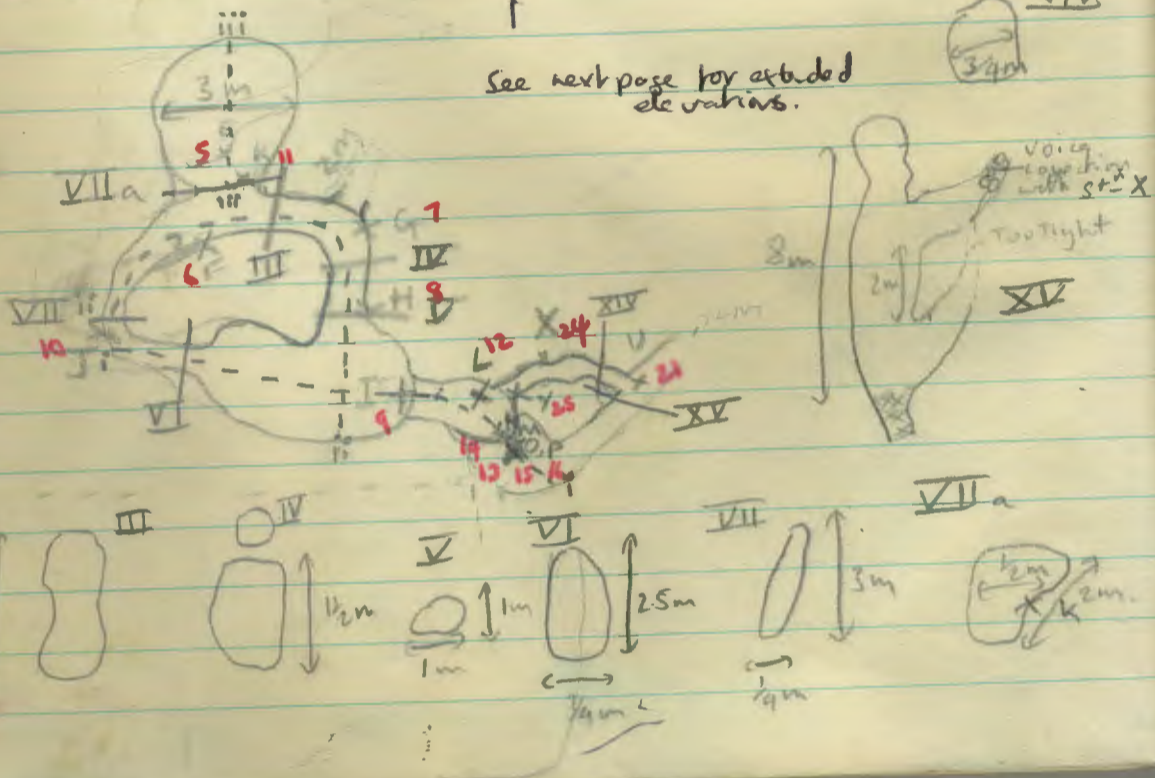
Stations	Tape	Compass	Clino
① A → B ②	5.94	177	+2°
③ C → B ②	4.49	017	+39°
③ C → D ④	1.34	248	+11°
④ D → E ⑤	7.25	—	-90°



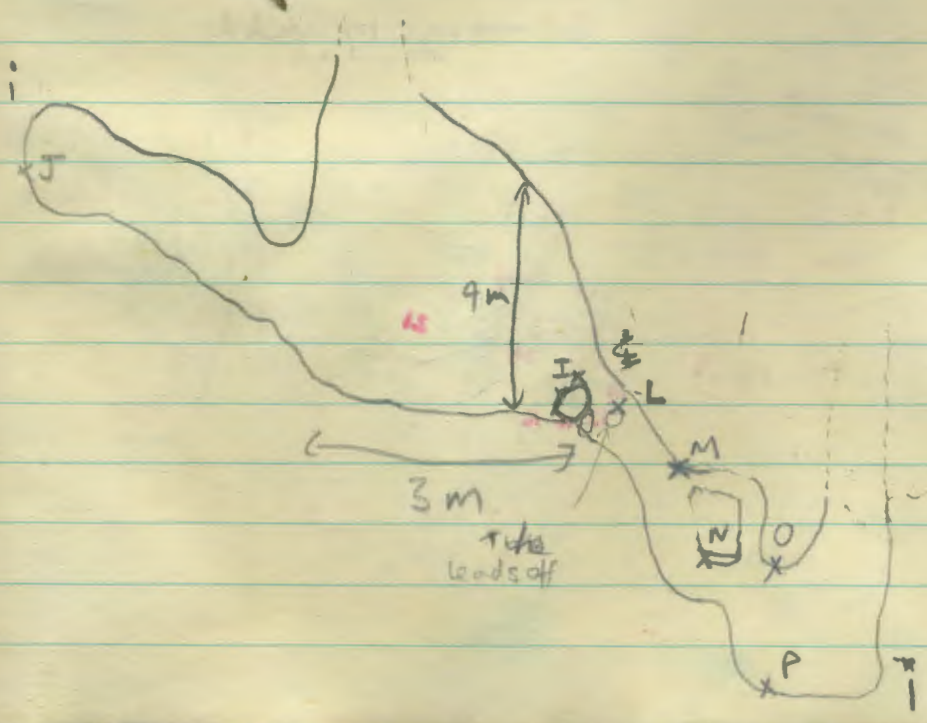
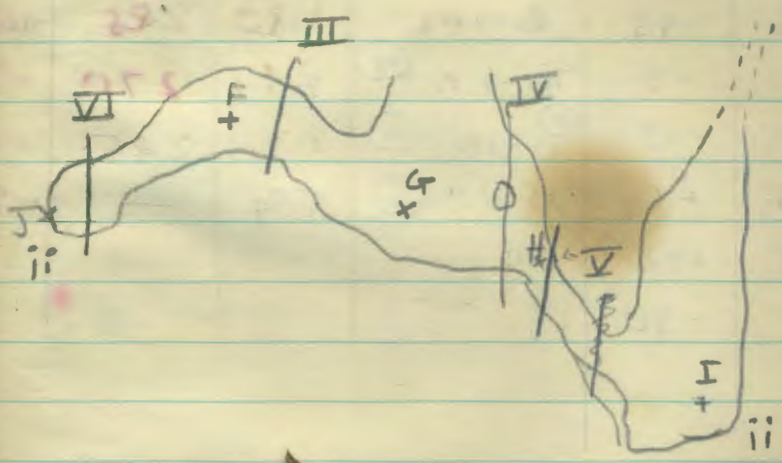
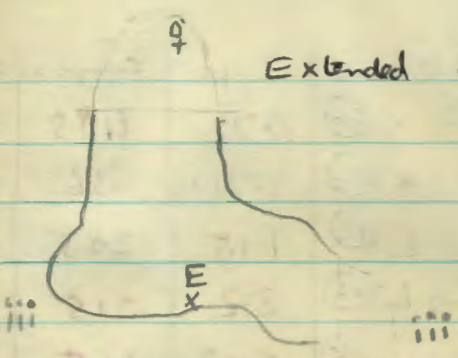
(B7)

(2)

Station	Tape	Compass	Climo	(21) U Station	Tape	Compass	Climo
⑥ F → E ⑤	2.40	253	+23	②② → X ②④	5.72	198	-5
⑥ F → G ⑦	2.28	298	-20	②⑤ → X ②④	3.71	336	+23
⑧ H → G ⑦	4.59	214	+10	②⑤ → L ①②	1.15	288	+58
⑧ H → I ⑨	7.76	073	-50	⑨ → L ①②	3.2	015	-53
⑩ J → I ⑨	9.51	032	-39	⑬ → L ①②	4.63	265	+64
⑩ J → K ⑪	3.84	266	+45	① → A	1.30	285	+22
⑤ E → K ⑪	0.96	067	-5	⑬ → M → N ⑭	2.52	270	-75
⑨ I → L ⑫	3.20	015	-53	⑮ → N ⑭	1.3	285	+22
⑬ M → L ⑫	4.63	265	+64	⑮ → O → P ⑯	5.74	—	-90
⑮ O → N ⑭	1.30	285	+22				
⑮ O → P ⑯	5.74	—	-90				



Extended Elevations From Previous Page.



(89)

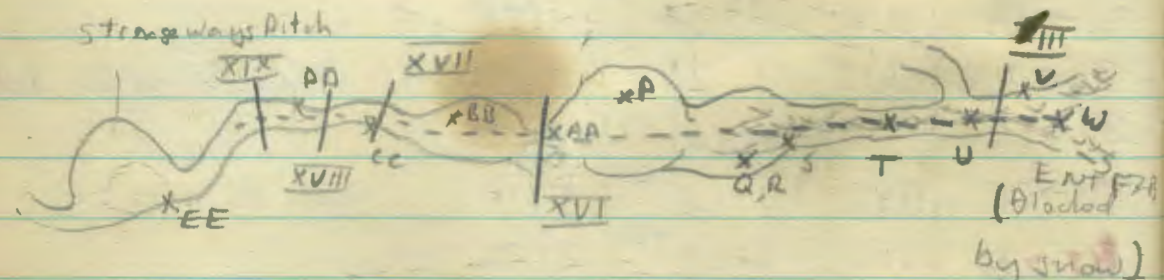
0

Station	Type	Compass	Climo	Station	Type	Compass	Climo
(16) P → (17)	2.04	050	-5	(23) W → V(22)	4.06	193	-24
(16) R → (17)	12.52	—	+90	(16) P → AA(25)	2.77	+32	+7
(19) S → R(18)	0.84	136	-22	(27) BB → AA(24)	1.78	027	-11
(19) S → T(20)	3.89	329	+38	(27) BB → CC(23)	5.49	+57	+59
(21) U → T(20)	3.28	146	+20	(29) DP → CC(28)	2.15	018	-7
(21) U → V(22)	1.87	332	+2	(29) DP → EE(20)	4.95	160	0

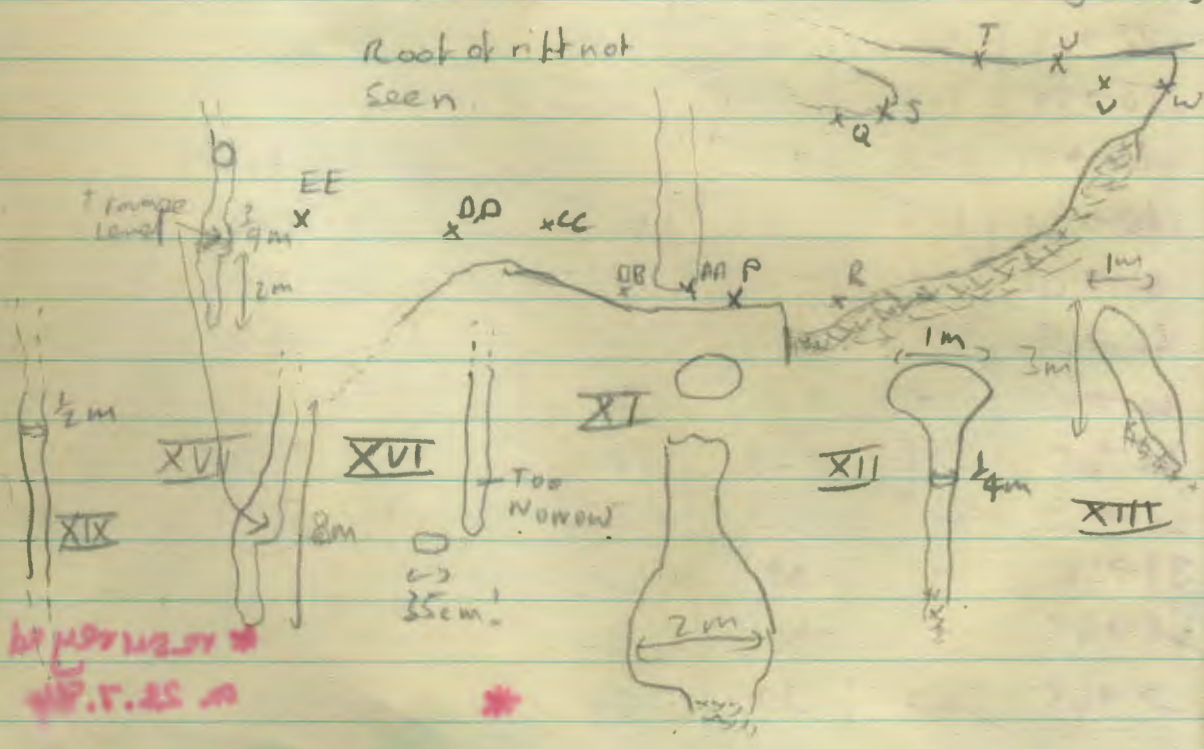
(9)

See Previous Page

Stange ways Pitch



Root of rift not seen



(5)

(B10)

Poua Law Peridices

Survey 17/7/84

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

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

Sta	Compass	Cling (VERT)	Distance	
³⁰ 31(EE) → ³¹ 32	-	-∞	1/60	
³¹ 32 → ³² 33	210	00°	1/76	
³³ 33 → 34	305	00°	7/00	Note: ³³ 33' is 4m below ³² 33.
³³ 33 → 35	-	-∞ (VERT)	10/00	
35 → 36	092	-46 ⁻²⁵	5/15	Width at 36 = 3/0m
36 → 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/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 → 45 54	-	-∞ (VERT)	11/80 ✓	
³⁹ 46 → 47 55	-	-∞ (VERT)	29/30 ✓	
47 → 48	340	00	5/20 *	
46 → 54	249	00	1/86 ✓	

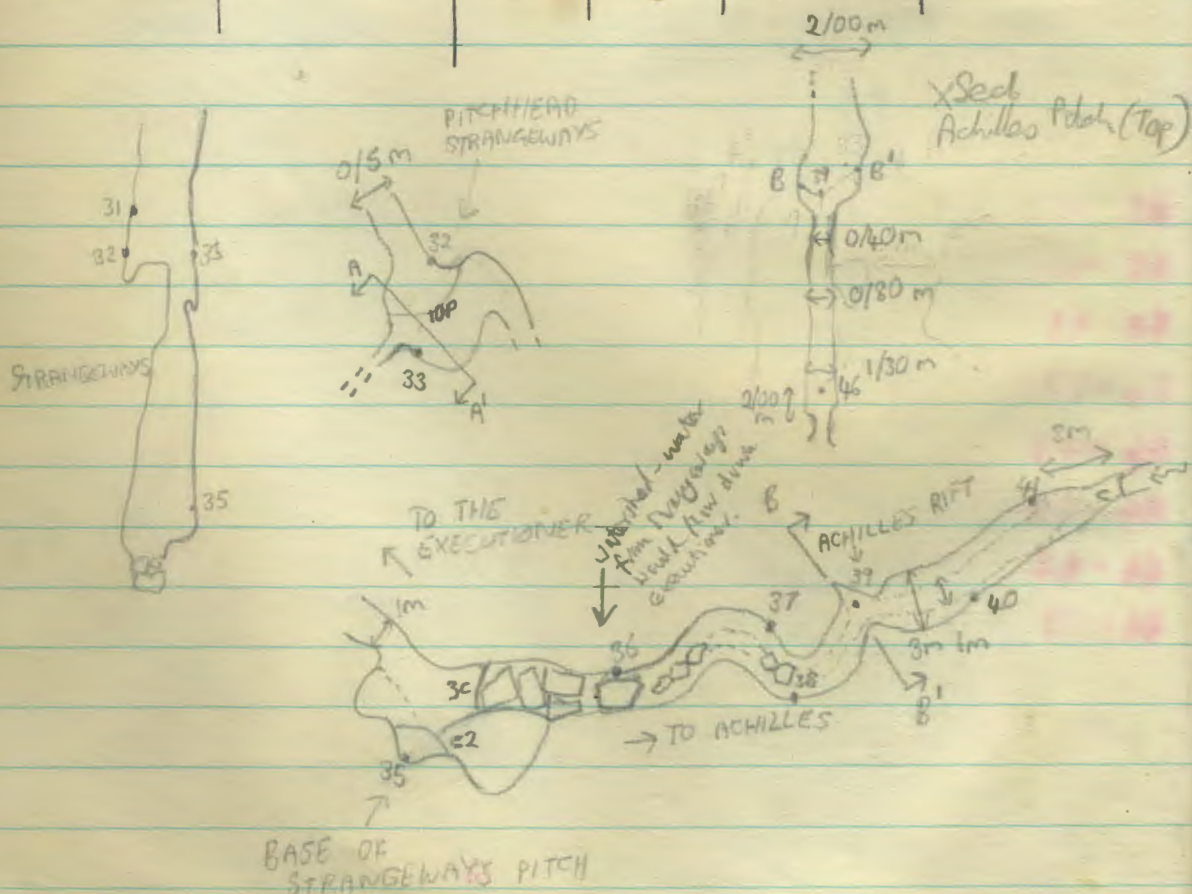
* resurveyed
on 28.7.84

(811)

Survey 17/7/84

MBL
CPAW (Cont)
IH

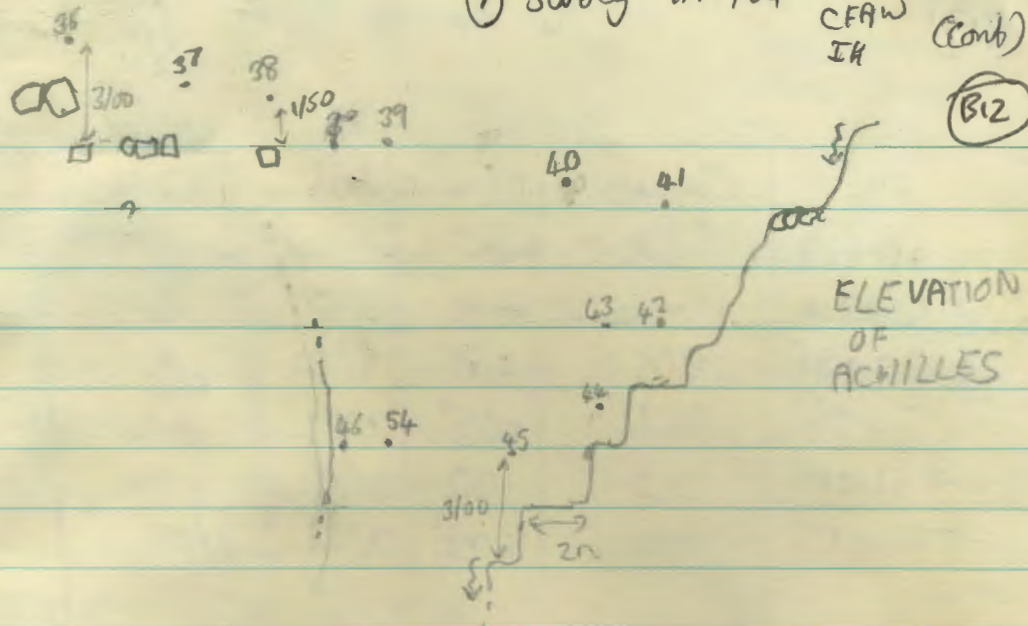
Stn	Compass	Clin	Diab	Stn ^{ht} Width	Height above Floor
48 → 49	320	00	8/00	* = Hauler reel knot	
49 → *	-	+00	8/50		
50 → 35	205	+61°	8/25	↓ clin 40°	
50 → 51	319	-13°	2/03	0/40	7/50
52 → 51 48	242	00	2/19	1/80	1/70
52 → 53	314	+08°	2/56	1/00	-



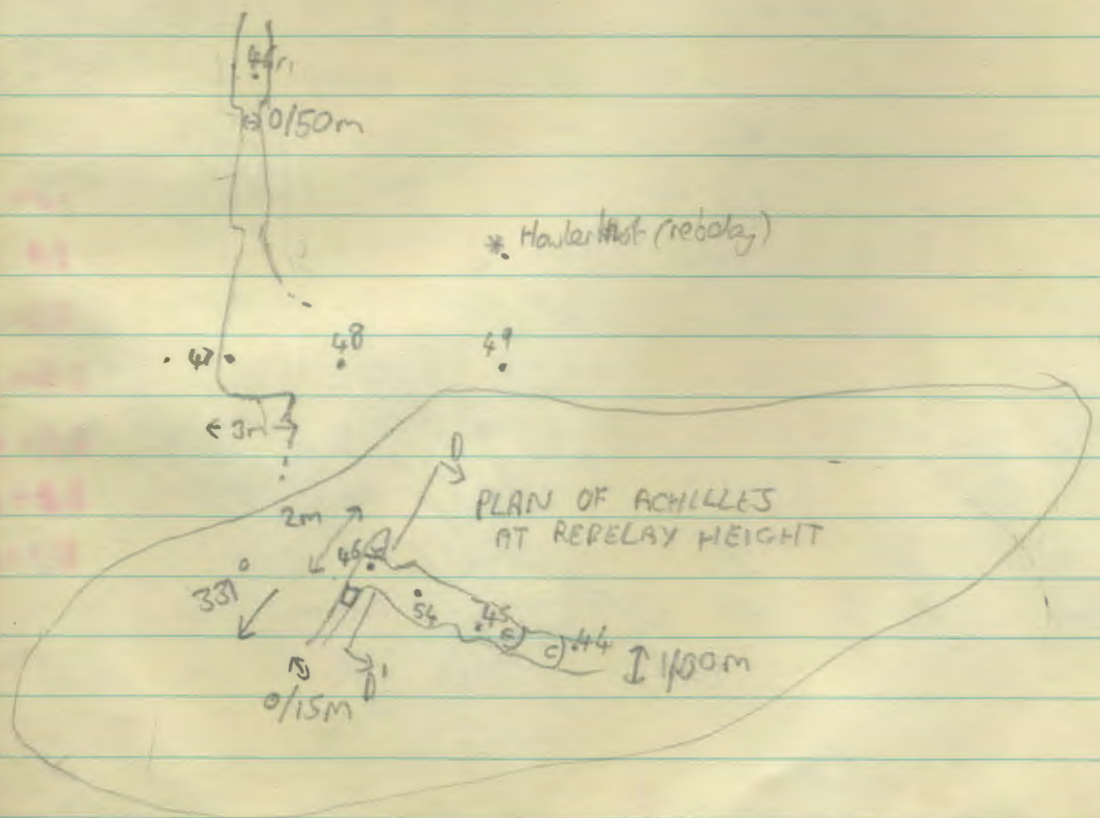
⑦ Survey 17/7/84 MBL
CFAW
IA

(Cont)

(B2)



ELEVATION OF ACHILLES BELOW REBELAY, ALONG OD'

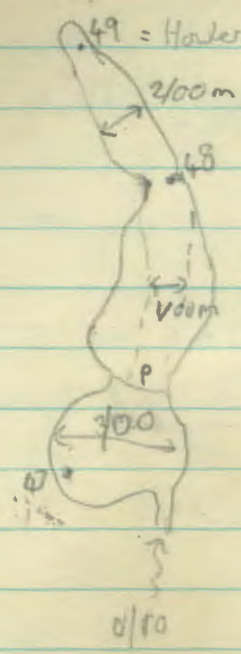


(813)

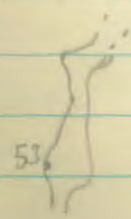
(8) Survey 17/7/84

MBL
CPAW (Cont)
IH

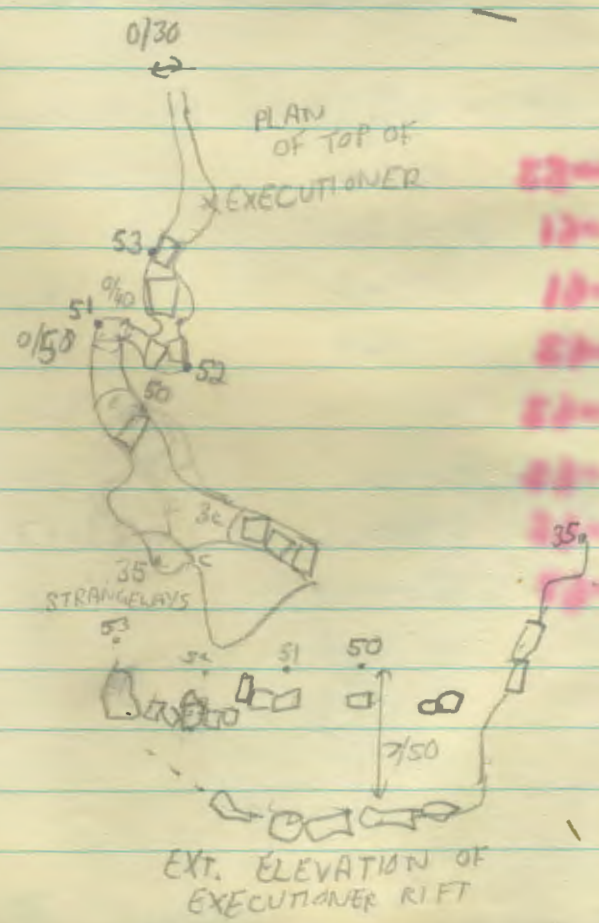
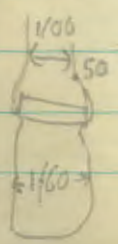
Plan of VOICE CONNECTION WITH HOWLER



X Sect at 53



X Sect at 50



- 13-01
- 12-01
- 10-01
- 07-01
- 07-01
- 07-01
- 07-01
- 07-01
- 07-01

EXT. ELEVATION OF EXECUTIONER RIFT

(BIF)

Pozo Las Pedices Survey 18/7/84 SD

GN

FW

~~Survey starts at station 53~~
~~from the previous survey, which we have~~
~~called station 60.~~

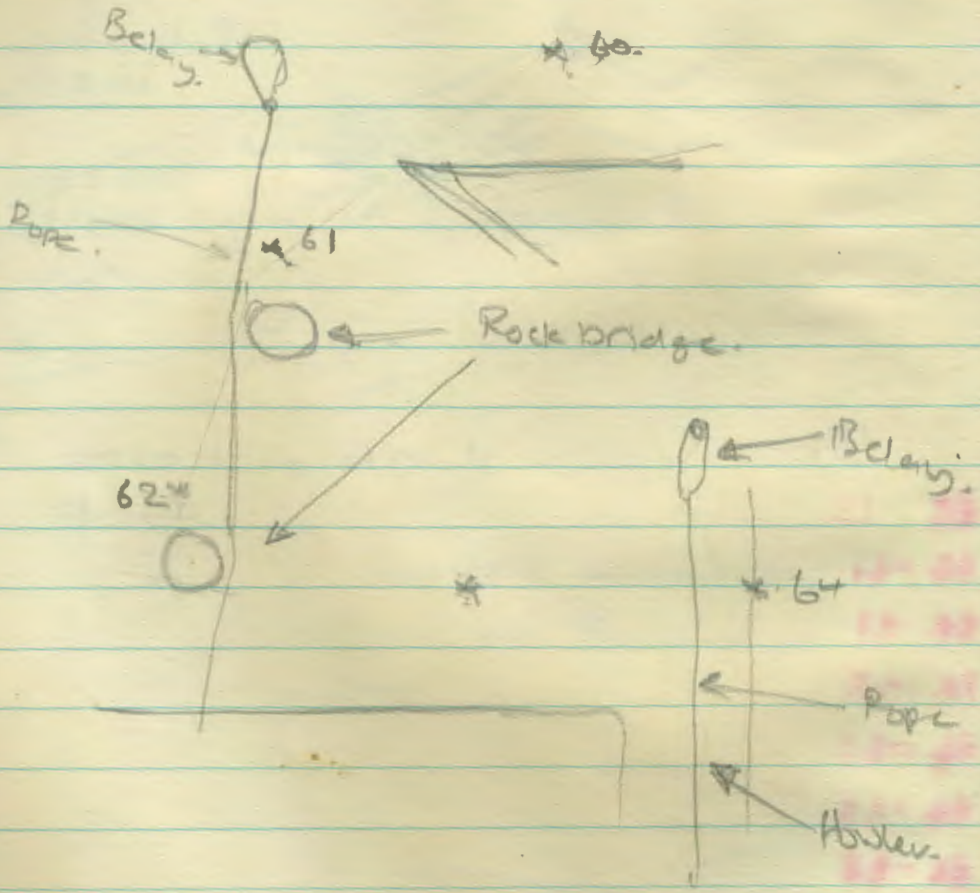
~~This station is~~

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

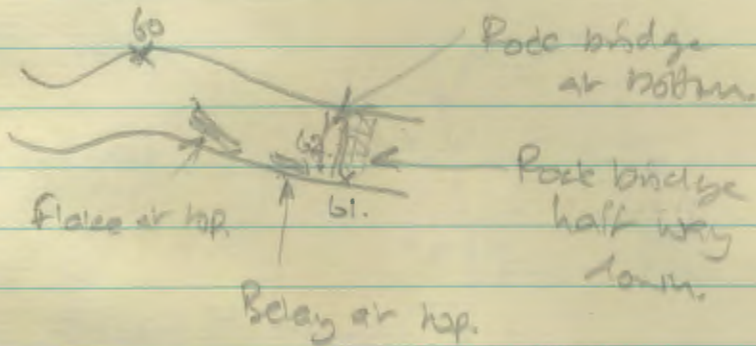
	Station.	Distance	Compass	Clina
10-53	61 → 60	7.79	164.5	+58°
10-61	61 → 62	3.05	285	-82°
16-61	63 → 62	5.44	814.5	+46°
16-63	63 → 64	2.76	208.5	-23°
14-63	65 → 64	4.20	265	+61°
14-65	65 → 66	3.30	-	-90°
11-65	67 → 66	22.17	-	+90°
16-67	67 → 68	3.20	213.5	-20°

(BIS)

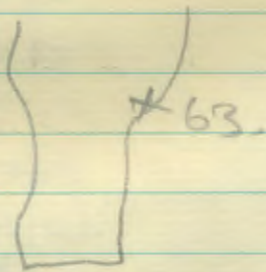
Elevation of the Executioner to top of the Howler.



Plan of Excavation to top of Howler.

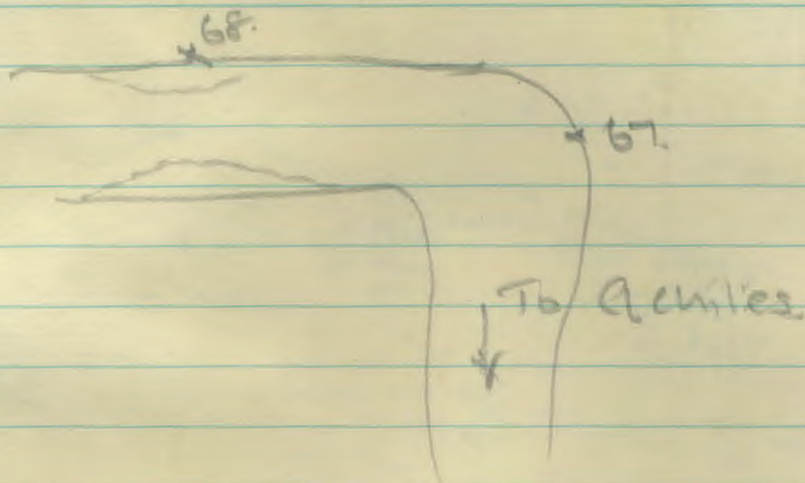


Cross section of rift at section 63.



- 60-61
- 61-62
- 62-63
- 63-64
- 64-65
- 65-66
- 66-67
- 67-68
- 68-69
- 69-70

Plan or top of Obelisk,



The section 68. is at the bottom of
the knob in the marble at the top
of the Obelisk.

B9

Survey Trip 22 July 1984
Poza Las Piedras

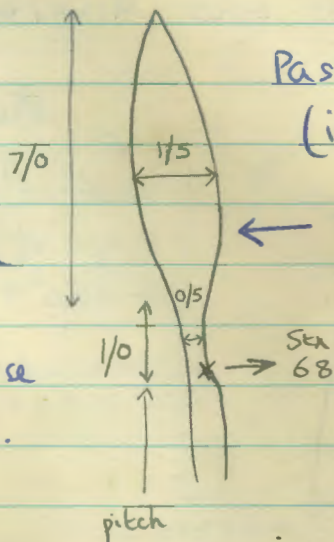
Stephen Cole, Silvia Dacre,
Dave Horsley.

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	-90 -87.81*	<u>350*</u>

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

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

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



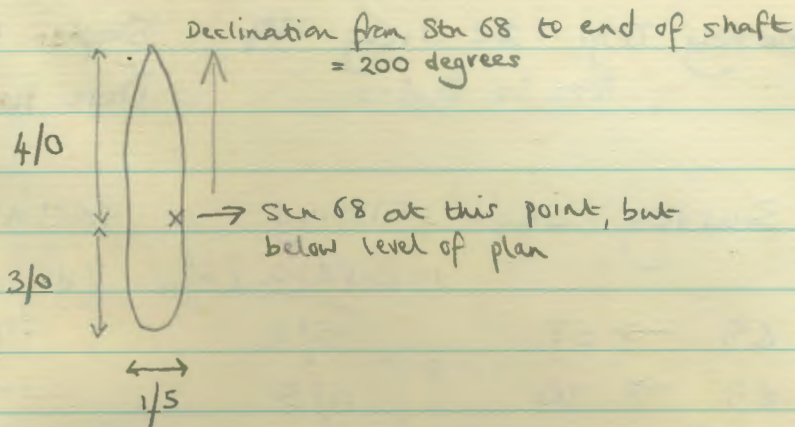
Passage cross-section
(into cave)

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

* corrected on basis of notes 3 pages hence.

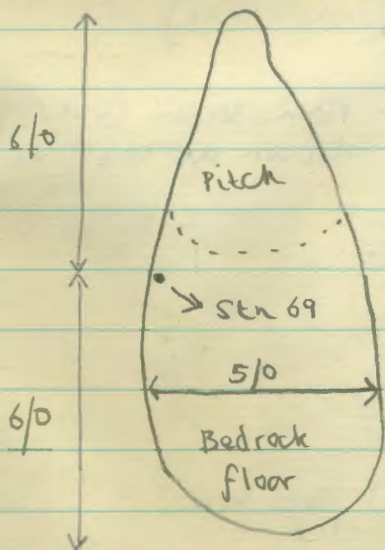
(B20)

Plan view at
stn 68.



The shaft which constitutes leg 68 \rightarrow 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

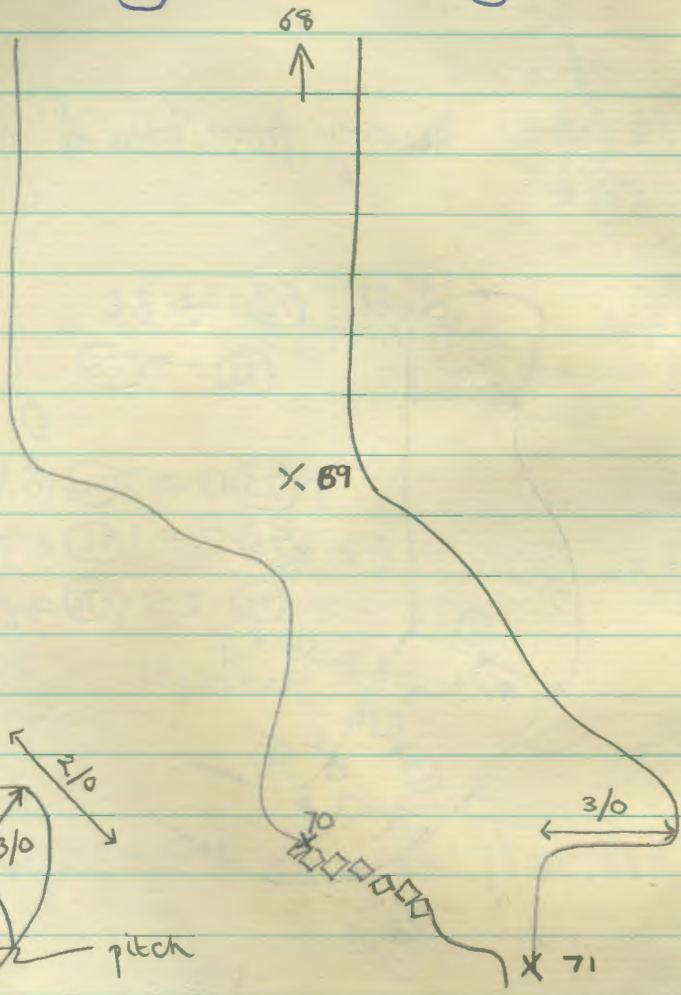


Plan view at stn 69.

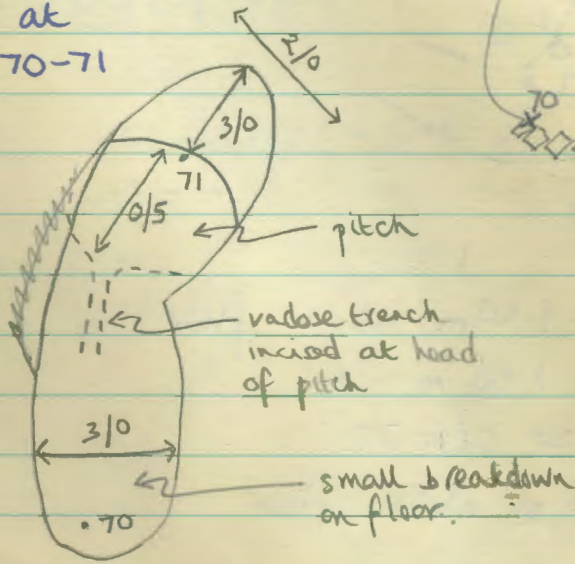
Declination along
length of chamber
= 020 degrees

B21

Projected elevation along 020-200 degrees



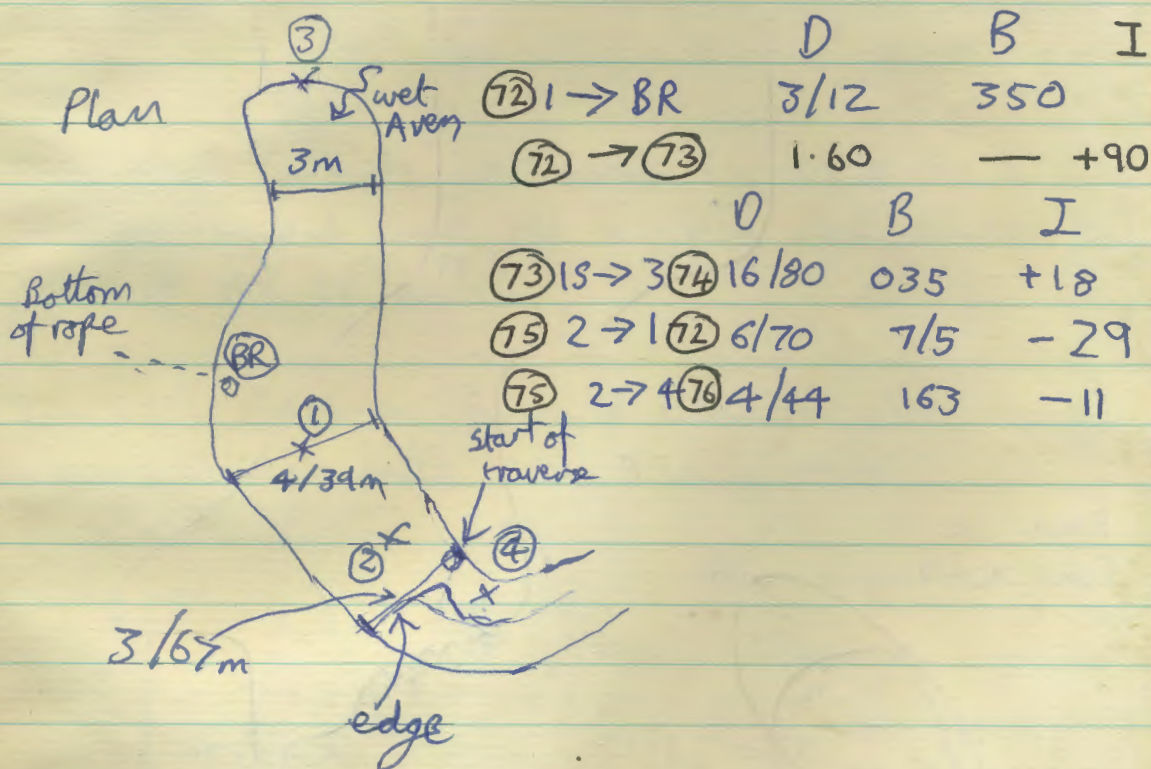
Plan at
stns 70-71



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

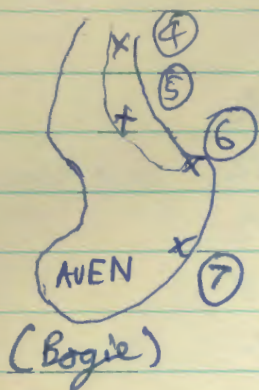
24/7/84 survey from base of nostril



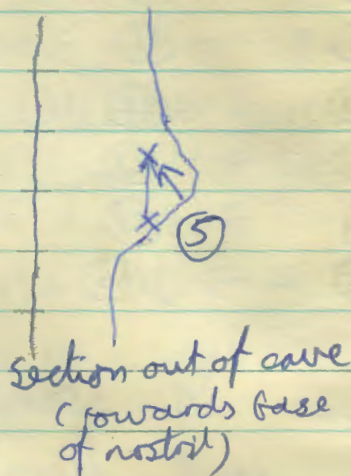
15 is eye level above 1 = 1.60 m above floor
 2 is at eye level = 1.60 m " "
 1 was base of cairn ≡ stn 72
 3 is standing = 1.75 m above floor

R23

Plan.



3 1/2 m

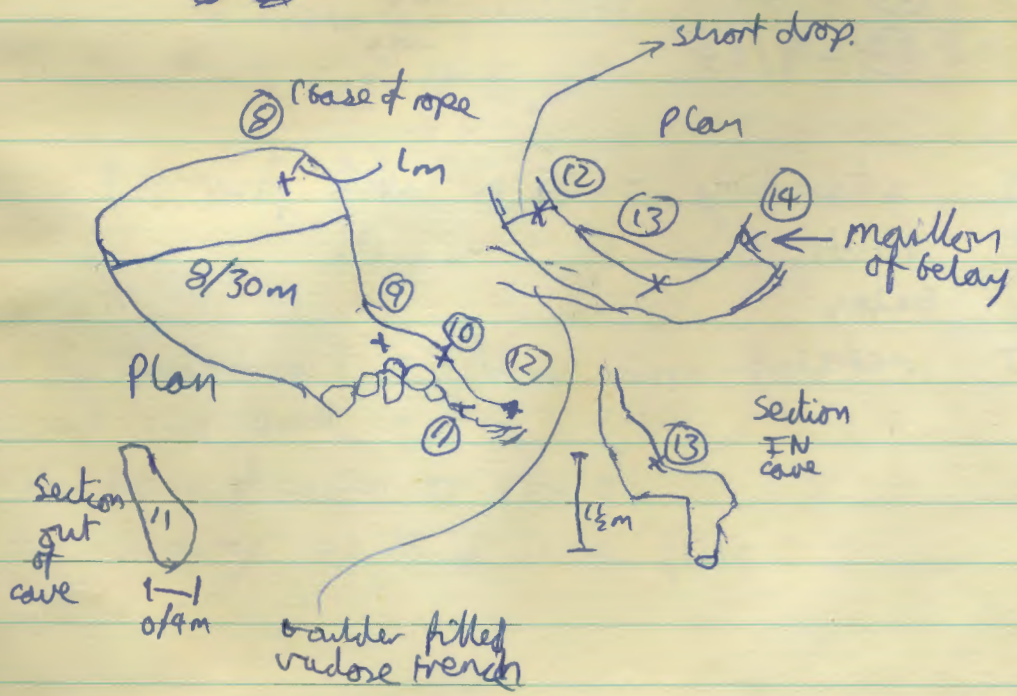


	D	B	I
(77) 5 → 4 (76)	1/92	3/12 ³¹⁸	53
5 (77) → 6 (78)	3/12	65	+13
(78) 6 → 7 (79)	5/85	130	-61
(79) 7 → 8 (80)	49/58		-90

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

	D	B	I
81 9-78	80 7/50	335	-21/5
81 9-710	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 bogie rope)
- 10 1/2 m above floor (wall)
- 11 wall
- 12 edge
- 13 ~~13~~

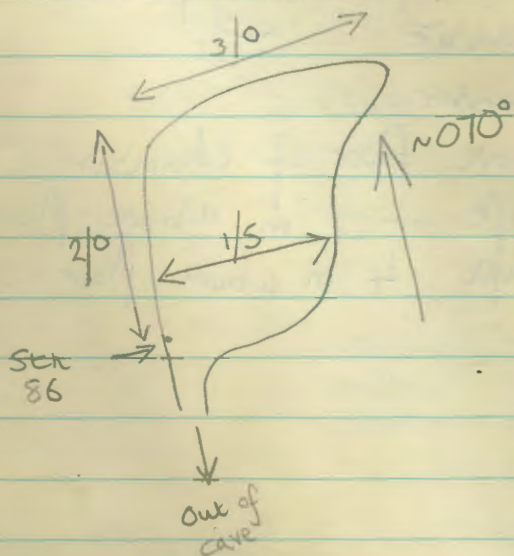


625

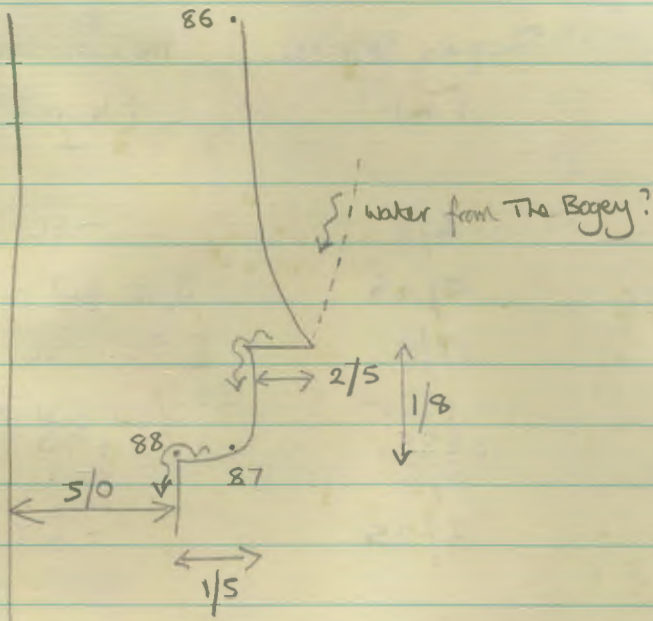
Survey trip 24 July 1984: Stephen Gale, Mike Bernards
Lee.

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	1/6 25	+90	—
91 → 92	5/2	-1	175
92 → 93	2/25	-45	155

Sta 86: maillon on main belay on pitch below Bogey



Plan view at level
of sta 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

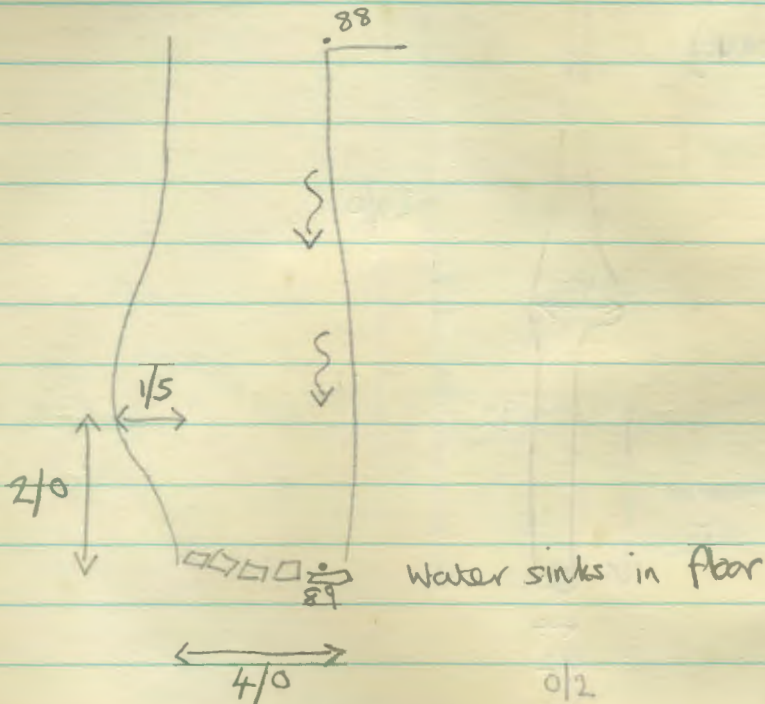
Stn 91 $\frac{1.625}{}$ m above floor of chamber

Stn 92 on wall of rift — m above floor

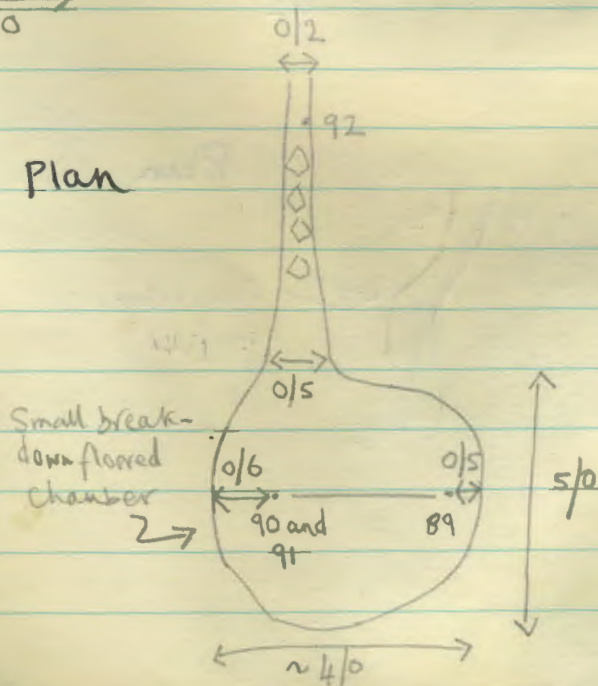
Stn 93 on wall of rift 4 m above floor

1523

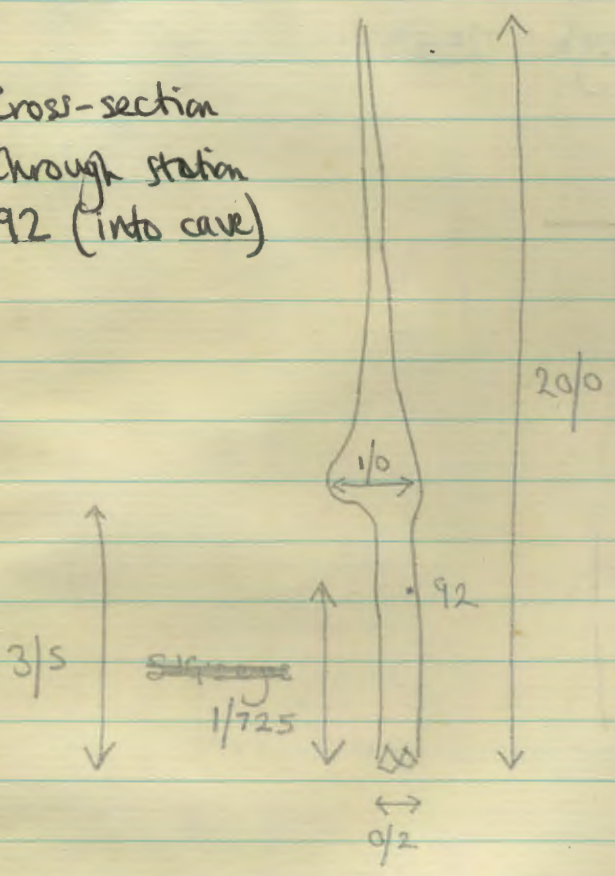
Projection through 295°



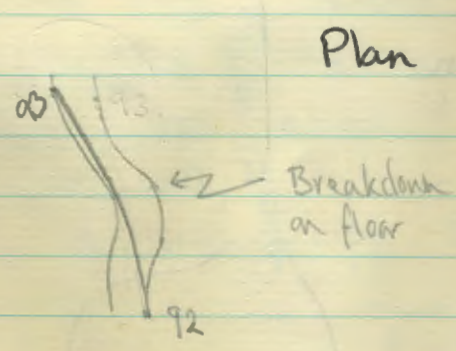
Plan



Cross-section
through station
92 (into cave)

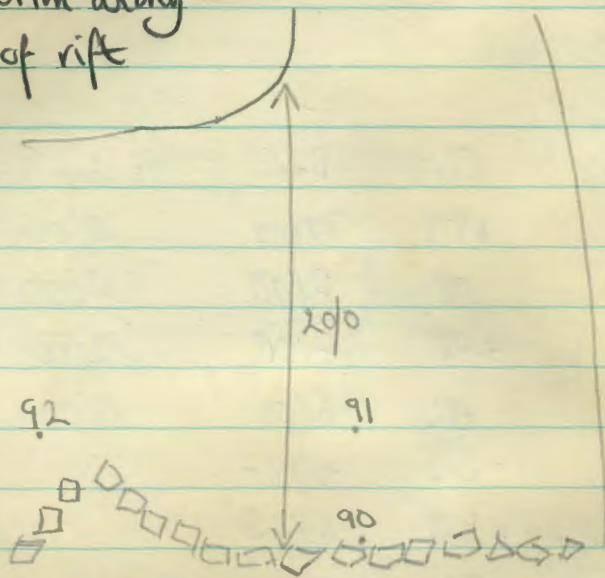


Plan



229

Projection along
line of rift



27/7/84

F11
Survey of ~~1275~~

Martin Hicks and Ian Hoyle

Surveying from bottom out.

Station	Compass	Cline	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 ~~1275~~^{F11}: Altitude @ 50m above Pouu Torcada Blanca

Station	Compass	Cline	Compass
F11 → Top Camp Cairn	054	-13/0	060
F11 → The Spike (Secondary of Verdelluanga)		+13/0	101
F11 → F7		~ -30/5	~ 047

(B31) 54

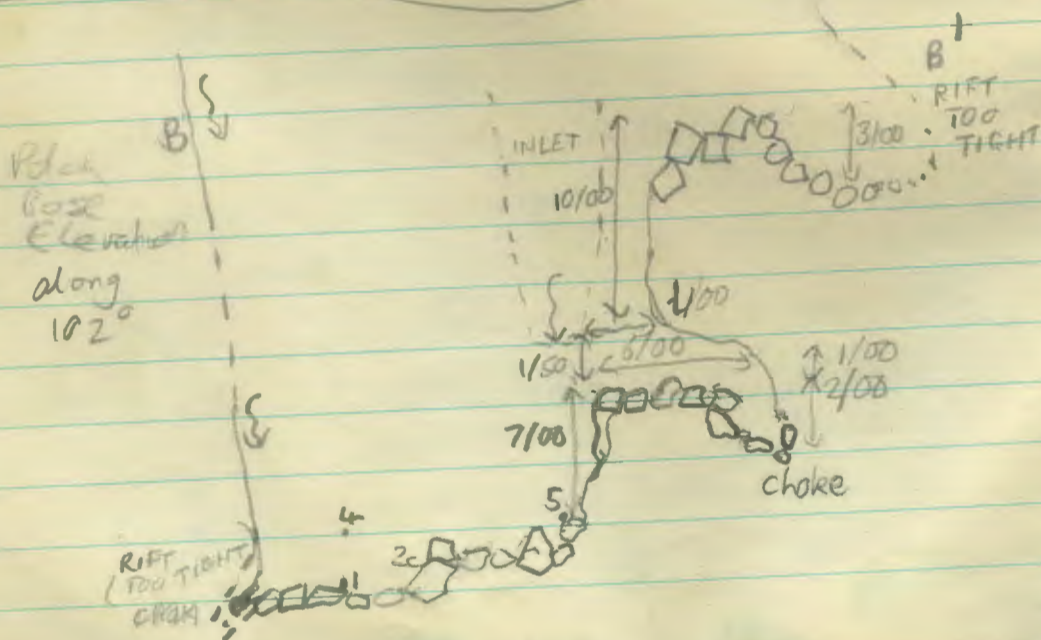
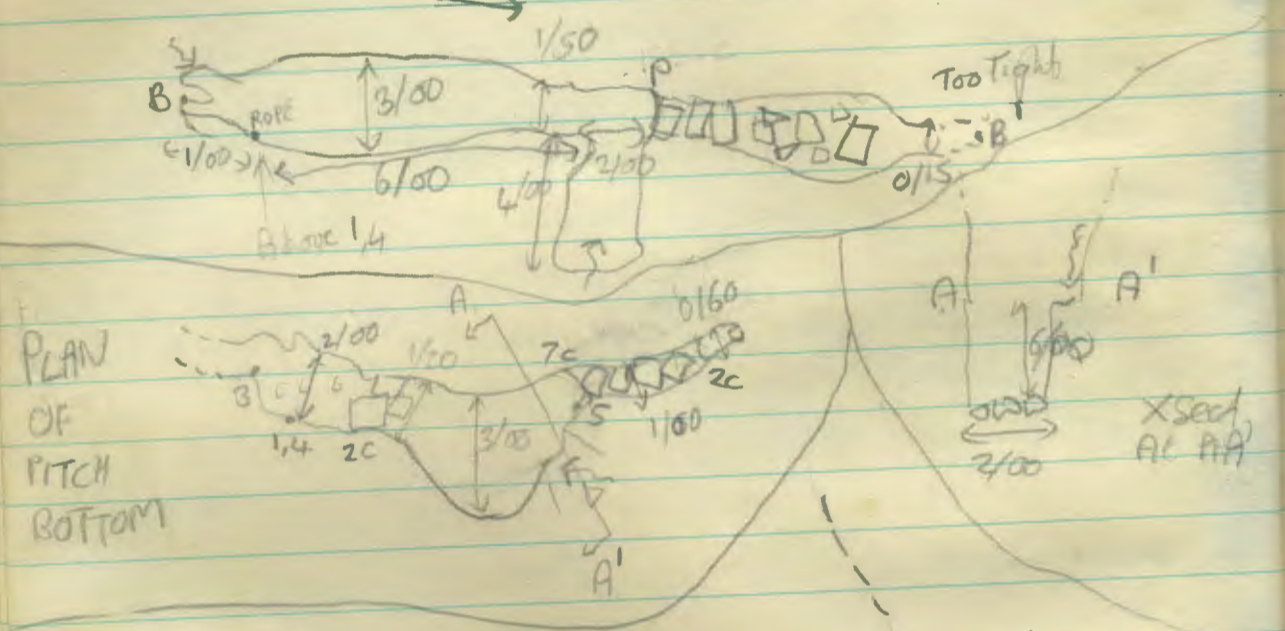
Survey of F11

27/7/84

Drawn JH

Plan at 2cm Above floor (BB')

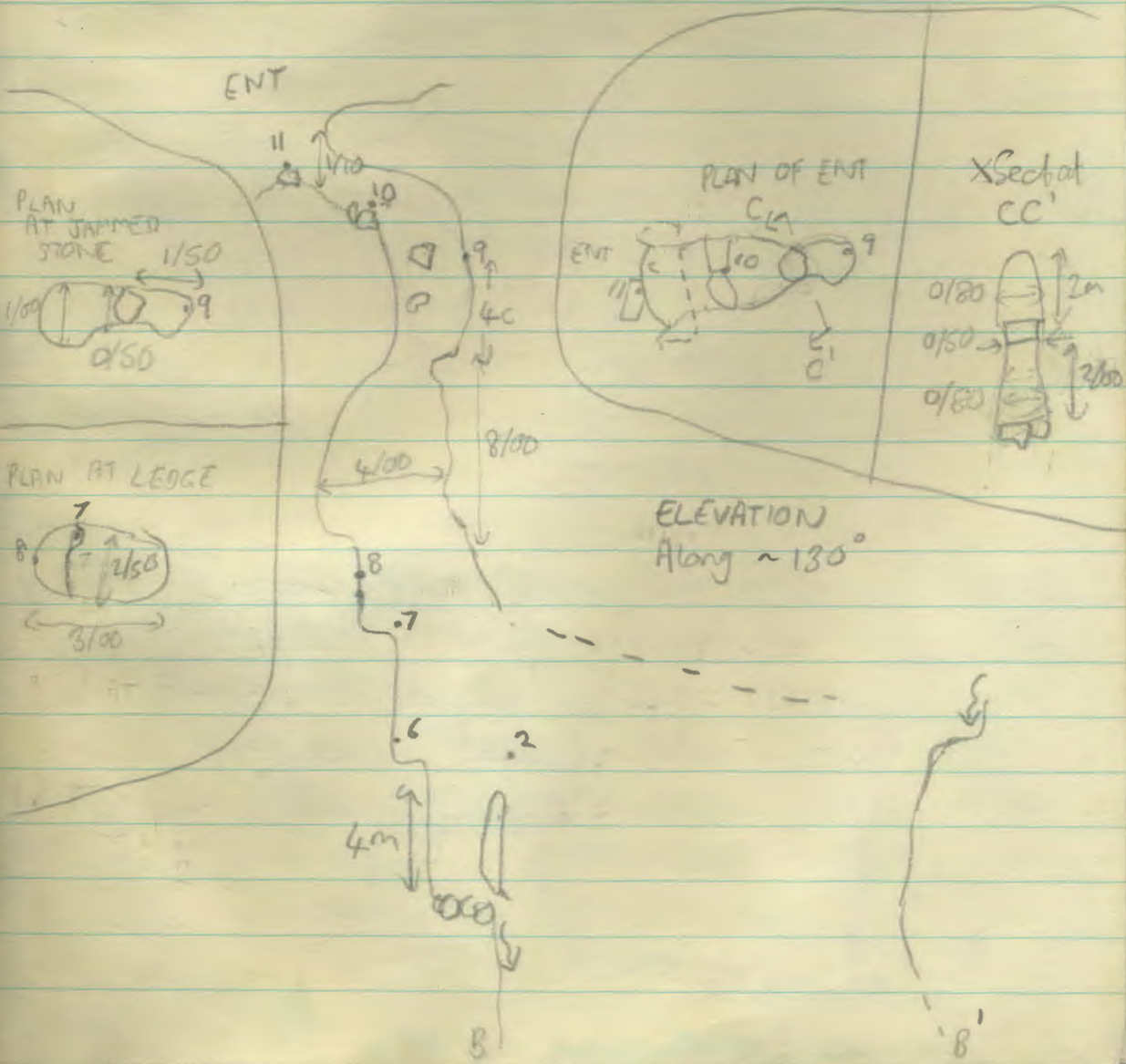
Same dir as base rift (102°)



Drawn TH

SURVEY OF F11

27/7/84



$\sin A \times L$		$(\cos A \times L)$	Vertical	$(\sin A \times L)$	
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
-0.988	-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	3.747	-8.106	2.528	-1.707
-5.945	-12.128	4.198	11.331	4.770	0.821
5.985	-17.293	1.458	-6.268	-2.901	5.591
2.715	-18.073	-0.189	-9.169	-2.708	1.674
0.084	-12.088	-0.374	-9.358	-0.880	-1.034
	-9.593		-9.732		-1.914
	9.373				
	-8.509				
	-9.289				
-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	0.560	0.130	-0.541	10.180
2.395	-20.794	2.627	0.69	-1.579	9.639
-1.122	-18.399	2.555	3.317	-1.723	8.060
0.065	-19.521	1.650	5.872	-0.877	6.337

1535

Stn	Sloping Distance	Inc	Dec	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	
SE					
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 R Q 18	0.84	+22	316	0.774	
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	

$(\cos A \times L)$ $(\sin A \times L)$

836

Vertical
Distance
 $(\sin A \times L)$ Cumulative
Vertical
DistanceHoriz
Distance
NorthCumulative
Horiz
Distance
NorthHoriz
Distance
EastCumulative
Horiz
Distance
East

1.651	-19.456 -44.496 -17.805 -42.845	3.614	7.522 11.136	0.834	5.460 6.294
-0.324	-19.521 -44.561 -19.845	-3.525	5.872	-1.145	6.337
-1.450	-44.888 -21.295	-3.120	2.347	1.389	5.192
0.975	-46.335 -20.320 -45.360	0.188	-0.773 -0.585	-0.579	6.581 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
0.000	-29.405 -25.485	-1.524	-13.856	-0.880	12.012
-4.000	-29.405 -25.485	0.000	-15.380	0.000	11.132
0.000	-33.405 -21.485 -33.405 -21.485	4.015	-15.380 -11.365	-5.734	11.132 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	15.351

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Stn	Sloping Distance	mc	Dec	Horizontal Distance (cos $\Delta \times L$)	Cumulative Horizontal Distance
Y 2 ²	4.06	+24	013	3.709	477.0
W 23					758.2
U 21	3.72	-5	198	3.706	000.0
X	3.71	-23	156	3.415	320.1
Y	1.15	+58	288	0.609	348.1
L 12					00.0
P 16	2.77	+7	132	2.749	
AA 26	1.78	+11	207	1.747	711.0
BB 27	5.49	+59	157	2.828	
CC 28	2.15	+7	198	2.134	1.0
DD 29	4.95	0	160	4.950	75.0
EE/31 30	1.66	-90	—	0.000	0.0
32	31 1.76	0	210	1.760	1.0
33	32 4.00	-90	—	0.000	2.0
33'	7.00	0	305	7.000	1.0
34					
33 32	10.00	-90	—	0.000	12.5
35	5.15	-25	092	4.667	0.0
36	3.82	-25	150	3.462	00.0
37	2.29	-16	280	2.201	22.0
38	2.73	-52	164	1.681	101.7

Vertical Distance (sin Δ x L)	Cumulative Vertical Distance	Horizontal Distance North (cos Δ x L)	Cumulative Horizontal Distance North	Horizontal Distance East (sin Δ x 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	-18.743	-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	-2.103	-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 3.933	-8.017	-1.103	11.384

539

Sta	Sloping Distance	Inc	Dec	Horizontal Distance (cos L x 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	165	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 (59)	5.20 6.13	0	340 002	6.130	
48 81 (50)	10.73	-90	520	0.000	
49 82 (51)	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 $\Delta \times L$)	Cumulative Vertical Distance	Horizontal Distance North (cos $\Delta \times L$)	Cumulative Horizontal Distance North	Horizontal Distance East (sin $\Delta \times L$)	Cumulative Horizontal Distance East
-3.020	-53.328	0.110	-4.039	-0.410	10.288
-3.913	-56.348	-2.6 ⁴⁹	-3.929	2.695	9.888
-1.078	-60.261	-2.233	-6.578	-1.212	12.568
-3.673	-61.339	0.177	-8.811	2.028	11.351
-3.300	-65.012	0.000	-8.634	0.000	13.3 ⁷⁹
-22.170	-68.312	0.000	-8.634	0.000	13.3 ⁷⁹
-1.094	-90.482	-2.507	-8.634	-1.660	13.379
	-91.576	<small>Note loop at 1.187</small>	-11.141		11.7 ¹⁹
-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

(24)

Sta	Sloping Distance	Inc	Dec	Horizontal Distance (cos $\Delta \times L$)	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	245 065	3.040	
78	5.85	-61	130	2.836	
79	49.58	-90	—	0.000	

$L \times \sin(\text{inclination})$ $\cos(\text{bearing}) \times \text{Hong dist}$ $\sin(\text{bearing}) \times \text{Hong dist}$

842

Vertical Distance
($\sin L \times L$)

Cumulative Vertical Distance

Horizontal Distance North
($\cos L \times L$)

Cumulative Horizontal Distance North

Horizontal Distance East
($\sin L \times L$)

Cumulative Horizontal Distance East

+2.749	-266.561	-6.324	-17.830	+2.944	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				
-2.390	-309.343				
	-306.060				

(243)

($L \times \cos(\text{inclination})$)

Sta	(L) Sloping Distance	Inc	(bearing) Dec	Horizontal Distance ($\cos \Delta \times L$)	Cumulative Horizontal Distance
80	7.50	+21.5	135	6.978	5.15-
81	3.40	-55.5	188.5	1.926	3.21
82	1.15	-32	270	0.975	1.51
83	1.29	-42	245.5	0.959	0.04-
84	1.79	-18	171.5	1.702	2.5-
85	2.10	-26	116	1.887	2.54-
86	6.40	-90	-	0.000	2.8
87	0.65	-9	110	0.642	1.2-
88	17.50	-90	-	0.000	4
89	1.60	-7	105	1.587	8
89					
90	1.625	+90	-	0.000	8
91	5.20	-1	175	5.199	6
92	2.25	-45	155	1.591	4
93|95	2.31	+50	338	1.484	1-
96	4.73	+43	126	3.459	2-
97	1.12	+31	161	1.12 0.960	1-
98	9.13	+21	150	8.523	2.5
99	7.02	-60	166	3.510	5.94-
100	12.10	-74	033	3.335	2.11
101	5.27	-90	-	0.000	
102	1.70	+36	105	1.375	2.8
103	12.80	+4	157	12.76	5.8
104	3.12	-50	164	2.005	2.10--

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				(Base)
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	309.674				
2.376	309.674				
-1.785	309.674				
-3.225	309.674				
-100.63	-312.308				
-3.730	-412.938				
-1.372	-414.310				

3.283
6.711
-0.152

645

Sta	Sloping Distance	Inc	(bearing)		Horizontal Distance $\cos(\) \times L$	Cumulative Horizontal Distance
			Dec			
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	

(B46)

45
1
2

Year	Month	Day	Time	Location	Notes
1901	Jan	1	10:00	...	...
1901	Jan	2	10:00	...	...
1901	Jan	3	10:00	...	...
1901	Jan	4	10:00	...	...
1901	Jan	5	10:00	...	...
1901	Jan	6	10:00	...	...
1901	Jan	7	10:00	...	...
1901	Jan	8	10:00	...	...
1901	Jan	9	10:00	...	...
1901	Jan	10	10:00	...	...
1901	Jan	11	10:00	...	...
1901	Jan	12	10:00	...	...
1901	Jan	13	10:00	...	...
1901	Jan	14	10:00	...	...
1901	Jan	15	10:00	...	...
1901	Jan	16	10:00	...	...
1901	Jan	17	10:00	...	...
1901	Jan	18	10:00	...	...
1901	Jan	19	10:00	...	...
1901	Jan	20	10:00	...	...
1901	Jan	21	10:00	...	...
1901	Jan	22	10:00	...	...
1901	Jan	23	10:00	...	...
1901	Jan	24	10:00	...	...
1901	Jan	25	10:00	...	...
1901	Jan	26	10:00	...	...
1901	Jan	27	10:00	...	...
1901	Jan	28	10:00	...	...
1901	Jan	29	10:00
1901	Jan	30	10:00
1901	Jan	31	10:00
1901	Feb	1	10:00
1901	Feb	2	10:00
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1901	Feb	14	10:00
1901	Feb	15	10:00
1901	Feb	16	10:00
1901	Feb	17	10:00
1901	Feb	18	10:00
1901	Feb	19	10:00	...	...
1901	Feb	20	10:00	...	...
1901	Feb	21	10:00	...	...
1901	Feb	22	10:00	...	...
1901	Feb	23	10:00	...	...
1901	Feb	24	10:00	...	...
1901	Feb	25	10:00	...	...
1901	Feb	26	10:00
1901	Feb	27	10:00
1901	Feb	28	10:00
1901	Feb	29	10:00
1901	Feb	30	10:00
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1901	Mar	2	10:00
1901	Mar	3	10:00
1901	Mar	4	10:00
1901	Mar	5	10:00
1901	Mar	6	10:00
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1901	Mar	25	10:00
1901	Mar	26	10:00
1901	Mar	27	10:00
1901	Mar	28	10:00
1901	Mar	29	10:00
1901	Mar	30	10:00	...	...
1901	Mar	31	10:00	...	...
1901	Apr	1	10:00	...	...
1901	Apr	2	10:00	...	...
1901	Apr	3	10:00	...	...
1901	Apr	4	10:00	...	...
1901	Apr	5	10:00	...	...
1901	Apr	6	10:00	...	...
1901	Apr	7	10:00	...	...
1901	Apr	8	10:00	...	...
1901	Apr	9	10:00	...	...
1901	Apr	10	10:00	...	...
1901	Apr	11	10:00	...	...
1901	Apr	12	10:00	...	...
1901	Apr	13	10:00	...	...
1901	Apr	14	10:00	...	...
1901	Apr	15	10:00	...	...
1901	Apr	16	10:00	...	...
1901	Apr	17	10:00	...	...
1901	Apr	18	10:00	...	...
1901	Apr	19	10:00	...	...
1901	Apr	20	10:00	...	...
1901	Apr	21	10:00	...	...
1901	Apr	22	10:00	...	...
1901	Apr	23	10:00	...	...
1901	Apr	24	10:00	...	...
1901	Apr	25	10:00	...	...
1901	Apr	26	10:00	...	...
1901	Apr	27	10:00	...	...
1901	Apr	28	10:00	...	...
1901	Apr	29	10:00	...	...
1901	Apr	30	10:00	...	...
1901	Apr	30	10:00	...	...

B67

Sta	Sloping Distance	Inc	Dec	
FD 144	7.23	+71	136	2.854
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 recognize the pitch head (Garry don't remember doing a changeover on the way down) until I fell over Ukey's ruck. No comment. Mammoth haul of rope out was not done in the most efficient manner (ended to core - sorry!) - Ukey + I coiled Boris while Tedyn felt sick. As it was dark at ~ 12:10 am when we emerged, the initial plan to walk back to Lago was somewhat modified - ie we spent ~ 4 hrs stumbling across to T.C., Ukey carrying Boris + Tedyn 2 tackle bags. Navigation was a bit tricky, especially as each time we stopped, 2 people would drop off. At last got back to Bog Alley after numerous stops at snow fields to refill Tedyn's generator (Troll overnights had a few close shaves there) + so to T.C. Heated up minced beef + plg emptied the stove tent + crawled in, turning back of pits + harrimats. 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 (Ib if you're slow" was the initial estimate) Walk from Fro → T.C. made the previous day's ~~scramble~~ ^{scramble} down the Cross 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 another to report as am sitting on Santander → Plymouth ferry with a spilt boat waiting in my lug'oles.

em,

(B46)

Sunday 19th Aug. F20 (Andy's Hole) Drigging
Iestyn, Ukey, Chris.

Messed about in the morning, which meant walking up to Ario from B.C. in the dirt, the dust & the heat. Collected cave gear from Ario & were given elaborate description of tackle in cave by Ian, which we only ^{partly} listened to. Walked v. slowly up to T.C. with Ian who promptly stated to demolish a few tents. Eventually wandered in the direction of F20 & then remembered we had no tackle bag & sent back Ukey for a couple. At the entrance a lively charge - "This is a brand new over-suit - it has no ricks in it" quote Iestyn, stinky flame sigling the knee of aforesaid suit. An omer?? 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 detackling with Ukey at bottom of rag rider pitch. Silence for quite a while then a plaintive "Didn't Ian say there was some tackle at the bottom - like a ~~ten~~ ^{ten} ~~set~~ & ^{holding} kit" from Ukey. Pause. "Er, hum, 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

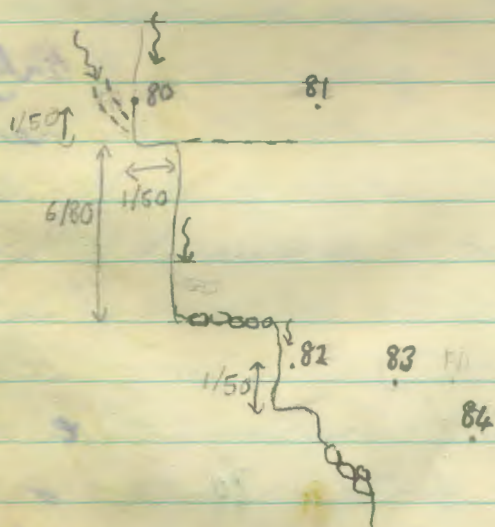
* Drawing.

BSC

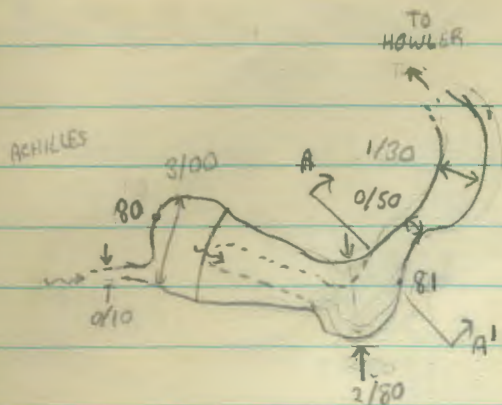
Achilles Rift (Down)Survey F7Phil and Tan*28/7/84

Station	Compass	Cliv	Distance	Height at Str	Width at Str
80 47 = P9A					
80 → 81 P9A → P8	55 → 56	00	6/13	1/50 ^(at P8)	3/00
81 → 82 P8 → P7	56 → 57	-90	10/73		
82 → 83 P7 → P6	57 → 58	-10	3/57	1/50 ^(at P6)	1/20 ^(at P6)
83 → 84 P6 → P5	58 → 59	-30	3/37	-	0/60 ^(at P5)

P5 = Obelisk knot = 84

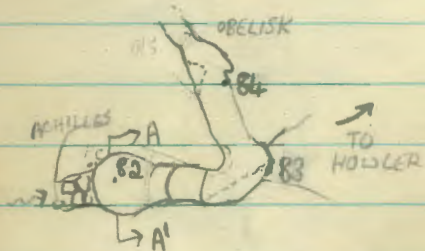


(Bst.)



Plan at 80 + 81 Height

Handwritten notes in red ink, partially illegible.



PLAN AT BASE OF HOWLER

CONNECTION WITH ACHILLES



XSection along AA' showing pitch to Obelisk

* Drawing

B52

28/7/24

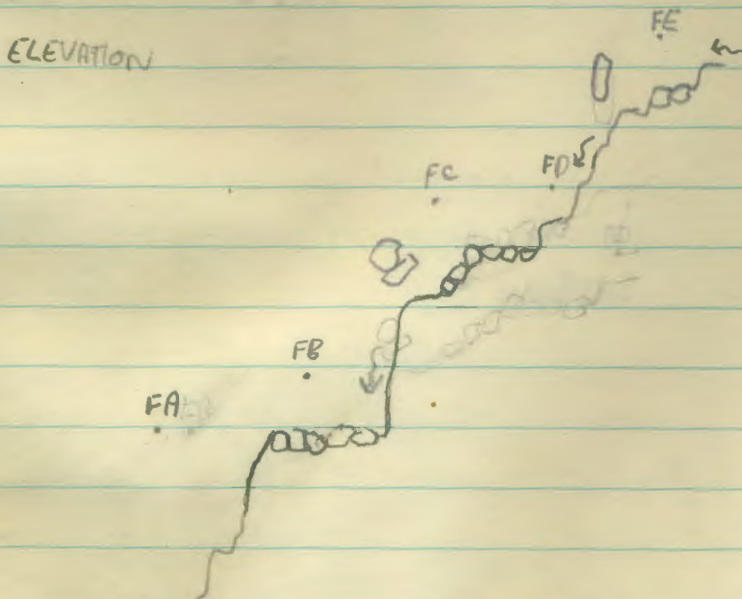
Achilles Rift (up)

Survey F7

Phil and Ian*

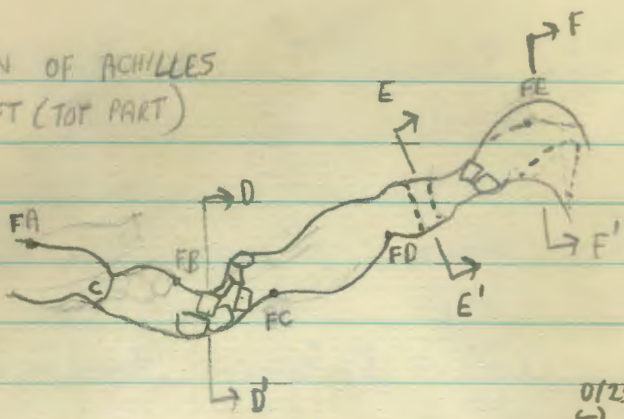
Station	Compass	Climo	Distance	Width at Sta	Height from Floor
FB → FA	142- 141	021	-42/5	4/86	0/75 ^(FB) 1/30 ^(FB)
FB → FC	142- 143	218	+59	7/83	1/50 ^(FC) —
FD → FC	144- 143	313	+02	4/35	0/70 ^(FD) 1/30 ^(FD)
FD → FE	144- 145	136	+71	7/23	1/00 ^(FE) 3/00 ^(FE)

Note FA = 41

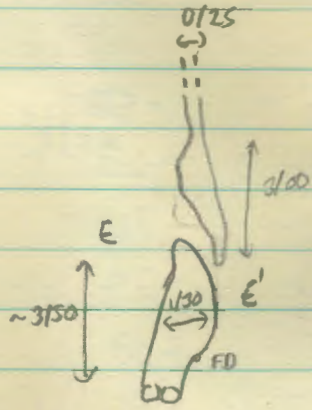
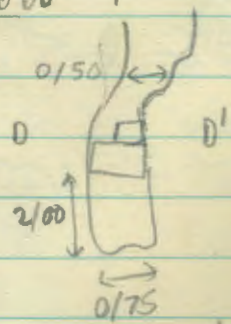


BS3

PLAN OF ACHILLES
RIFT (TOP PART)

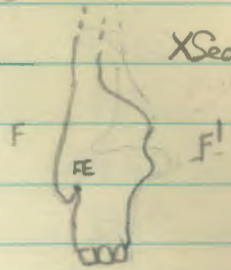


X Sect DD'



X Sect
at rock bridge
(FD projected
onto Section)

X Sect AA'



EASTARD RIFT → Hot Tub

F7 Summary

Tan, Mtko, Sean 29/7/84

(85)

Station	Compass	Clive	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 ⁽¹⁰⁵⁾	-
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⁾	-

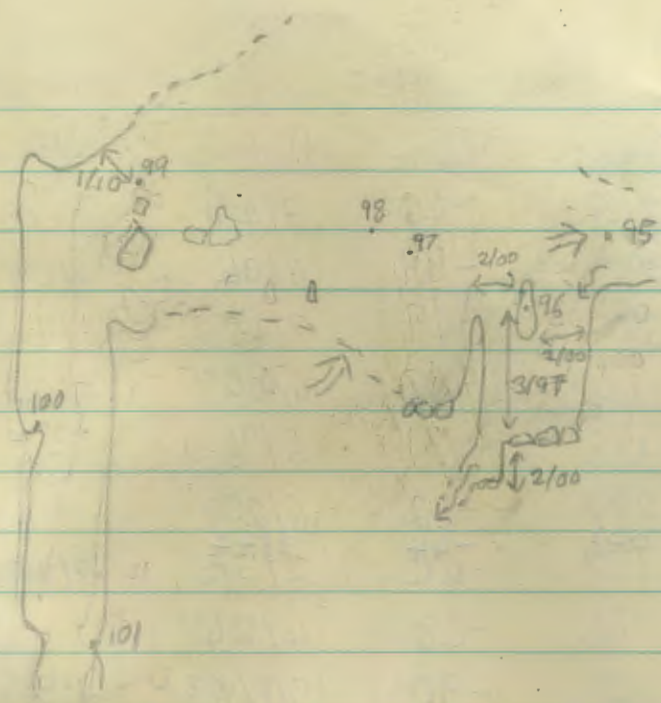
B5K

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⁾	-
No. 114 → 113	162	-47	6/02	2/00 ⁽¹¹⁴⁾	-
107 → 114	123	-31 ^(-55°)	6/96	-	- ⁽¹¹⁵⁾
113 → 115	277	+02	6/20	-	0/73 ⁽¹¹⁵⁾
116 → 115	001	-44	3/42	0/20 ⁽¹¹⁶⁾	1/00 ⁽¹¹⁶⁾
116 → 117	157	-44	2/57	0/20	1/00
118 → 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

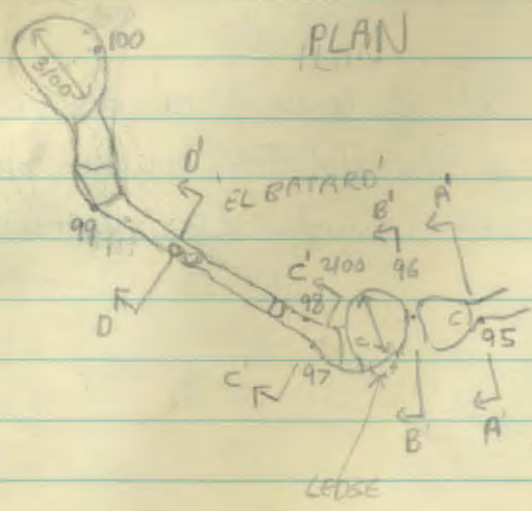
Station 121 is located at the entrance of the hole 'half way' up the Hot Tub boulder pile, that leads OUT of the cave towards LAGO VICTORIA in Torcada Blanca.

2566

'EL BATARD'
ELEVATION

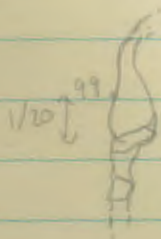
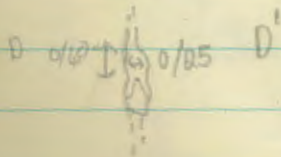
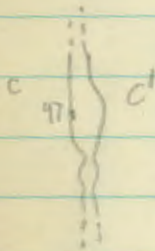
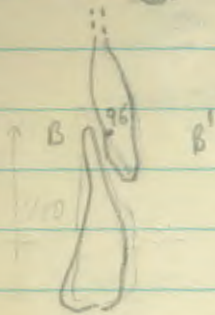
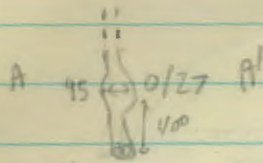


PLAN

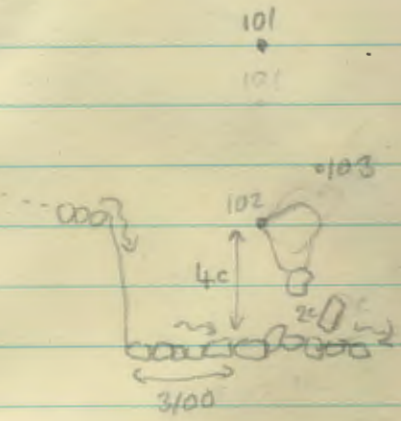


B57

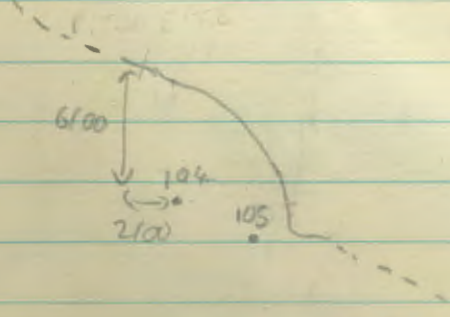
CROSS SECTIONS OF EL BATARD



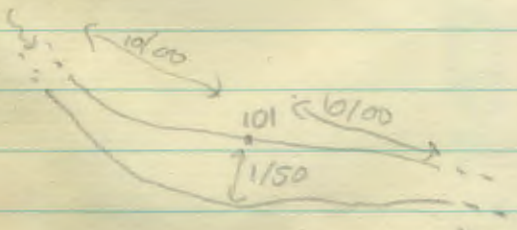
ELEVATION



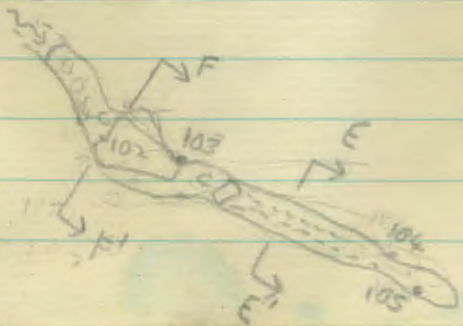
ELEVATION AT



PLAN AT 101 STN HEIGHT

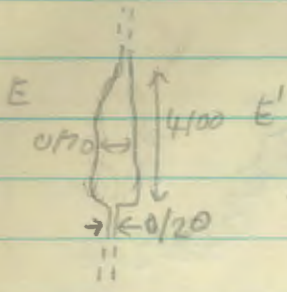


PLAN AT 102 STN HEIGHT

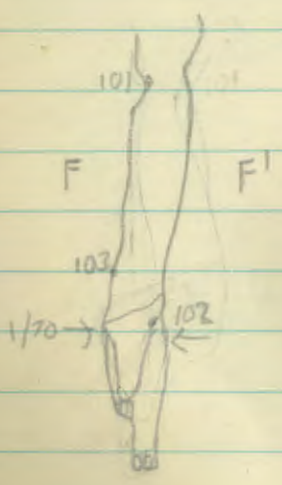


154

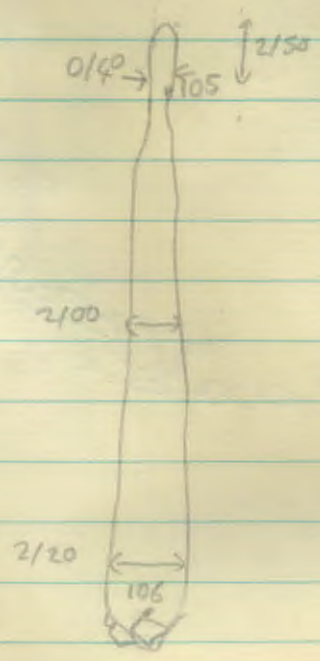
X SECTION EE'



X SECTION FF'

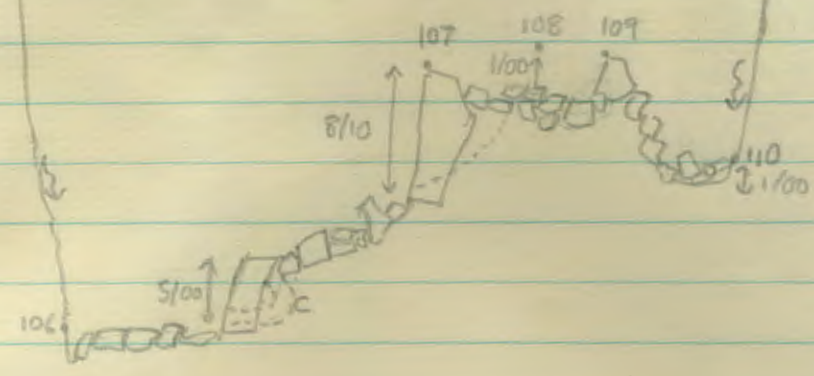


X SECTION
At STN 105

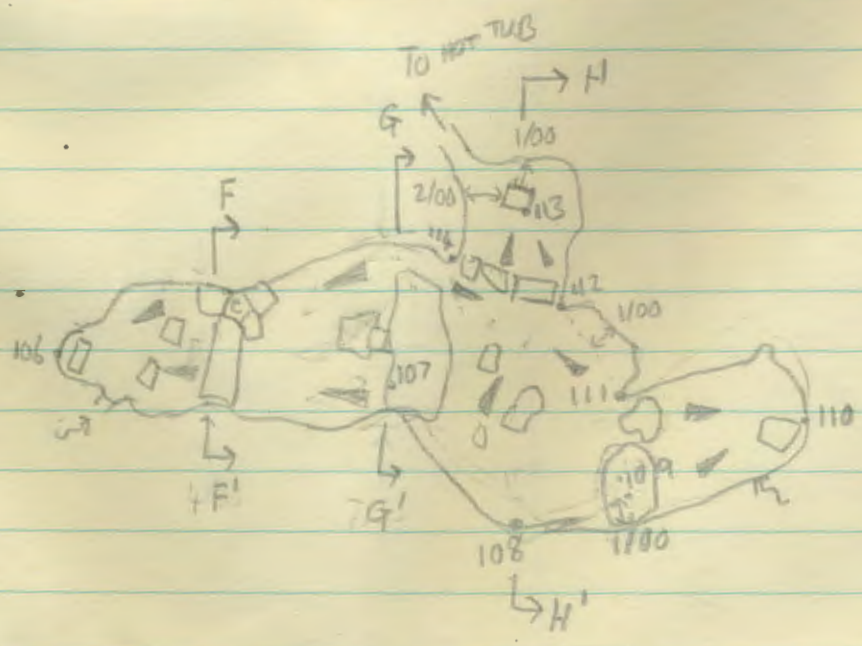


260

ELEVATION OF BIG CHAMBER

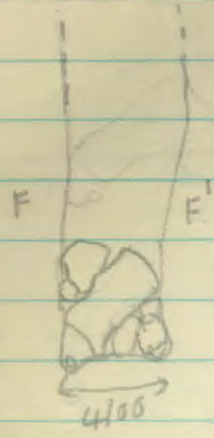


PLAN OF BIG CHAMBER

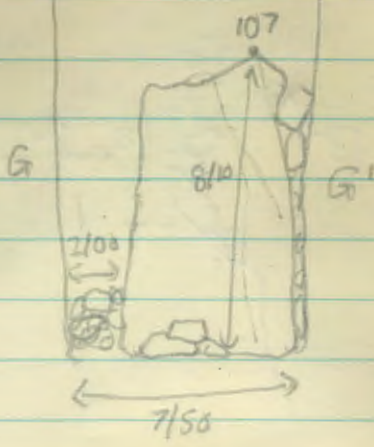


(B61)

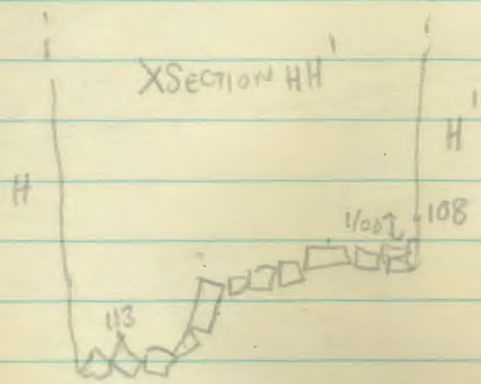
XSECTION FF'

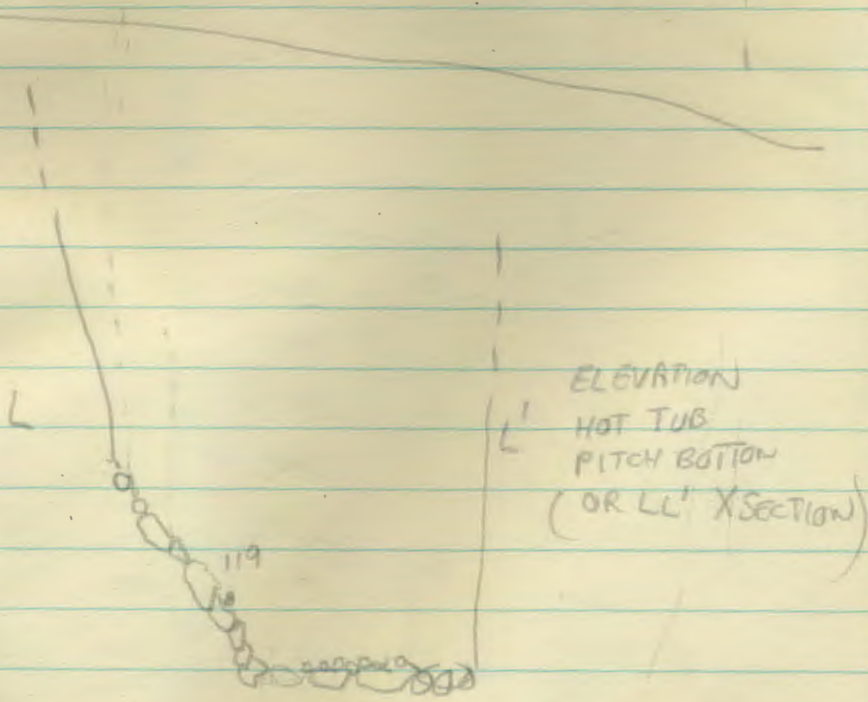
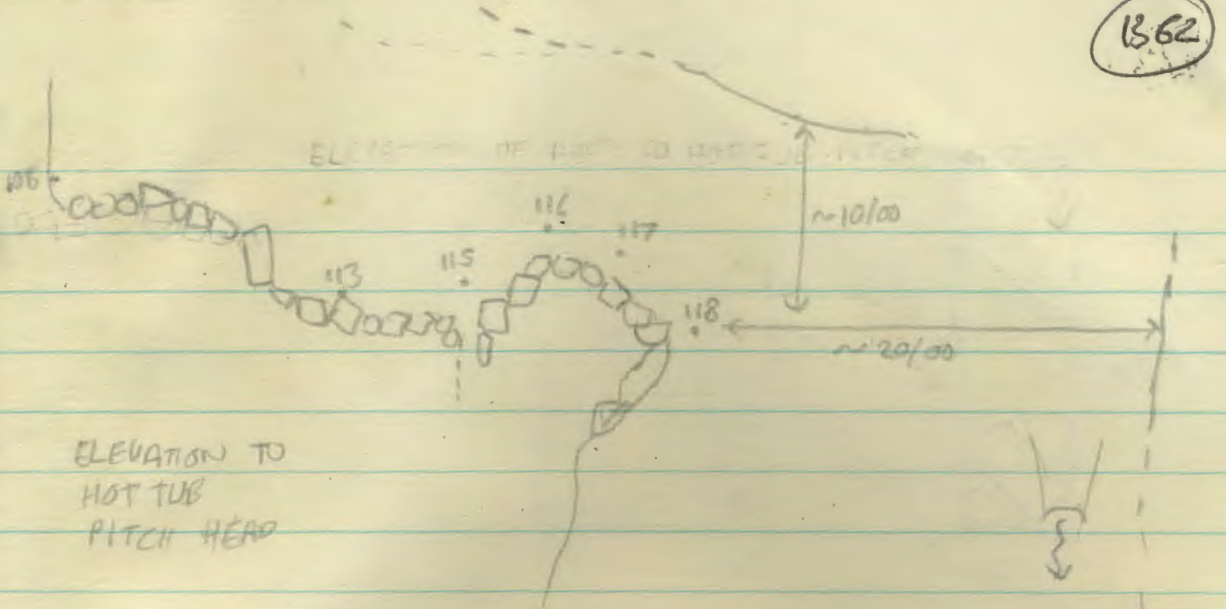


XSECTION GG'

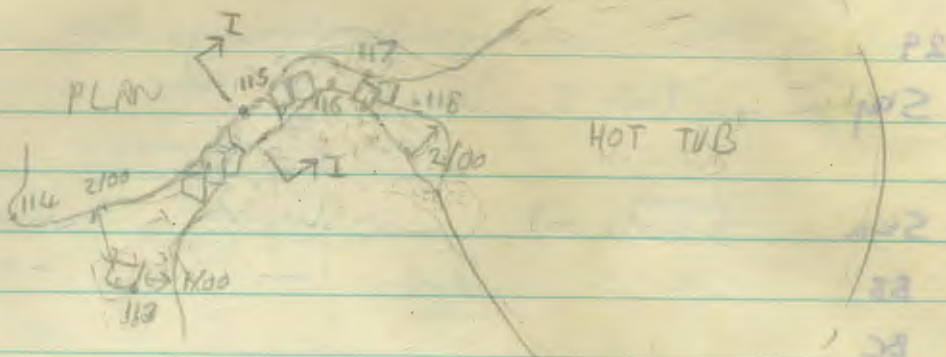


XSECTION HH'

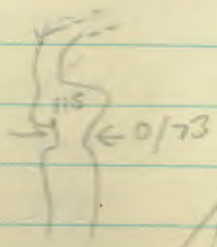




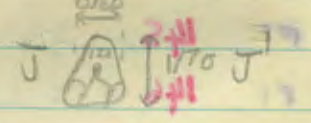
P63



XSection II'



XSECTION JJ'

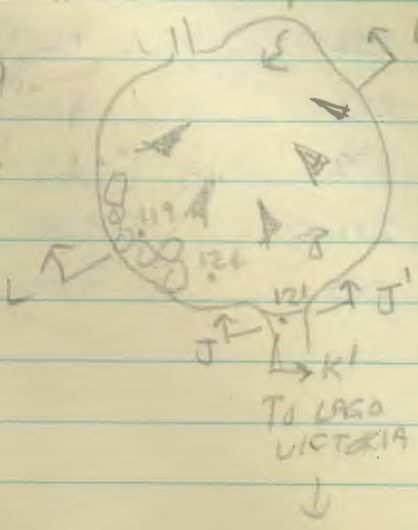


XSECTION KK'

- 541
- 841
- 144
- 021
- 121
- 821
- 021
- 421
- 124
- 221
- 121
- 121

↑ TO THE MERONG

PLAN HOT TUB



K

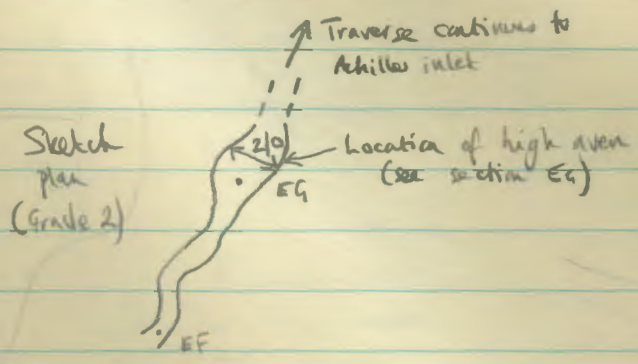
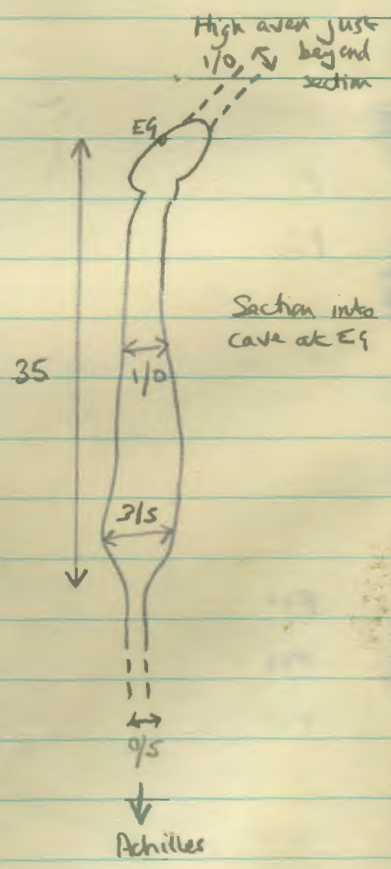
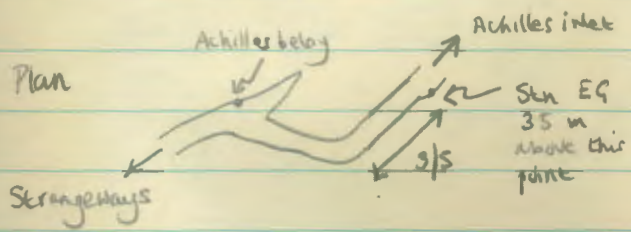
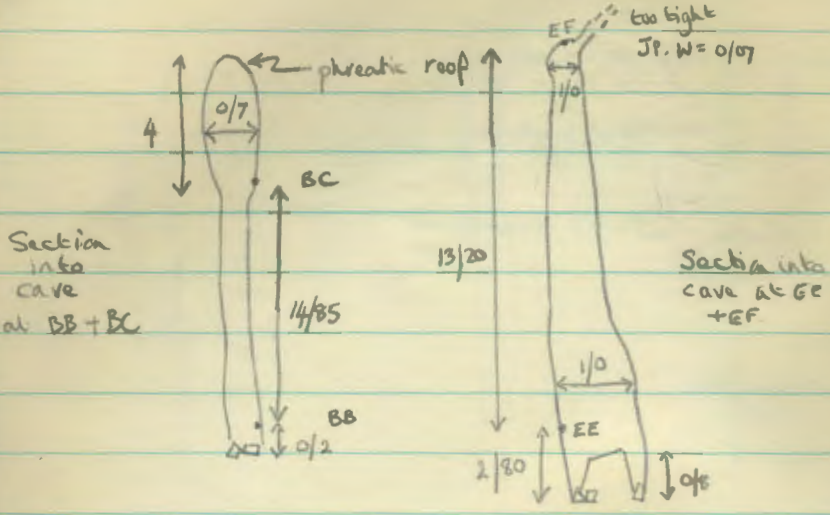
TO LASO VICTORIA

(B64)

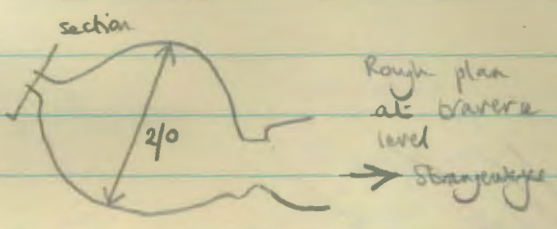
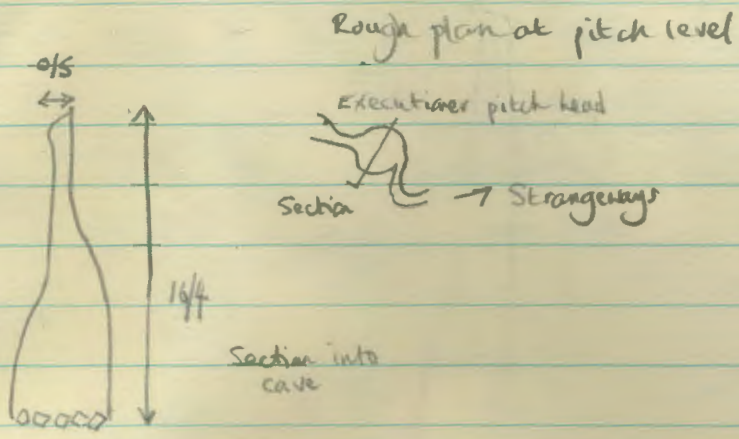
29 July 1984 Survey: Strangeways Rift, Achilles Inlet
Stephen G., Phil R., Ukey.

SEN	Sloping Distance (m)	Declination ^{degrees}	Inclination
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		

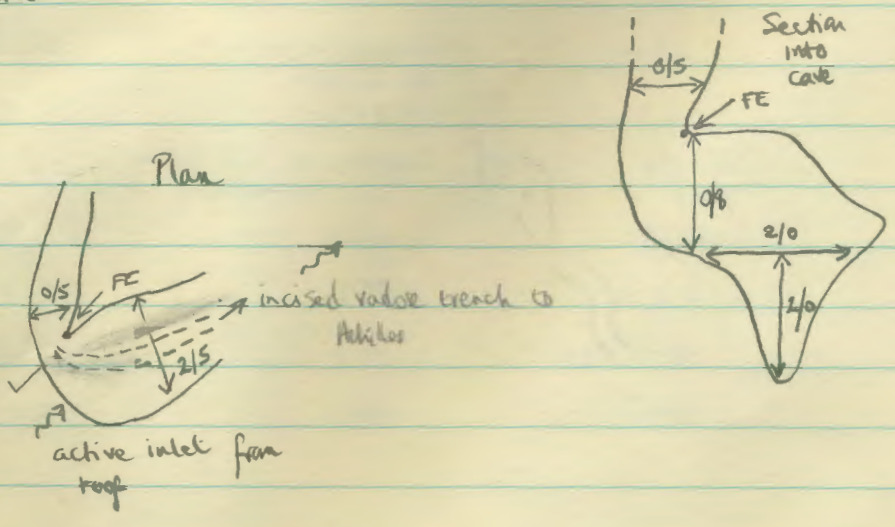
B65



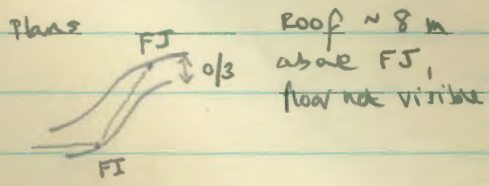
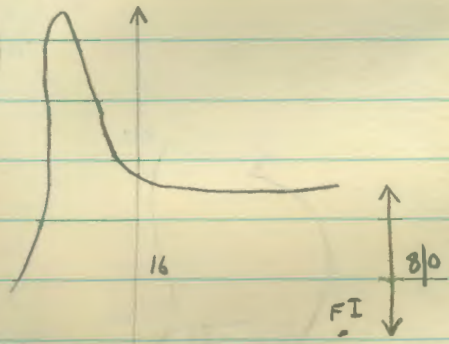
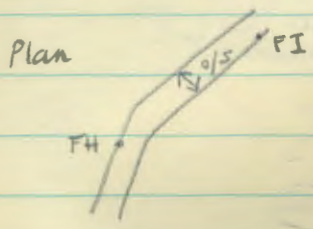
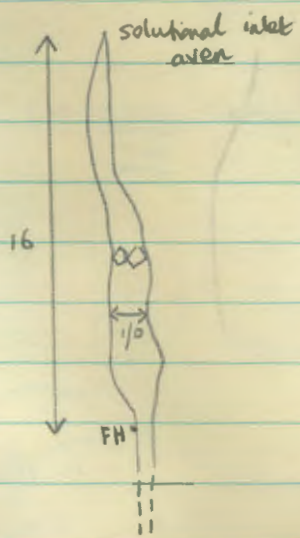
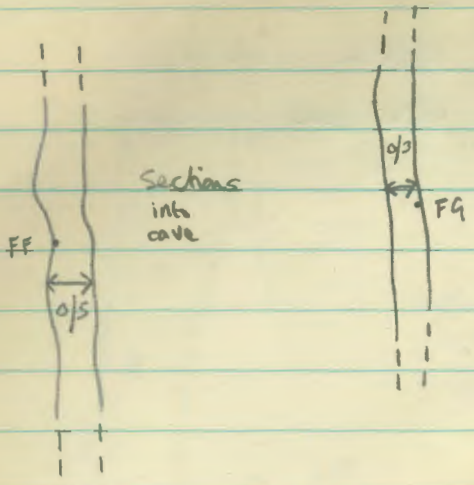
Executives rift sketches



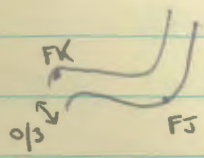
Achilles inlet sketches



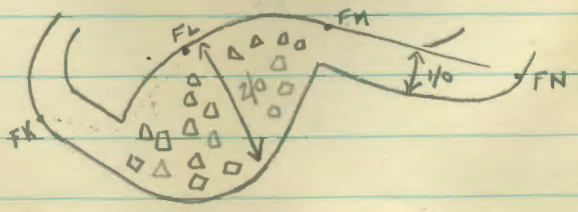
257

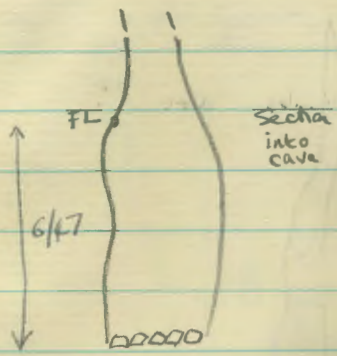


elevation through roof - floor not visible



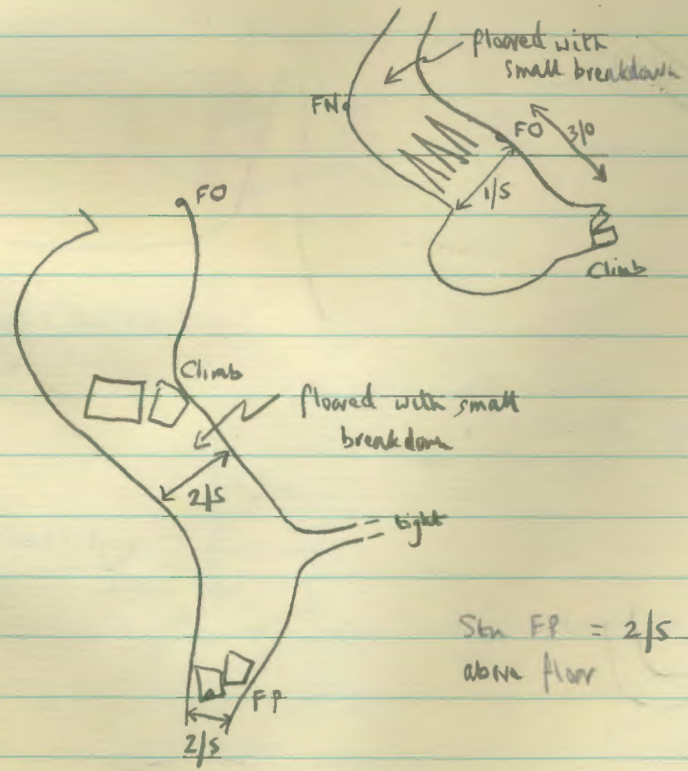
Height of FL above floor = 6/47





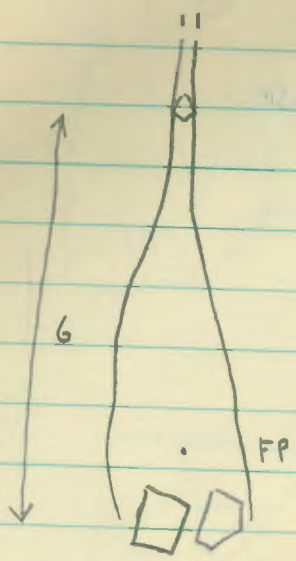
• FN is 5/8 m above floor
 strewn with small breakdown

Plans



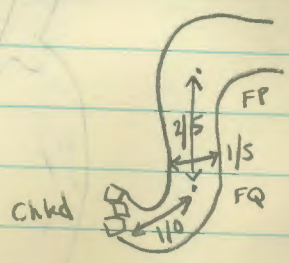
Stn FP = 2/5 m
 above floor

1369

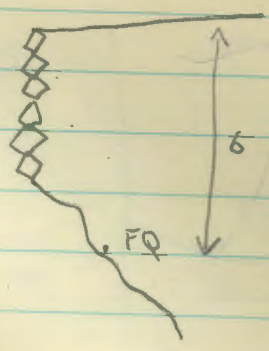


FQ ~ 10m above FP floor

Section into cave



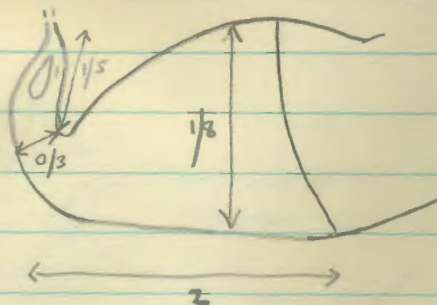
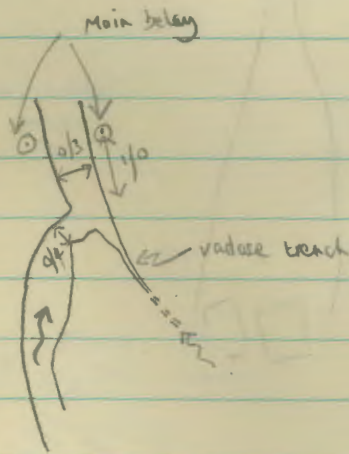
Collapsed boulders on floor



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

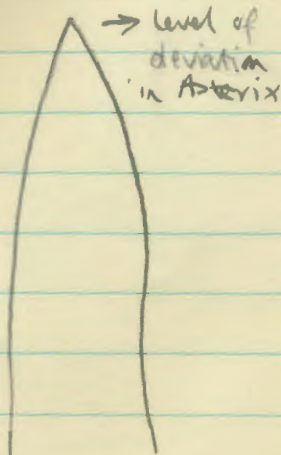
Note calcite vein aligned 020 in Obelisk.

Plan: rebelay 2
in Achilles



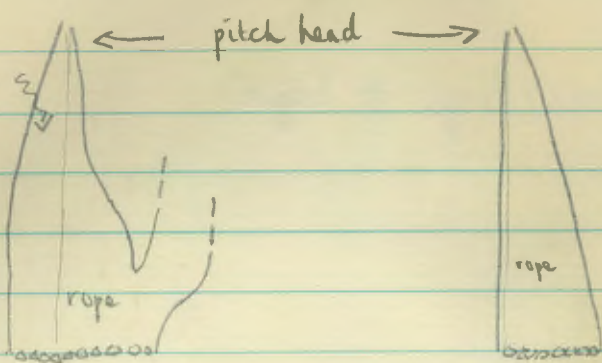
Plan: top of Nostril

Elevation from
200 degrees, head
of Nostril.



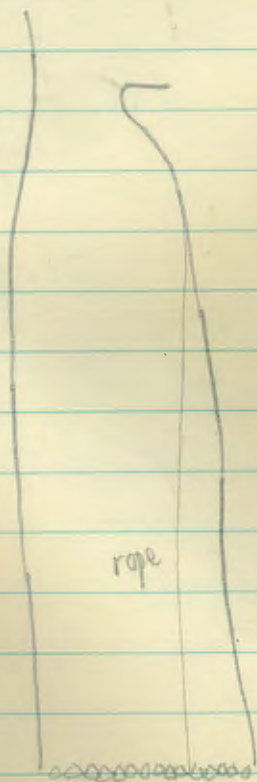
Nostril
pitch head →

871
178
Pdy



Elevation

Nostril

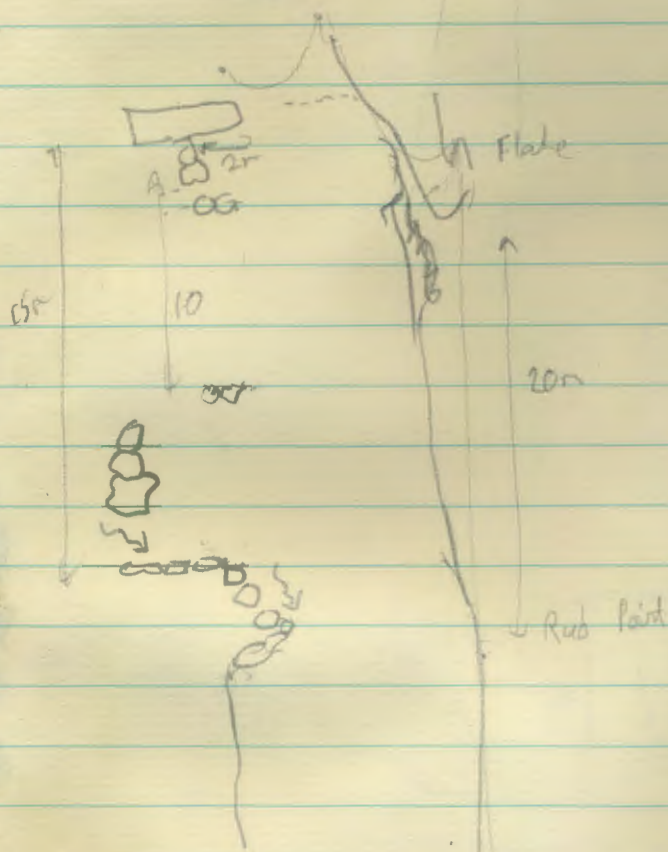


Bogie

rope

Sketch Plans/Diags of Bogie

ELEVATION



Plan

