

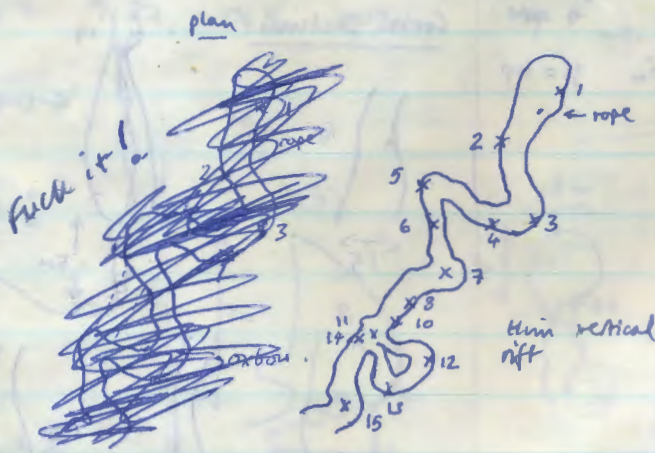
F20 Survey 1986 - beginning at survey station at end of '85 survey
ie bottom of pitch below calamity Jane

Danell (tape), Fred (instr), Richard (book)

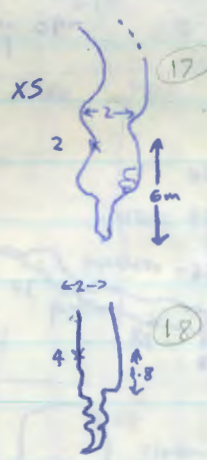
5-7 August 1988

S → S	Tape	Bearing	Inclination	Pw	Above floor.
1 → 2	8.10	149	+27	2m	1=1985 point, 2=4m.
3 → 2	7.45	294	-14	2.5	3=5m
3 → 4	6.25	174	+51	2	5
5 → 4	9.10	349	-39	2	5= standing height (HM) from ledge.
5 → 6	3.88	070	-28	1	6= knot secondary.
7 → 6	5.35	223	+69	1	7 on semi pitch = diagonal abseil.
7 → 8	5.97	100	-47	1	8 below rebelay.
18 → 9	6.30	0	-90	1	
10 → 9	4.10	figure uncreadable ? = 06	+59	0.5	thin rift bearing difficult but v. steep Entered as '206' SGA
11 → 10	2.10	0	+04		
12 → 11	2.81	244	+16		5m below
13 → 12	2.24	290	+45	0.5	
14 → 13	4.9	42	+44	0.5	

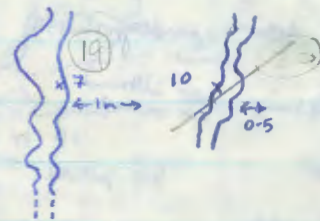
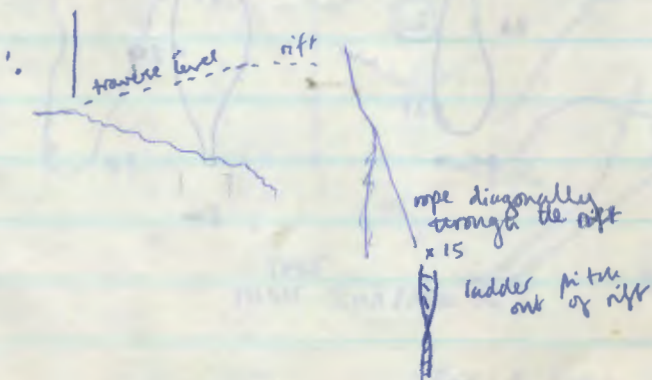
(M)



Xsections



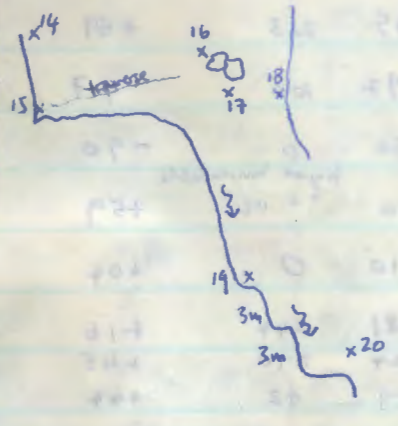
Rough Elevation from memory



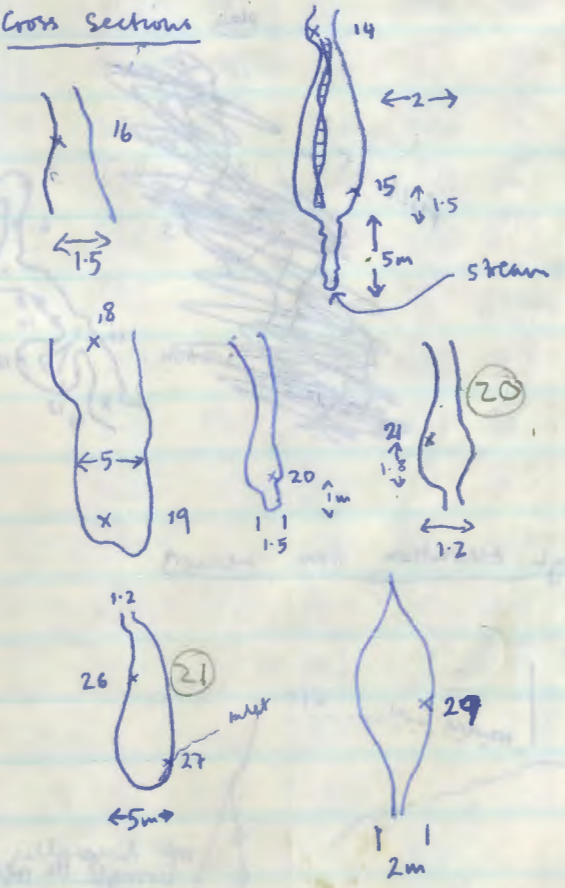
S→S	Time	Bearing	Inclination	Dist	above floor
14→15	11.59	137	-79	2m	14 = ladder 15 see below 16 up in pit
16→15	10.84	42	-41	1.5m	
16→17	5.53	114	+64	1.0	
17→18	1.78	96	-16	5m	
19→18	24.25	0	+90	5m	19 = 1.8m above floor
20→19	13.14	253	+43	1.5m	20 = 1m
20→21	9.84	184	+13	1.2	1.8 above a ledge
22→21	5.70	027	-13	1.2	top of a pit
22→23	6.95	217	-71		23 = 5m above the stream
24→23	1.38	299	+33	0.5	24 = 5m
24→25	2.84	157	-58	0.5	25 = 2° slope
25→26	8.10	183	-65	2m	
27→26	23.50	286	+75	5m	27 on the floor
27→28	7.15	032	-41	1.5m	
29→28	2.10	122	-10	1.5m	
29→30	5.32	351	-18	2m	30 = bottom of rope
31→30	15.45	0	-90	5m	ie pit up 31 = top



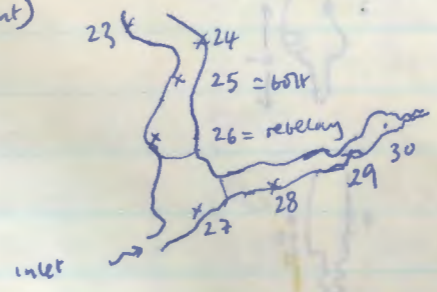
Elevation (drawn in cave)



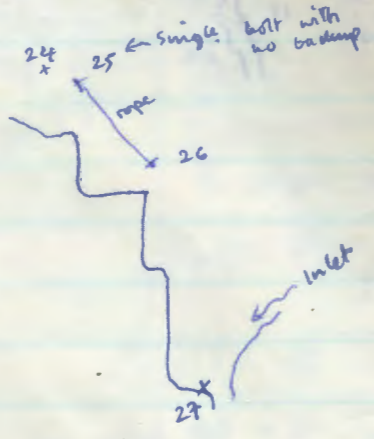
Cross Sections



Plan (cont)



Elevation (again drawn underground!)

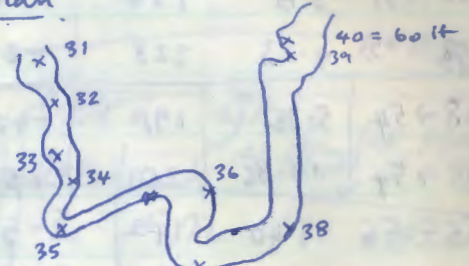


f20 (cont).

S30

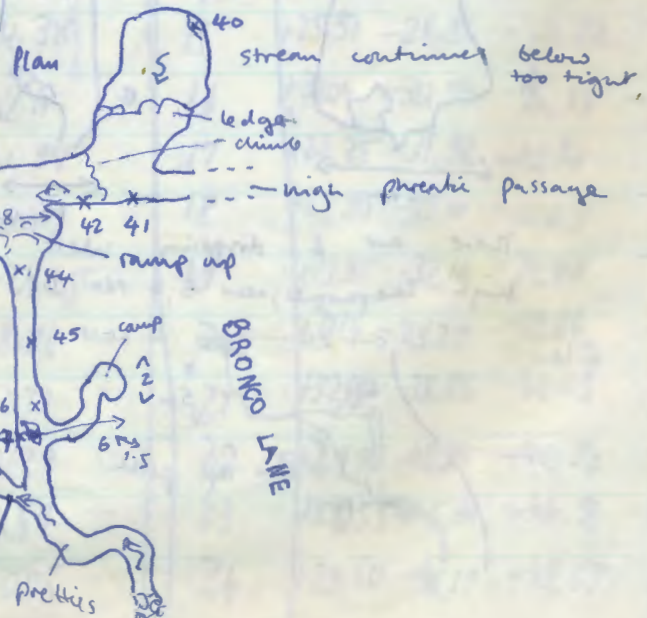
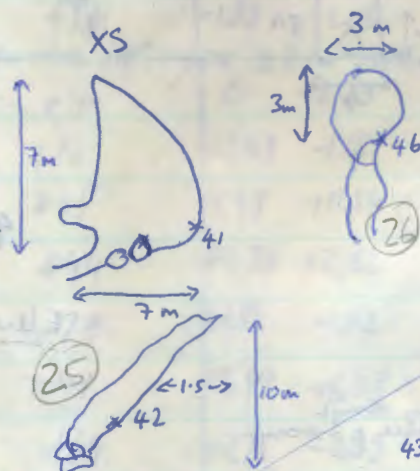
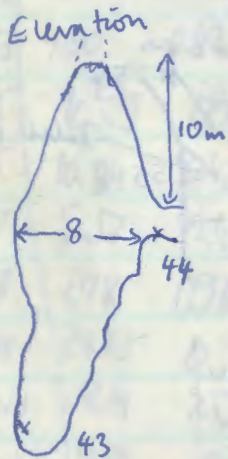
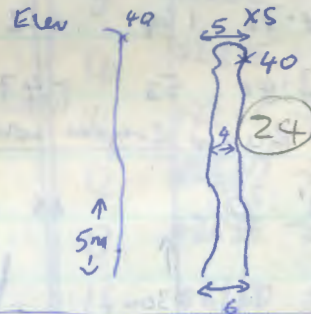
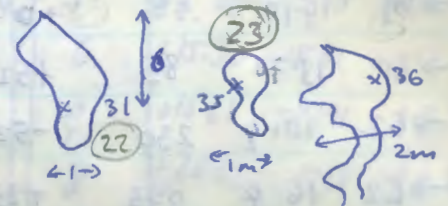
S→S	Time	bearing	Inclination	Av	above floor ↓	below roof
32→31	2:33	146	-03	1.5	Night in	31 = 6m
32→33	2:35	043	+04	1.0	Amnesia ∴ no floor	32 = 4m
34→33	3:09	159	+19	1.0	phreatic tube with moose trench below	33 = 2m
34→35	3:44	042	-18	1.0		34 = 1m 35 = 0m 36 = 1m
36→35	5:05	128	+4	1.0		
36→37	3:33	320	+4	2m		37 = 1m
38→37	2:89	198	+30	1m		
38→39	10:38	297	-11	1.5m		
39→40	0:68	345	+8	1.5m		
40→41	13:80	017	-52	7m		
42→41	3:90	266	-31	2m		
42→43	10:45	66	-2	3m		
44→43	25:48	176	-62	2m at 0.6m 43		
44→45	16:42	49	+7	2m		
46→45	11:33	254	+9			
46→47	9:27	045	+12	4		

Plan



Night in Amnesia - what a terrible name!

XS



THE HIGH CHAPARRAL

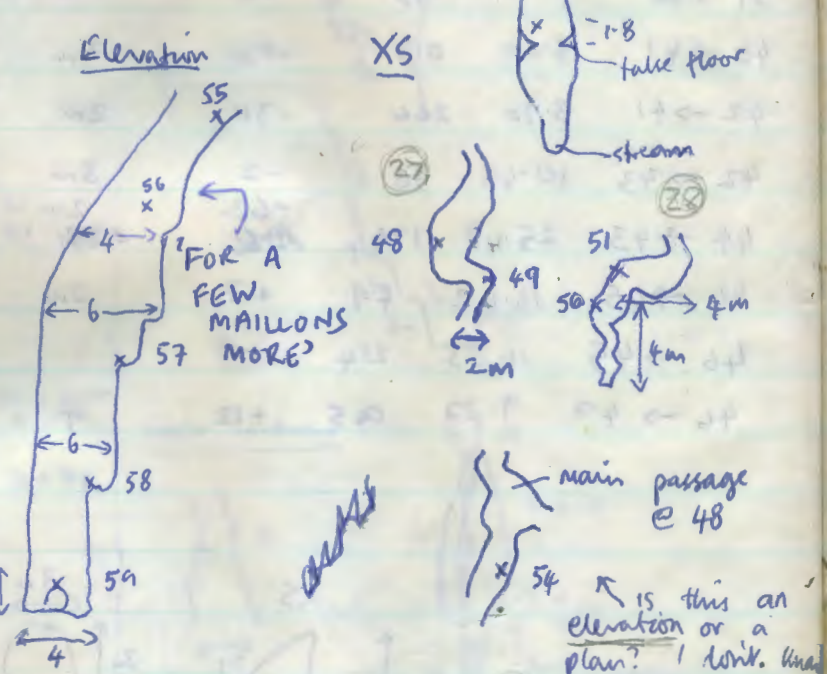
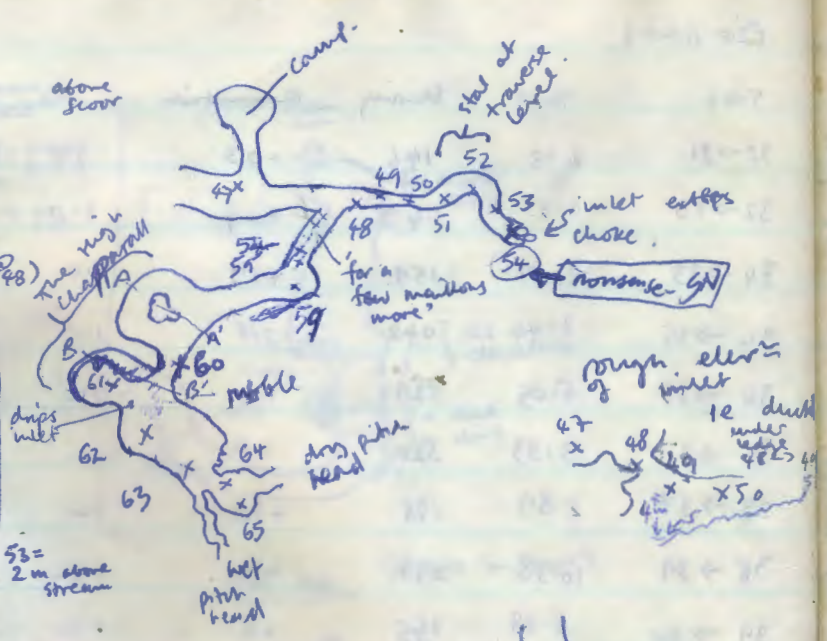
SEE OVER

FOR A FEW
MILLIONS
MORE

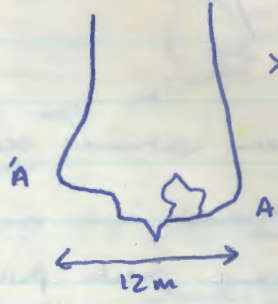
F20 survey (cont)

(53)

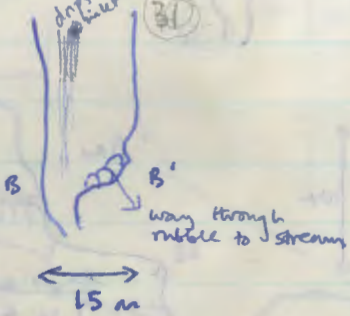
S→S	Tape	Bearing	Inclination	Av
55→56	8.40	142	-54	7
48→47	10.27	224	+10	2m (28)
48→49	3.87	004	-48	2m
50→49	5.50	240	+2	1m
50→51	5.42	346	+16	2m
52→51	3.15	177	-2	1.5
52→53	4.23	228	-25	1.5
48→54	5.35	191	-42	1m
55→54	17.86	269	+53	
55→56	8.40	142	-54	3m
57→56	15.00	188	+69	3
57→58	17.85	161	-70	4
58→59	14.25	146	-74	4
60→59	14.10	58	+08	3
61→60	13.70	83	+52	15
61→62	10.4	230	-52	
63→62	16.4	053	+35	1m
63→64	4.71	164	+12	blocks
65→64	3.41	53	-47	3



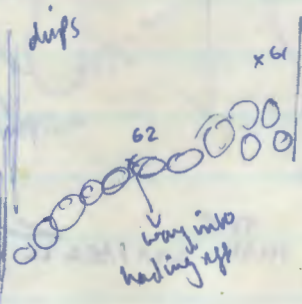
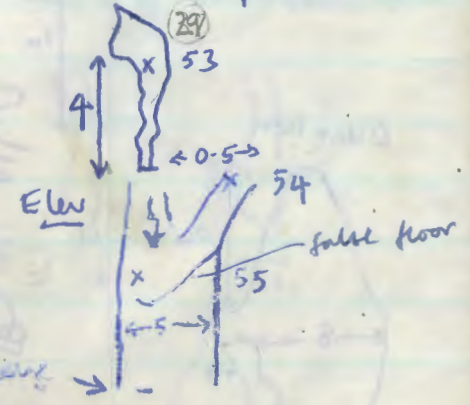
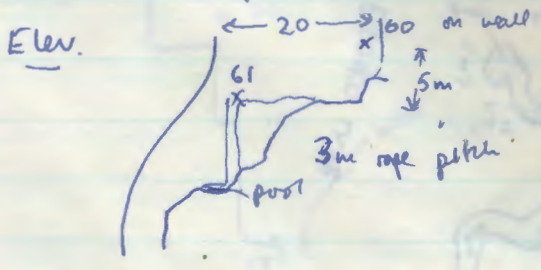
XS at AA' (30)



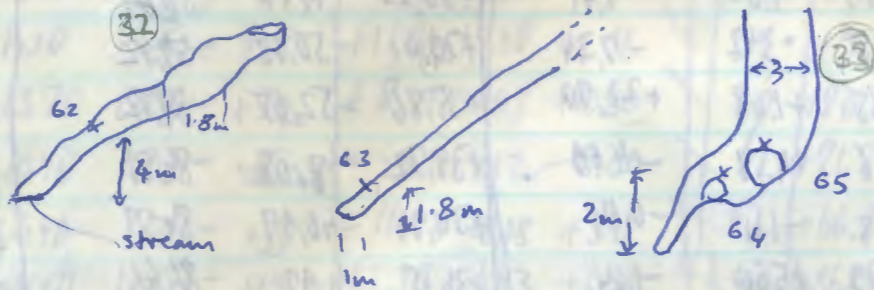
XS at BB' (31)



There are 2 dripping inlets in the high Chaparral, near B, & near G2.



is this an elevation or a plan? I don't know



Evaluation of the above

leg	R	g	α	Δx	Δy	Δz	Station	GN as from last year's limit of survey		
1-2	810	149	+27	+3.72	-6.19	+3.68	2	+3.72	-6.19	+3.68
3-2	7.45	294	-14	-6.60	+2.94	-1.80	3	+10.32	-2.13	+5.48
3-4	6.25	174	+51	+0.41	-3.91	+4.86	4	+10.73	-13.04	+10.34
5-4	9.10	349	-39	-1.35	+6.94	-5.73	5	+12.08	-19.98	+16.06
5-6	3.88	070	-28	+3.22	+1.17	-1.82	6	+15.30	-18.81	+14.24
7-6	5.35	223	+69	-1.31	-1.40	+4.99	7	+16.61	-17.41	+9.25
7-8	5.97	100	-47	+4.01	-0.71	-4.37	8	+20.62	-18.11	+4.88
8-9	6.30	0	-90	0	0	-6.30	9	+20.62	-18.11	-1.42
10-9	4.10	300	+59	-1.83	+1.06	+3.51	10	+22.45	-19.17	-4.93
(variation over the whole 360° causes $\pm 2.1m$ difference in horizontal leg)										
11-10	2.10	0	+4	0	+2.09	+0.15	11	+22.45	-21.26	-5.08
12-11	2.81	244	+16	-2.43	-1.18	+0.77	12	+24.87	-20.08	-5.85
13-12	2.24	290	+45	-1.49	+0.54	+1.58	13	+26.36	-20.62	-7.44
14-13	4.90	042	+44	+2.36	+2.62	+3.40	14	+29.00	-23.24	-10.84
14-15	1.59	137	-79	+1.51	-1.62	-11.38	15	+25.51	-24.86	-22.02
16-15	10.84	042	-41	+5.47	+6.08	-7.11	16	+20.04	-30.94	-15.11
16-17	5.53	114	+64	+2.21	-0.89	+4.97	17	+22.25	-31.92	-10.14
17-18	1.78	096	-16	+1.70	-0.18	-0.49	18	+23.95	-32.10	-10.63
19-18	24.25	0	+90	0	0	+24.25	19	+23.95	-32.10	-34.88
20-19	13.14	253	+43	-9.19	-2.81	+8.96	20	+33.14	-29.29	-43.84
20-21	9.84	184	+13	-0.67	-9.56	+2.21	21	+32.48	-38.86	-41.63
22-21	5.70	027	-13	+2.52	+4.95	-1.28	22	+29.95	-43.81	-40.34
22-23	6.95	217	-71	-1.36	-1.81	-6.57	23	+28.59	-45.61	-46.91
24-23	1.38	289	+83	-1.01	+0.56	+0.75	24	+29.60	-46.17	-47.67

433

Evaluation of above P20 Survey (cont'd) 8/8/86 G.N.

leg	R	g	d	E			N			Station
				Δx	Δy	Δz	x	y	z	
24-25	2.84	157	-58	+0.59	-1.39	-2.41	+30.19	-47.56	-50.07	25
25-26	8.10	183	-65	-0.18	-3.42	-7.34	+30.01	-50.98	-57.42	26
27-26	2.350 2.86	155 286	55 +75	-5.85	+1.68	+22.70	+35.86	-52.65	-80.12	27
27-28	2.15 2.10	122 122	41 41	+2.86	+4.58	-4.69	+38.72	-48.08	-84.81	28
29-28	2.10 5.32	122 351	10 18	+1.78	-1.11	-0.04	+36.94	-46.97	-84.77	29
29-30	5.32 0	351 0	18 -90	-0.79	+5.00	-1.64	+36.15	-41.97	-86.41	30
31-30	15.45	0	-90	0	0	-15.45	+36.15	-41.97	-70.26 (not up)	31
32-31	2.33	146	-3	+1.30	-1.93	-0.12	+34.85	-40.04	-70.84	32
32-33	2.35	043	+4	+1.60	+1.71	+0.16	+36.45	-38.33	-70.68	33
34-33	3.09	159	+19	+1.05	-2.93	+1.01	+35.40	-35.60	-71.68	34
34-35	3.44	042	-18	+2.19	+2.43	-1.06	+37.59	-33.17	-72.95	35
36-35	5.05	128	+4	+3.97	-3.10	+0.35	+33.62	-30.06	-73.10	36
36-37	3.33	320	+4	-2.14	+2.54	+0.23	+31.48	-27.52	-72.87	37
38-37	2.89	198	+30	-0.77	-2.38	+1.45	+32.26	-25.14	-74.31	38
38-39	10.38 10.38	297	-11	-9.08	+4.63	-1.98	+23.18	-20.51	-76.29	39
39-40	0.68	345	+8	-0.17	+0.65	+0.09	+23.00	-19.86	-76.20	40
40-41	13.80	017	-52	+2.48	+8.12	-10.87	+25.49	-11.74	-87.07	41
42-41	3.90	266	-31	-3.33	-0.23	-2.01	+28.82	-11.51	-85.06	42
42-43	10.45	066	-2	+9.54	+4.25	-0.36	+38.36	-7.26	-85.43	43
44-43	25.48	176	-62	+0.83	-1.93	-2.50	+39.53	+4.68	-62.93	44
44-45	6.42	049	+7	+12.30	+10.69	+2.00	+49.83	+15.37	-60.93	45
46-45	11.33	254	+9	-10.76	-3.08	+1.77	+60.59	+18.45	-62.70	46
46-47	9.27	045	+12	+6.41	+6.41	+1.93	67.00 +67.00	+24.86	-60.77	47
48-47	10.27	224	+10	-7.03	-7.28	+1.78	+74.02	+32.14	-62.56	48
48-49	3.87	004	-48	+0.18	+2.58	-2.88	+74.20	+34.72	-65.43	49
50-49	5.50	240	+2	-4.76	-2.75	+0.19	+78.96	+32.47	-65.63	50
50-51 50-51	5.42	346	+16	-1.26	+5.06	+1.49	+77.70	+42.53	-64.13	51
52-51	3.15	177	-2	+0.16	-3.14	-0.11	+77.54	+45.67	-64.02	52
52-53	4.23	228	-25	-2.85	-2.57	-1.79	+74.69	+43.10	-65.81	53
54-53	5.35	191	-42	-0.76	-3.40	-3.58	+73.26	+28.24	-66.14	54
55-54	17.86	269	+53	-10.75	-0.19	+14.26	+84.01	+28.42	-80.40	55
55-56	8.40	142	54	+3.04	-3.89	-6.80	+87.05	+24.53	-87.20	56

down

Crossing
up

by	R	9	4	0x	0y	0z	Station	X	Y	Z
57-58	15.20	188	+69	-0.75	-5.32	+14.00	57	+87.80	+29.86	-101.20
58-59	17.85	160	+70	+1.99	-5.77	-16.77	58	+89.79	+24.08	-112.97
59-60	14.25	146	-74	+2.20	-3.26	-13.70	59	+91.98	+20.83	-131.69
60-61	12.70	083	+52	+8.37	+1.03	+10.80	60	+80.14	+13.43	-132.63
61-62	10.40	230	-52	-4.90	-4.12	-8.20	61	+71.77	+12.40	-144.43
62-63	16.40	053	+35	+10.73	+8.08	+9.41	62	+66.86	+8.28	-152.63
63-64	4.71	164	+12	+1.27	-4.43	+0.98	63	+56.14	+0.20	-162.03
64-65	3.41	053	-47	+1.86	+1.40	-2.49	64	+57.41	-4.23	-161.05
65-66							65	+55.55	-5.63	-158.56

-3.22
-1.62
-5.44

- depth at (63) thus seems to be -54cm, assuming last years lim. a. sur. was at -382m.
- the thing is not heading for FV56; (well not very much anyway)



present limit
(too deep for L. Victoria if surface figures are correct)

last survey pt. in 1985 F28
(F17) is at
263-86 / 93-08 / -381-84

535

F20 The final Conflict.

8/8/86

Book - Phil Duncan

Instruments - Martin May,

TAPS - Phil Rose,

Compass. 514447

Cline 510270

(N) on computer...

THE NUMBERS.

N ^o	COMPAS	CLINO	TAPS	PASSAGE WIDTH	PASSAGE HEIGHT	STATION HEIGHT	(at station)
0 → 1	172	-12 8	4/37	2	0/5	1/5	1
2 → 1	015	+42	1/32	—	—	—	2
3 → 2	055	+55	10/15				3
4 → 3	025	+65	11/42				4
5 → 4	269	+61	14/35				5
5 → 6	228	-14	9/42	1/5	4	3	6
7 → 6	355	+22	3/66	1/5	2	1/5	7
7 → 8	250	-2	8/70	2/5	2	1/5	8
9 → 8	090	+4	6/54	1	4/5	4	9
9 → 10	219	-34	4/32	1/6	6	3	10
11 → 10	075	+10	7/2	2	6	1/5	11
11 → 12	244	+2	8/96	0/5	5	—	12
13 → 12	076	-21	17/1	1/4	—	—	13
13 → 14	250	-1	27/6	2	INLET	—	14
15 → 14	045	+22	16/6	1/5	4	1	15
15 → 16	253	0	17	0/8	—	—	16
17 → 16	041	-1	7/54	1/5	5	1/5	17
17 → 18	254	-1	22/58	1	6	1/5	18
18 → 19	250	+60	4/38	1	1	0/5	19
20 → 19	073	-6	6/6	1	1	0/5	20
20 → 21	239	-10	26/5	2	4	1/5	21
22 → 21	063	+4	10/35	1	2	0/5	22
22 → 23	254	+7	13/5				23
24 → 23	064	+6	15/75				(23)

RIFT

THE REST OF THE NUMBERS

c/o Gerhard and his hp 15C =

836

leg	East North Up			Station	as from last year's print cont'd from previous page		
	Δx	Δy	Δz		X	Y	Z
1>1	+0.59	-4.23	-0.91	1	+56.14	-9.86	-159.47
2>1	+0.25	+0.95	+0.88	2	+55.89	-10.81	-160.35
3>2	+4.77	+3.34	+8.31	3	+51.12	-14.15	-168.67
4>3	+2.04	+4.37	+10.35	4	+49.08	-18.52	-179.02
5>4	-6.96	-0.12	+12.55	5	+56.04	-18.40	-191.57
5>6	-6.79	-6.12	-2.28	6	+49.24	-24.52	-193.85
7>6	-0.30	+3.38	+1.37	7	+49.54	-27.90	-195.22
7>8	-8.17	-2.97	-0.30	8	+41.37	-30.87	-195.52
9>8	+6.52	0	+0.46	9	+34.85	-30.87	-195.98
9>10	-2.25	-2.78	-2.42	10	+32.59	-33.65	-198.39
11>10	+6.85	+1.84	+1.25	11	+25.74	-35.49	-199.64
11>12	+8.05	-3.93	+0.34	12	+17.69	-39.41	-199.33
13>12	+15.49	+3.86	-6.13	13	+2.20	-43.28	-193.20
13>14	-25.93	-9.44	-0.48	14	-23.73	-52.72	-193.68
15>14	+10.88	+10.88	+6.22	15	-34.61	-63.60	-199.90
15>16	-16.26	-4.97	0	16	-50.87	-68.57	-199.90
17>16	+4.95	+5.69	-0.13	17	-55.81	-74.26	-199.77
17>18	-21.67	-6.21	-0.39	18	-77.49	-80.47	-200.16
18>19	-2.06	-0.75	+3.79	19	-79.54	-81.22	-196.37
20>19	+6.28	+1.92	-0.69	20	-85.82	-83.14	-195.68
20>21	-22.37	-13.44	-4.60	21	-108.19	-96.58	-200.28
22>21	+9.20	+4.69	+0.72	22	-117.39	-101.27	-201.00
22>23	-12.88	+3.69	+1.65	23	-130.27	-104.96	-199.36

is this a backward leg?
or silly mid-off!

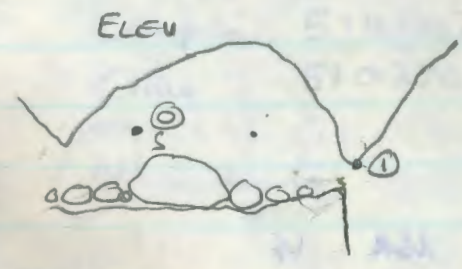
← NB this must be a forward leg - have checked this (carefully) with Phil & Phil

total depth ~ 584m

COMPUTED TOTAL DEPTH (SAR) = -581.2

F20 DRAWINGS FROM LIMIT OF PREVIOUS SURVEY TO SUMP

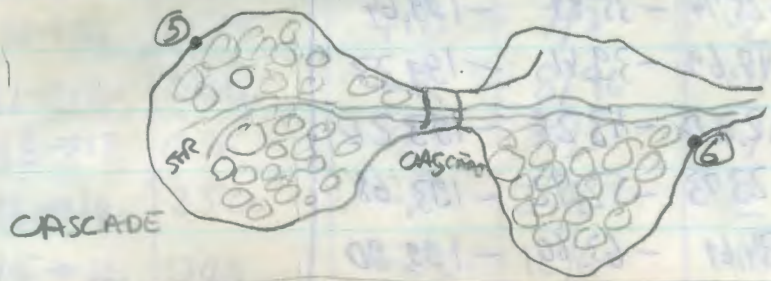
PLAN



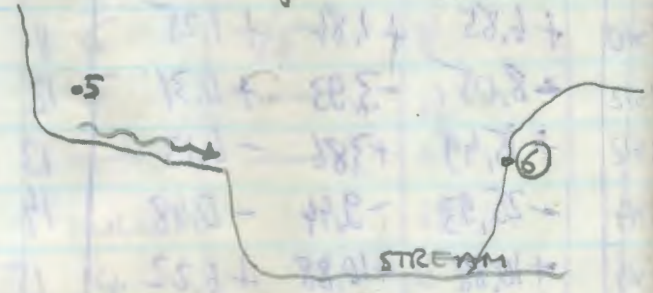
PLAN



PLAN (SPLIT AT 5)



ELEV HIGH CHAMBER

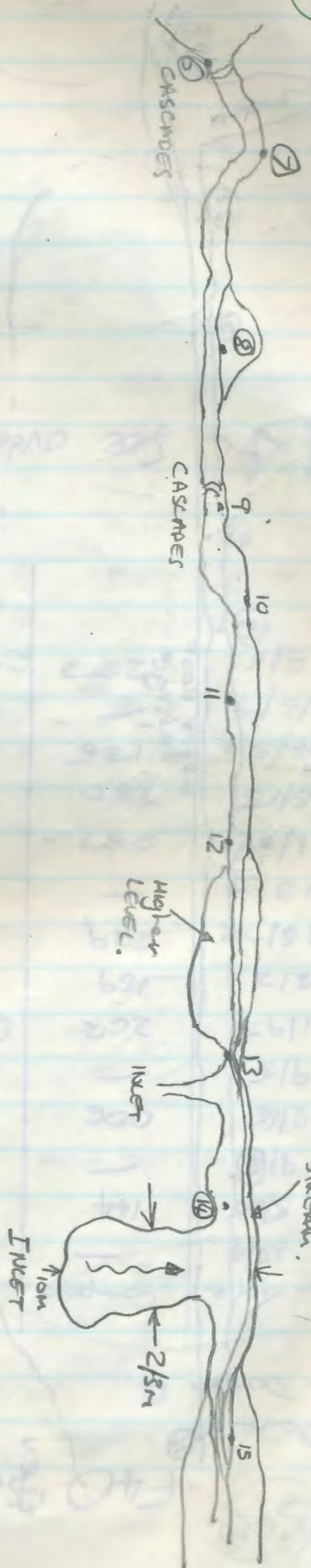


1/18/20

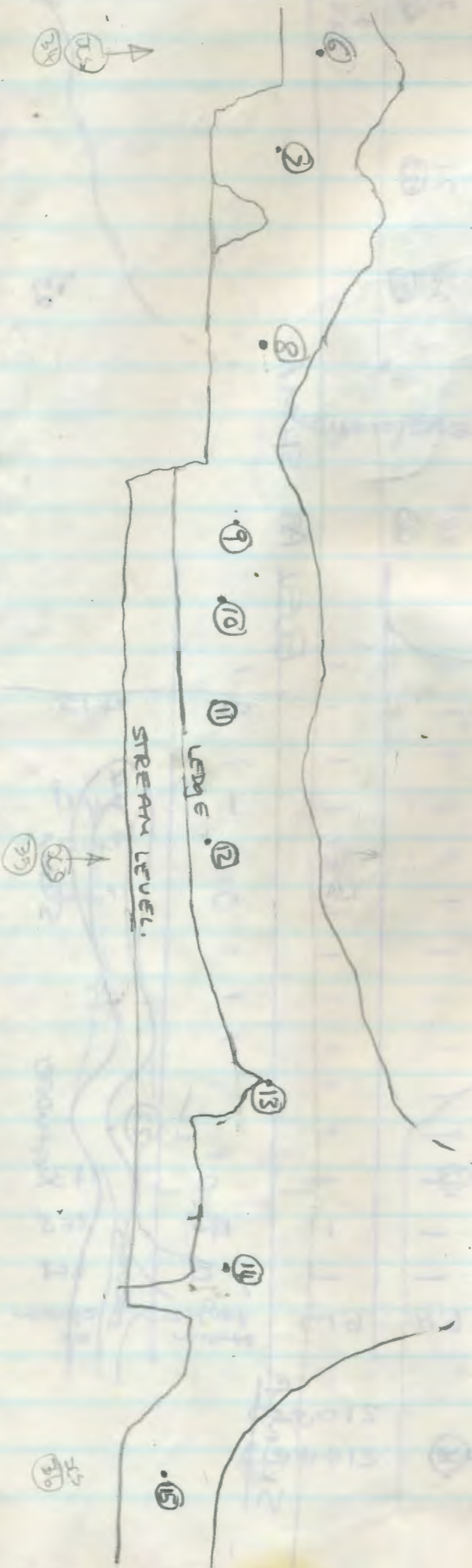
5,182- = (322) 11420 LATIT 201403

PURETANIC CANYON.

PLAN



ELEVATION

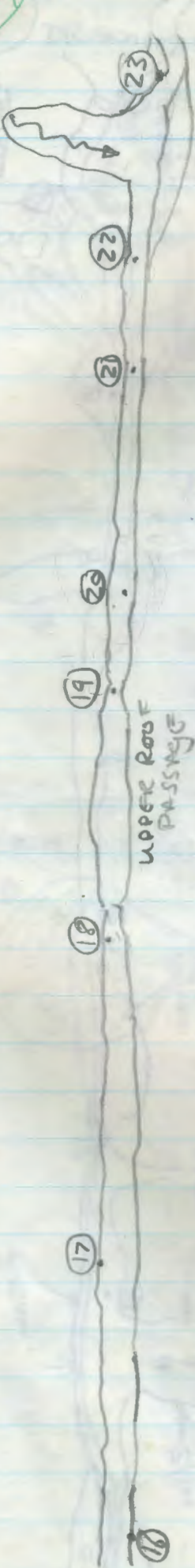


F20 PHREATIC CANYON CONT'D

PLAN

(539)

INLET



ELEV

16

17

18

18

19

20

21

22

23

UPPER ROOF PASSAGE

18

19

20

20

21

22

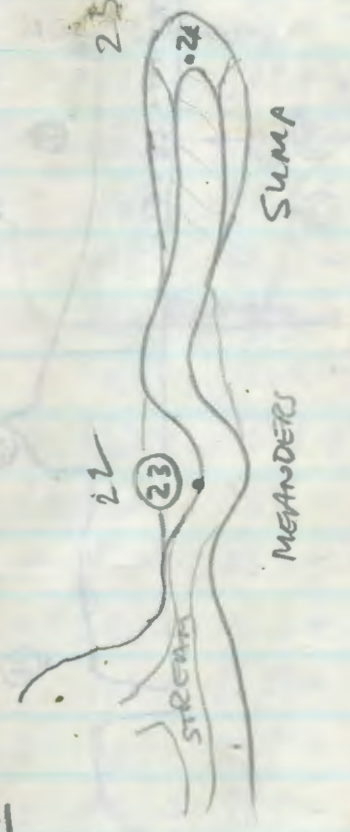
22

23

300 fcs

ELEV AT SUMP

Sump



22

23

24

STREAM

MEANDERS

SUMP

23

23

29

1/67m