O.S. 337

H.

TRAVERSE ABSTRACT

Traverse G.B H Astro Compass.

Date June 21st 22nd 24th. Angle Book..... Sketch & Details of C. of S. Pegs on Reverse Side

Station	To		1st Round ° ′ ″	2nd	Mean ° ′ ″	Measured Dist.	R.P. Check	Vertical Angle ° ′ ″
H.1.	C.12. Δ 1ST Grotto.	③	237·9°			7′ 11″	+	13·8°
		②	58·0°					12·3.
H 1	Stalagmite R.P.	①	126·0					
		②	306·0					
H 1.	Stalagtite. R.P.	①	67·8°					
		②	248·0°					
H 1	H 2.	①	61·0			15′ 5″	—	38·2
		②	240·8				—	39·0
		③	241·2.				—	39·0 38·2
			Forward.		Back.	Forward.		Forward. 37·6
H.2.	H 3a		220·4		31·6	16′ 6″	+	24·6°
			49·2.		211·8		+	26·2
			221·9.		32·0.			
			41·9		212·3			
H.3a	For H 3b. Back H 2.		127·8 ~~AA·8~~		128·4	22′ 5″	+	17·9 ~~52·5~~
			307·4		308·3.		+	19·2
H 3	For H 4. Back H 2.		110·4 110·3		358·0 358·1	14′ 2″	—	48
			290·7		178·0		—	49
H 4			347·8		187·6	6′ 7″	—	22
			166·8		7·4			
			346·0		185·2			
H 5			25·9 26		270·8 20	16′ 6″	—	20
			206		90·8		—	21
H 6			238		33·6	24′ 2″	—	12·5
			58·0		213·6		—	11·2
H 7			134·1		318·4 138·8	16′ 7″	—	31·8
			314·4		~~138·8~~		—	33
H 8			277·4		86·8	36′ 9″	—	36
			97·8		266·8 84		—	34·8
H.9			285·2		145·4	66′ 10″	—	13·4
			104·9		325·3		—	14·4
H.10			142·8		65·4	13′ 3″	—	31·8
			322·1		245·2		—	30·5
			322·0		245·0			
			142·2		65·0			
H.11			264·1		65·0	18′ 4″	—	38·7
			84·0		245·6		—	37·4

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Observer R.A.B. Abstracted by N.G.B. Length of Tapes 50′ 2″ 100′ 2″

Astro compass traverse H. Detail with Magnetic



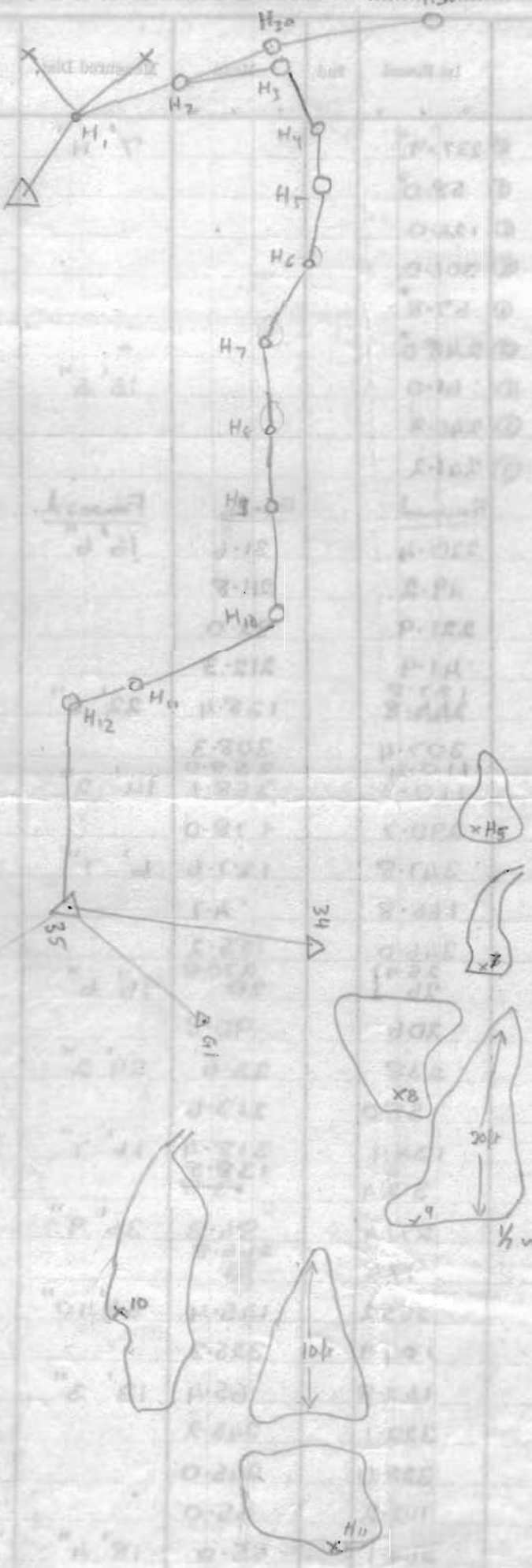
$H_3b \rightarrow H_3c = 3ft$

$c \rightarrow d = 10ft + 60°$

$d \rightarrow e = 16ft + 30$

$c \rightarrow d$ 90° mag.

$d \rightarrow e$ 330° mag.



	Lt	Rt	Floor	Roof	
H_{3b}	2	3	2	5	feet
H_{3d}	c→d 10ft	1	3	10	feet
H_{3e}	1	1	10	3	feet
H_2	1	1'6"	2	6	
H_3	6"	2	2	5	
H_4	1	1	6"	4	
H_5	1'6"	2	6"	4	
H_6	4	3	0	4	
H_7	1	2	1	5	
H_8	4	3	1'6"	12	
H_9	1	10	6"	2"	20 ft
H_{10}	1	3'6"	4	10	
H_{11}	3	1	6"	4	
H_{12}					

Between 8 & 9 on a pitch 9ft. $H_9 \rightarrow H_{10}$ / $H_{10} \rightarrow H_{12}$ ½ mm Between 11 & 12 in a 10 ft pitch

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TRAVERSE ABSTRACT

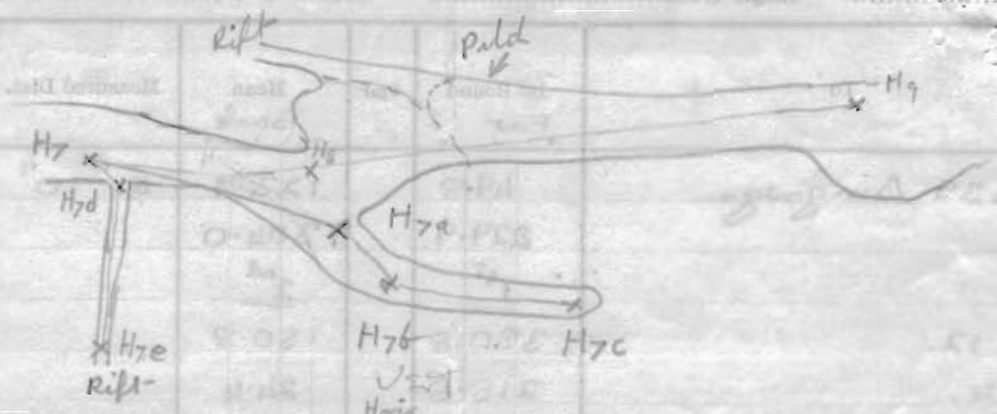
Traverse G. B. M. Astro Compass.

Date..... Angle Book..... Sketch & Details of C. of S. Pegs on Reverse Side

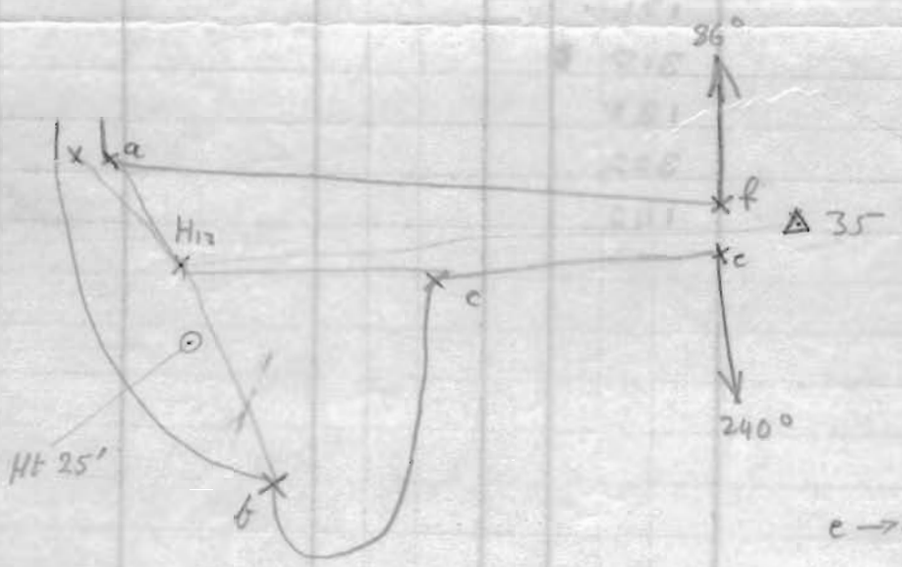
Station	To	1st Round Face ° ′ ″	2nd	Mean Back. ° ′ ″	Measured Dist.	R.P. Check	Vertical Angle ° ′ ″
H12	D.35 Aingorge.	49·8		123·9.	41' 10"	—	10·0
		229·9.		304·0		—	11·8
		1st		2nd			
D35.	H.12.	330·8		150·8			
	D 34.	215·6		24·4			
	G. 1	148·4		328·2			
	G 3	55·8		235·6			
	H.12.	330·8		150·8.			
	Magnetic Bearings.						
D35	H 12	333·2° ~~332~~ 333·0°					
D35	D 34.	98·4					
H10	H9.	355°					
H9	H10	175 176					
H9	H8	318					
H8	H9	138					
H7	H6	322					
H6	H7	142.					

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Observer..... Abstracted by..... Length of Tapes .....



	Mag bear	Horiz Angle	Dist		
$H_7 \rightarrow H_{7a}$	165°	+ 0	17'6"	width	Ht
$H_{7a} \rightarrow H_{7b}$	174°	+ 3	6'	1' 6"	3→4ft.
$H_{7b} \rightarrow H_{7c}$	107	+ 5	14'		
$H_7 \rightarrow H_{7d}$	171	+ 5	9'	width	Ht
$H_{7d} \rightarrow H_7 e$	286	+ 6	25	1'	1'6



e → f - 2ft

		Mag bear	dist
$H_{12} \rightarrow$	a	240	7 ft.
	b	156	12 ft.
	c	74	8 ft.

		Mag bear	dist
△ 35 →	e	322°	7
	f	345	7

Ht at e = 7ft.

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TRAVERSE ABSTRACT Traverse.....

Date..... Angle Book..... Sketch & Details of C. of S. Pegs on Reverse Side

Station	To	MAG	1st Round ° ′ ″	2nd	Mean ° ′ ″	Measured Dist.	R.P. Check	Vertical Angle ° ′ ″
E of H1	Stn C 12		00 00 00		00 00 00	7' 11"		+13 03
	Stalacmite R.P.		111 54	112 00	111 57			
	Stalactite R.P.		170 06	170 00	170 03			
	Stn H2		176 54	176 54 177 12	177 00	15' 5"		-38 44
H2	Stn H1		00 00 00		00 00 00			
	H3a		188 48	189 54 ~~188 36~~	~~189 26~~ 170 14	16' 6"		+25 24
H3a	Stn H2				00 00 00			
	H3b		179 54	36	179 45	22' 5"		+18 33
H3	Stn H2				00 00 00			
	H4		247 36	18 48	247 ~~42~~ 34	14' 2"		-48 30
H4	Stn H3				00 00 00			
	H5		199 48	12	199 30	6' 7"		-22 00
H5	Stn H4				00 00 00			
	H6		244 48	54	244 51	16' 6"		-20 30
H6	Stn H5				00 00 00			
	H7	142°	155 36	155 36	155 36	24' 2"		-11 51
H7	Stn H6				00 00 00			
	H8		184 18	24	184 21	16' 7"		-32 24

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Observer..... Abstracted by..... Length of Tapes .....

H

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TRAVERSE COMPUTATION — MACHINE METHOD

Name of Traverse..... *Computer*..... *Date*.....

Total Length..... *Error*.....

BEARINGS

1

2

3

4

3058188.

Station LEC.	Bearing V. A.	Corr.	Corrected Bearing	Distance ET	Cos. V.A. M.	Sine	Cosine	HEIGHT E. 753.8	LENGTH METRES
H_1								753.8	
C12	13 03 00			7·917	2·~~705~~ 421.	22580	97417	752.0 ~~547~~	2·358
H_1					717.			742.4	
H_2	38 36 00			15·417	4·683	62388	78152	~~2·971~~	3·684
H_2					046.	+		749.5	
H_{3a}	25 24 00			16·500	5·0~~72~~	42897	90337	~~2·169~~	4·558
H_{3a}					856	+		756.6	
H_{3b}	18 33 00			22·417	6·8~~10~~	31213	94805	~~2·191~~	6·500
H_3					333	−		738.98 ~~3·245~~	
H_4	48 30 00			14·167	4·~~304~~	77896	66262	10·611	92·871
H_4					013.	−		736.65	
H_5	20 00 00			6·583	2·~~006~~	34202	93969	~~688~~	1·893
H_5					076.	−		730.87	
H_6	20 30 00			16·500	5·~~012~~	35021	93667	~~1·787~~	4·726
H_6					391.	−		725.98 ~~1·873~~	
H_7	11 51 00			27·167	7·~~342~~	20535	97869	~~1·752~~	7·237
H_7					072.	−		6 717.09	
H_8	32 24 00			16·583	5·~~038~~	53583	84733	~~2·773~~	4·282
H_8					11·601	−		695.76	
H_9	35 24 00			36·750	10·~~202~~ 310.	57928	81513	~~2·743~~	13·295
H_9					9.	−		679.64	
H_{10}	13 54 00			66·833	20·~~431~~	24023	97072	~~1·996~~	19·841
H_{10}					052.	−		672.97	
H_{11}	30 33 00			13·250	4·052	50829	86119	~~2·050~~	3·790
H_{11}					607.	−		661.64	
H_{12}	38 03 00			18·333	5·607	61635	78747	~~3·456~~	4·715
H_{12}					793.	−		653.75	
35	10 54 00			41·833	12·793	18910	98196	~~2·514~~	12·562
						D35 Mean		653.5	

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Station	~~Bearing~~ Va.	Corr.	Corrected Bearing	Distance	Cos. V.A.	Sine	Cosine	~~H.~~ Height.	N.
H7-7a	0			17.57				725.8	
7a-7b	+3°			6.02		+ .05234		726.1	
7b-7c	+5°			14.06		+ .08716		727.3	
H7-7d	+5°			9.04		+ .08716		726.6	
7d-7e	+6°			25.10		+ .10453		728.2	
H3-3b						+ 31813		756.6	
H3b-3c				3.01 ~~.02~~		− 31813		755.6	
3b-3d	+60			10.04		+ .86603		764.3	
3d-3e	+30			16.06		+ .50000		772.4	

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TRAVERSE ABSTRACT

Traverse.....

Date..... Angle Book..... Sketch & Details of C. of S. Pegs on Reverse Side

Station	To	Mag.	1st Round ° ′ ″	2nd	Mean ° ′ ″	Measured Dist.	R.P. Check	Vertical Angle ° ′ ″
H8	Stn H7				00 00			
	H9	138°	169 24	00	169 12	36' 9"		-35 24
H9	Stn H8				00 00			
	H10	175° 20'	220 12	24	220 18	66' 10"		-13 54
H10	Stn H9							
	H11		77 24 00	77 12 / 76 54	~~77 07 30~~ 282 52 30	13' 3"		-31 09
H11	Stn H10				00 00 00			
	H12		160 54	161/36	161 15	18' 4"		-38 03
H12	Stn H11				~~00 00 00~~			
	D35	153° 06'	74 06	06	74 06 00	41' 10"		-10 54
D35	Stn H12		00 00 00		00 00 00			
	D34	98° 24'	115 12 00	126 24	115			
	G1		182 24	182 36	182 30			
	G3		275 00	275 12	275 06			
	~~H12~~							

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Observer..... Abstracted by..... Length of Tapes .....

H

O.S. 355

TRAVERSE COMPUTATION — MACHINE METHOD

Name of Traverse Traverse H Astro Compass *Computer* ..... *Date* .....

Total Length 82.8 *Error* .....

BEARINGS

1

2

3

4

Station	Bearing	Corr.	Corrected Bearing	Distance	Cos. V.A.	Sine	Cosine	E. 611.08	N. 202.86
E8-C12	197 35					+	+		
\	177 00							611.97	206.43
H2	14 35	-13	14 20	3.68		24756	96887		
	194 35					+	+		
	170 14							612.28	210.97
H3	04 49	-27	04 20	4.56		07556	99714		
	184 49					+	+		
	247 34							614.98	211.88
H4	72 23	-40	71 40	2.87		94924	31454		
	252 23					+	−		
	199 30							616.86	211.85
H5	91 53	-53	91 00	1.89		99985	01745		
	271 53					+	−		
	244 51					41204		618.78	207.54
H6	156 44	-67	155 40	4.73		91	91116		
	336 44					+	−		
	155 36							623.45	202.80
H7	132 20	-80	131 00	7.23		75471	65606		
	312 20					+	−		
	184 21							626.44	199.77
H8	136 41	-90	135 10	4.28		70805	70916		
	316 41					+	−		
	169 12			9.22				637.35	192.30
H9	125 53	-101	124 10			82741	56160		
	305 53					+	−		
	220 18							642 57	173.20
H10	166 11	-111	164 20	19.94		27004	96285		
	346 11 00					−	−		
	282 52 30							639.06	173.06
H11	269 02 30	-120	267 30	3.49		99905	04362		
	89					−	−		
	161 15 00							634.20	172.76
H12	250 17 30	-130	248 40	4.41		93148	36379		
	70					+	−		
	74 06							641.85	162.88
D35	144 23 30	-135½	142 00	12.56		61566	78801		
	324							641.85	162.88
	126 24 00							− 0.58	+ .04
D34	90 47 30								
								637.35	192.30
								634.28	194.57
								− 3.07	+ 2.27
								642.43	162.84
								639.36	165.11

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Station	Bearing	Corr.	Corrected Bearing	Distance	Cos. V.A.	Sine	Cosine	E.	N.
H3 - H2	184 20 179 45					+	+	612.28	210.97
H3B	04 05			6.500		06978	99756	612.73	217.45
H3c	184 05			.91		− 06978	− 99756	612.67	216.54
3d	90	-11°	79°	~~5~~ 3.05	.50	+ 98163	+ 19081	615.66	217.12
3e	330		319°	4.88	.86603	− 65606	+ 75471	612.46	220.81
	Magnetic								
H7						+	−	623.45	202.80
H7A	165°	-11°	154°	5.33 ✓	~~.99863~~	+3837	89879	625.78	198.01
H7A						+	−		
H7B	174°		163°	1.83 ✓	99863	29237	95630	626.32	196.26
H7A						+	−		
H7c	107°		96°	4.25/27	99619	99452	10453	630.55	195.82
H7						+	−	623.45	202.80
H7d	171		160°	2.74/3	99619	34202	93969	624.38	200.23
H7d						−	+		
H2	286		275°	7.62/58	99452	99619	08716	616.83	200.90
H12						−	−	634.20	172.76
A	240		229	2.13		75471	65606	633.08	171.33
H12						+	−		
B	156		145	3.66		57358	81915		
H12						+	+		
C	74		63	2.44		89101	45399		
D.35						−	+	641.85	162.88
e	322		311	2.13		75471	65606	640.24	164.28
D 35						−	+		
f	345		334	2.13		43837	89879	640.92	164.79
31									