



Università "Cardinale Giovanni Colombo" - Milano

A.A. 2024 - 2025

Corso di Archeoastronomia

Docente: **Adriano Gaspani**

Lezione 8

L'Idea del Cielo e del Cosmo
nella prima Europa

I siti sacri preistorici



Architettura



Geometria

Astronomia



Simbolismo



Divisione cronologica basata sulla priorità degli oggetti astronomici osservati

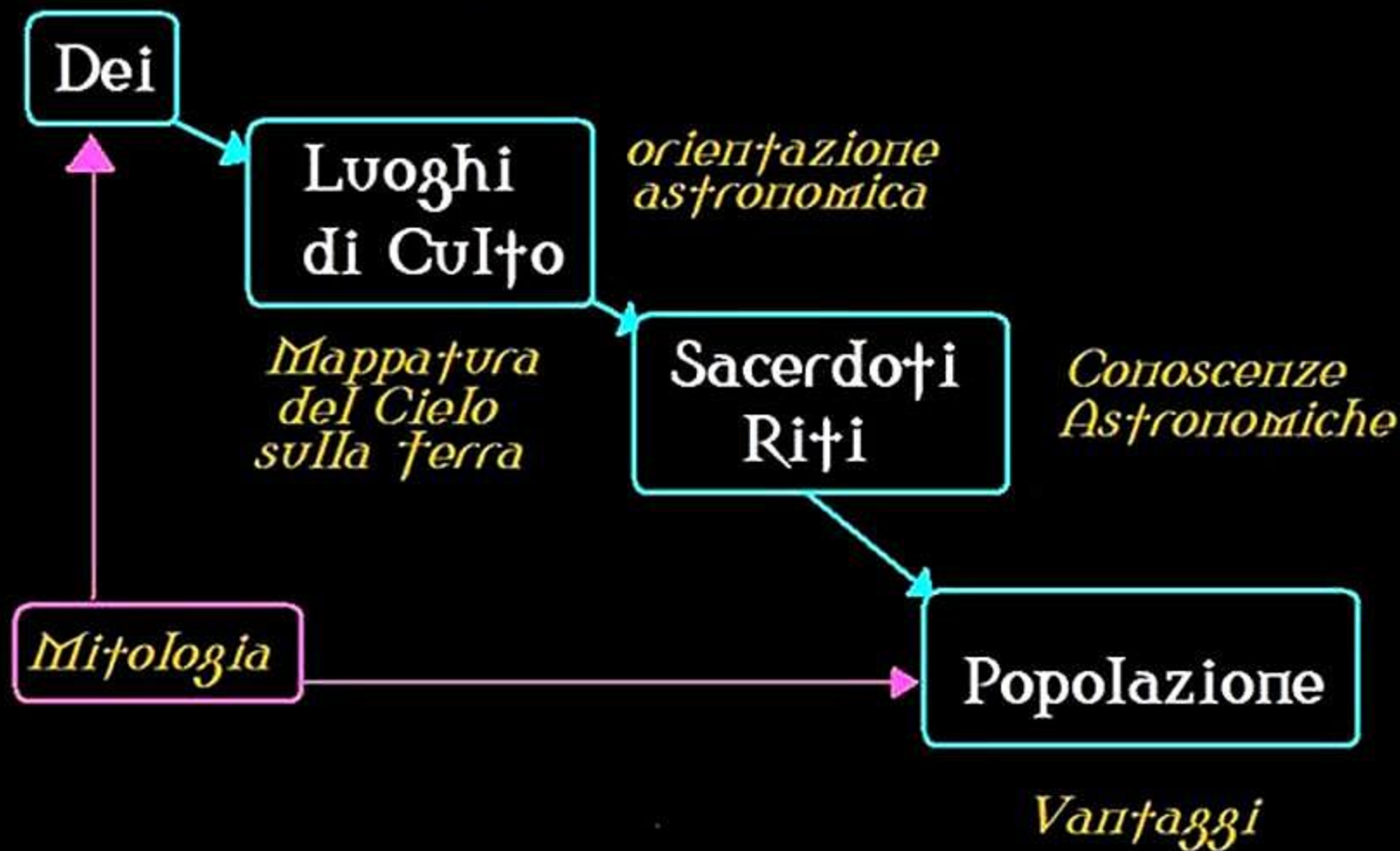


Divisione cronologica basata sulla ritualità



Dominare il Potere Cosmico

Γεγονότα Αστρονομικά



Osservazione del Cielo

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graph LR; OC[Osservazione del Cielo] --> CR[Culto e Ritalità]; OC --> A[Agricoltura]; OC --> M[Mitologia]; OC --> D[Divinazione]; CR --> OC; A --> OC; M --> OC; D --> OC;
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Culto e Ritalità

Trasposizione del Cielo sulla Terra
Nemeton
Geometria Sacra
Ritalità

Agricoltura

Andamento stagionale
Pianificazione agricola
Misura del tempo e Calendario
Feste e ricorrenze

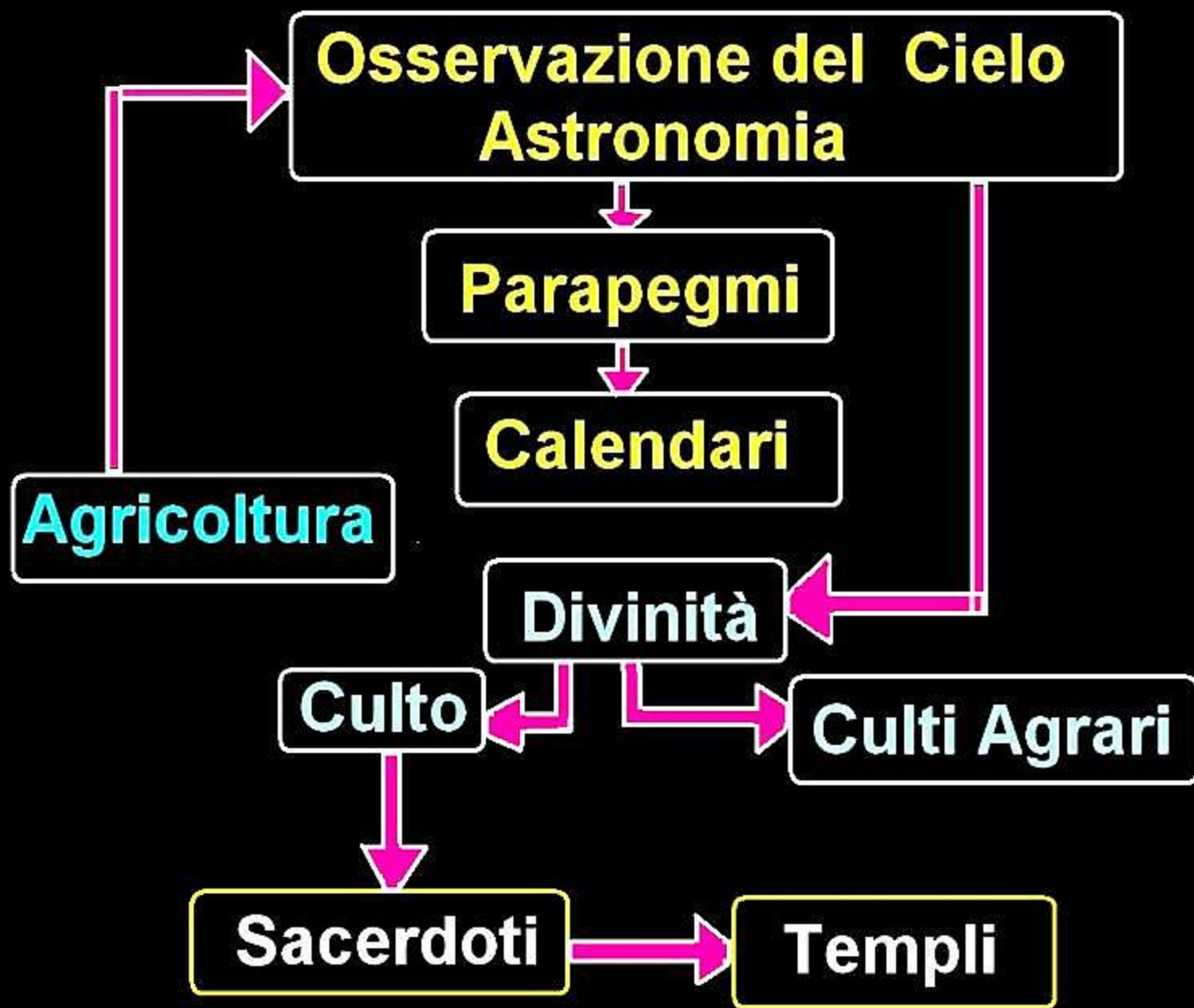
Mitologia

Rapporto con gli Dei
Origine di un popolo
Discendenza divina
Simbolismo
Storia

Divinazione

Zodiaco lunare/solare
Prinni Lovdin...
Prinni Laget...
Ubicazione direzionale





Criteri di Mappatura del Cielo sulla Terra

1) Uno spazio da dedicare agli Dei

2) Un mezzo per delimitare lo spazio scelto

3) Alcuni particolari elementi del paesaggio circostante

4) Una forma geometrica che abbia una controparte nel cielo

5) Un punto centrale dell'area delimitata da materializzare

6) Una serie di riferimenti astronomici

7) Una (o più) porte d'accesso all'area delimitata

1) Un esponente della classe sacerdotale, intermediario con gli Dei

2) Un particolare rito di consacrazione (complesso...)

3) Una particolare idea cosmologica dell'Universo

4) Una mitologia che stabilisca il collegamento con il divino

5) Una particolare data in cui eseguire il rito di consacrazione

6) Una particolare configurazione degli astri visibili nel cielo

il Rito



Sacerdote



Circoli di Pietre megalitici britannici

Unità di misura

introdotte da Alexander Thom...



La Yarda Megalitica (MY) è una unità di misura ipotetica introdotta da Alexander Thom la quale corrisponde a:

$$1 \text{ MY} = 2.72 \text{ ft} = 83 \text{ cm}$$

La Megalithic Rod (MR) corrisponde a:

$$1 \text{ MR} = 2.5 \text{ MY} = 6.776 \text{ ft} = 2.075 \text{ m}$$

di fatto 1 MY corrisponde in media a 1 passo circa

Stonehenge



1964

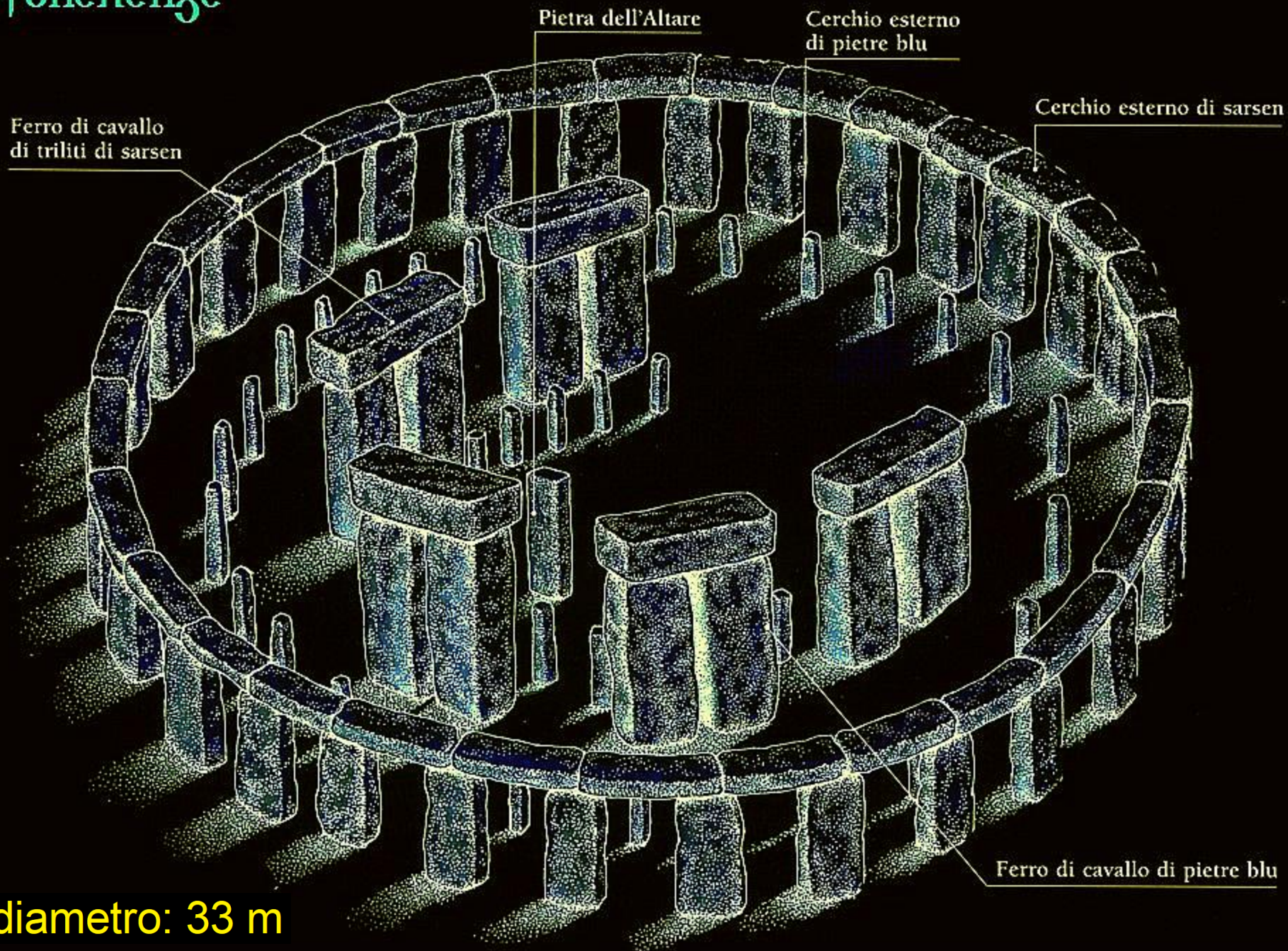
Stonehenge



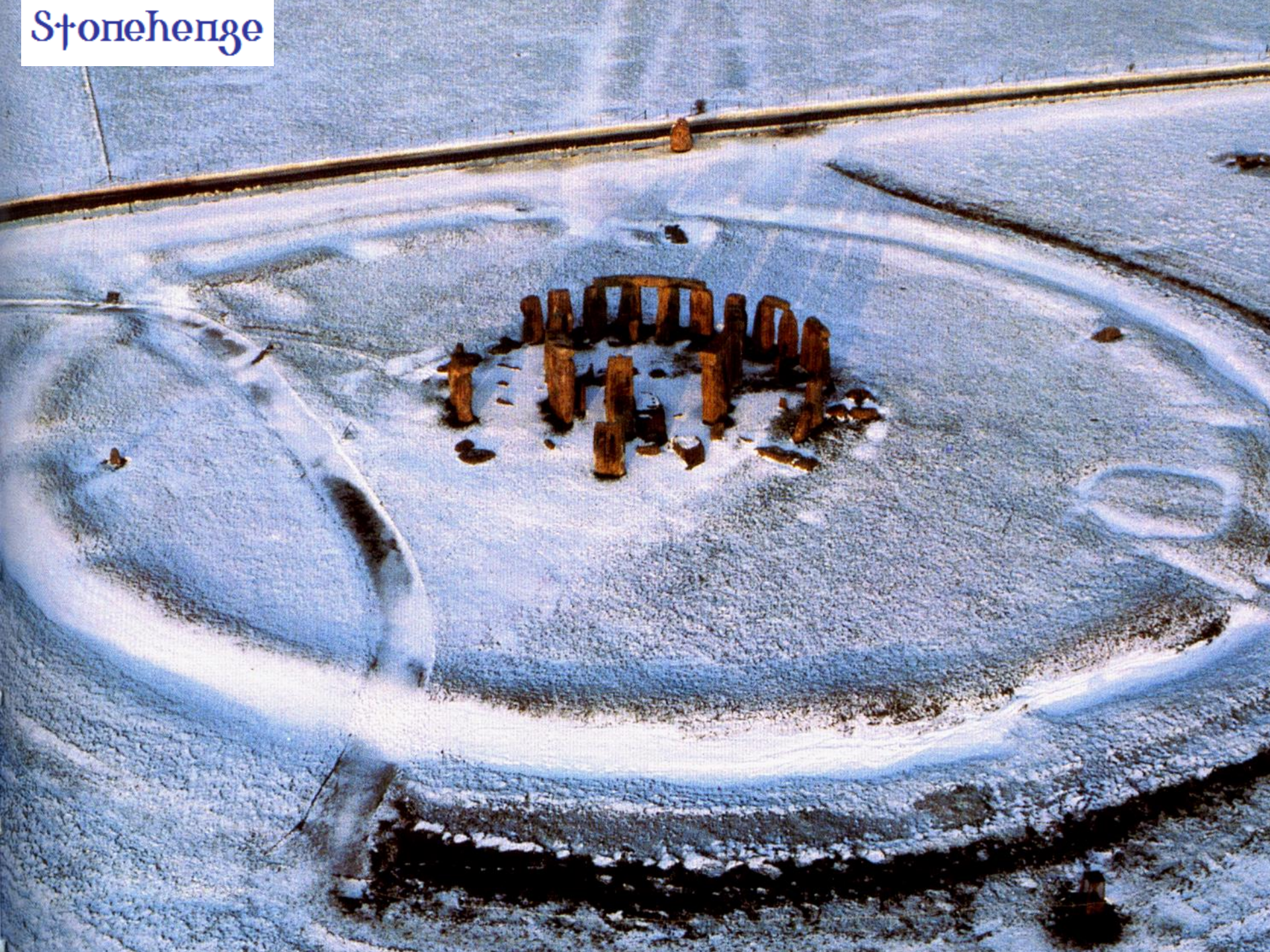
Certo, ammettono gli archeologi dell'English Heritage, senza tutti questi lavori Stonehenge avrebbe un aspetto molto diverso. Pochissime pietre sono ancora esattamente nel posto dove furono erette millenni fa.

«Praticamente ogni pietra fu rieretta,
raddrizzata o rinforzata con calcestruzzo
tra il 1901 e il 1964»

Stonehenge



Stonehenge



Stonehenge

Fase I

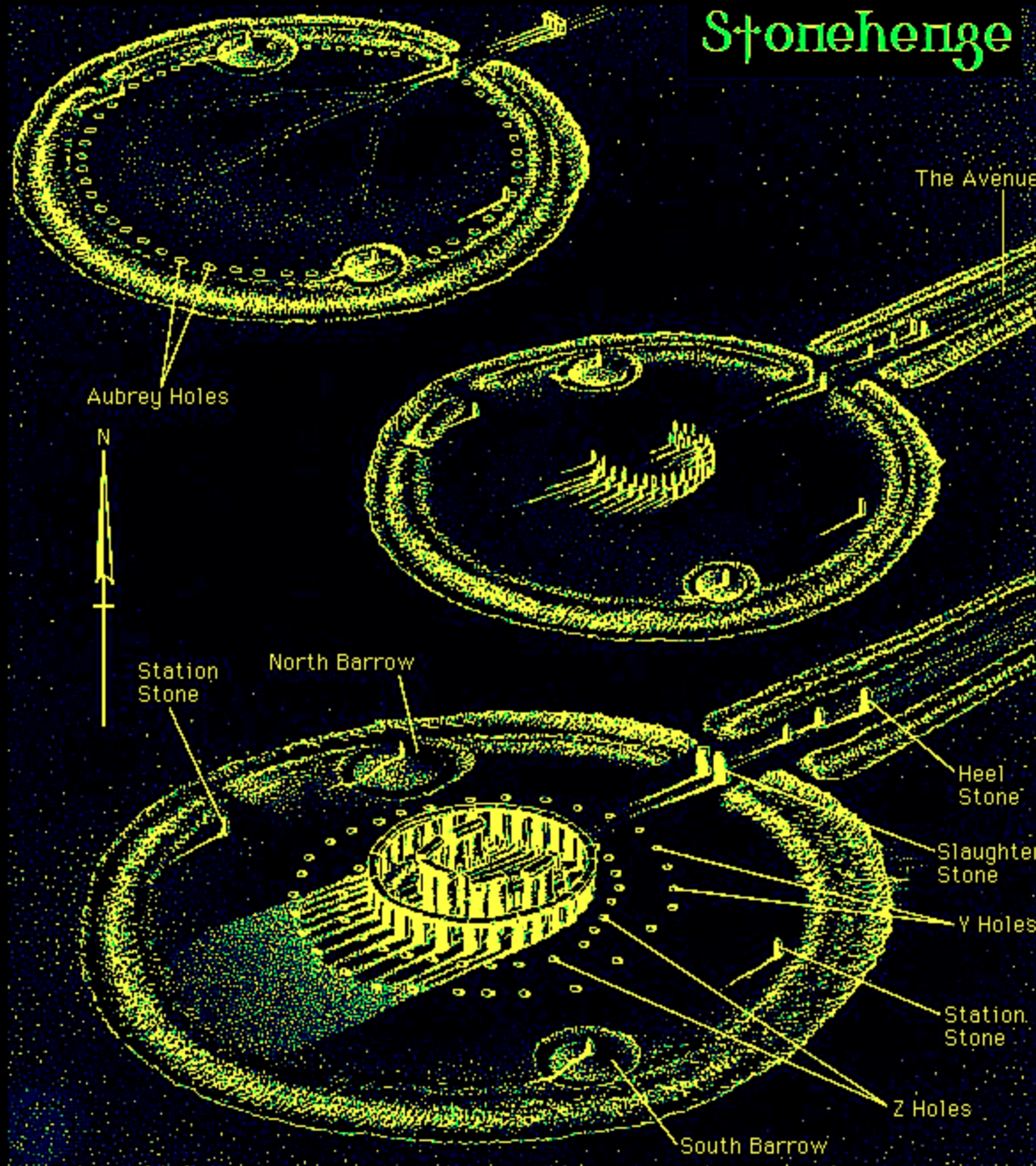
3100 a.C.

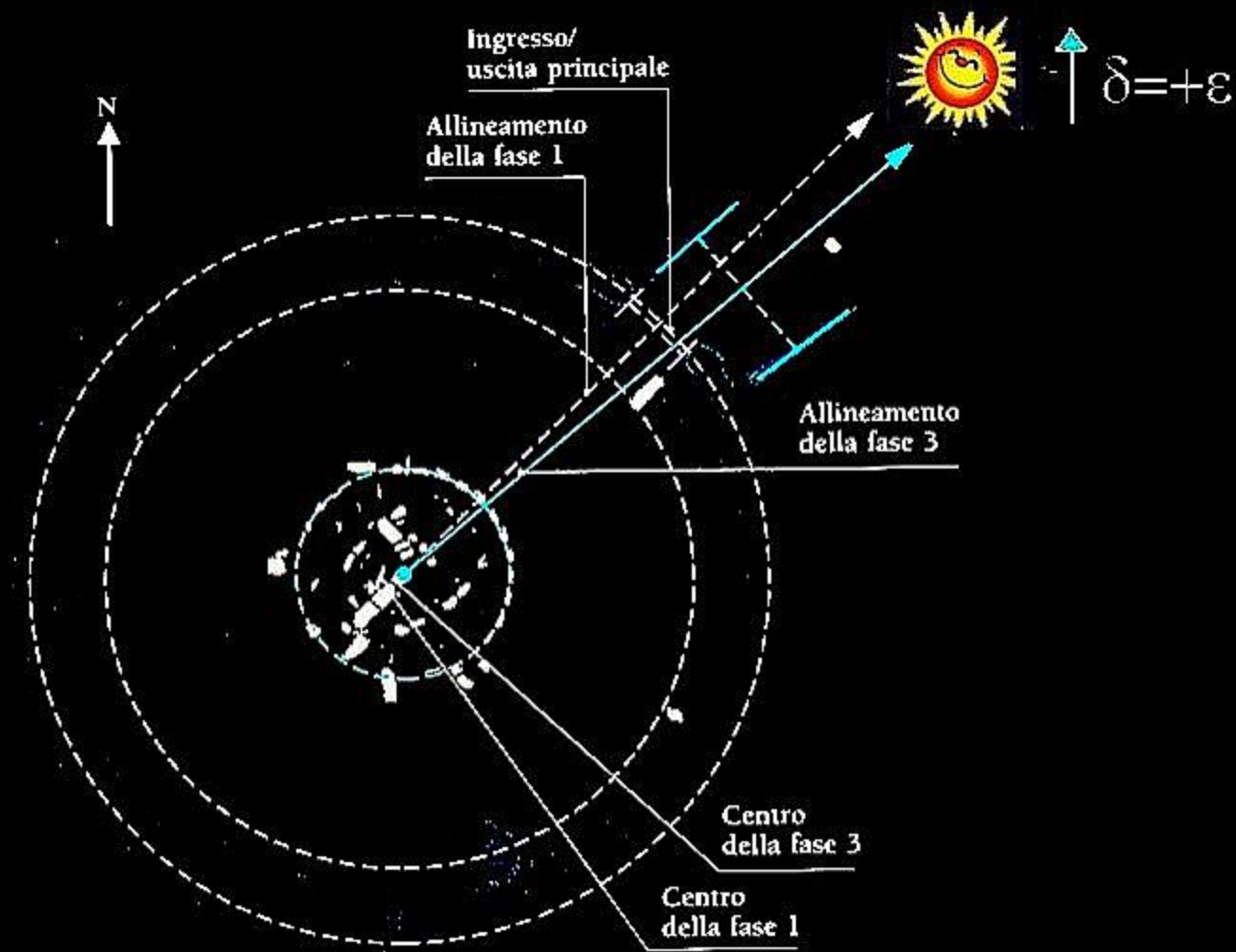
Fase II

3000 a.C. - 2600 a.C.

Fase III

2600 a.C. - 1600 a.C.





Diametro struttura : 33 m
Diametro fossato : 185 m

Stonehenge

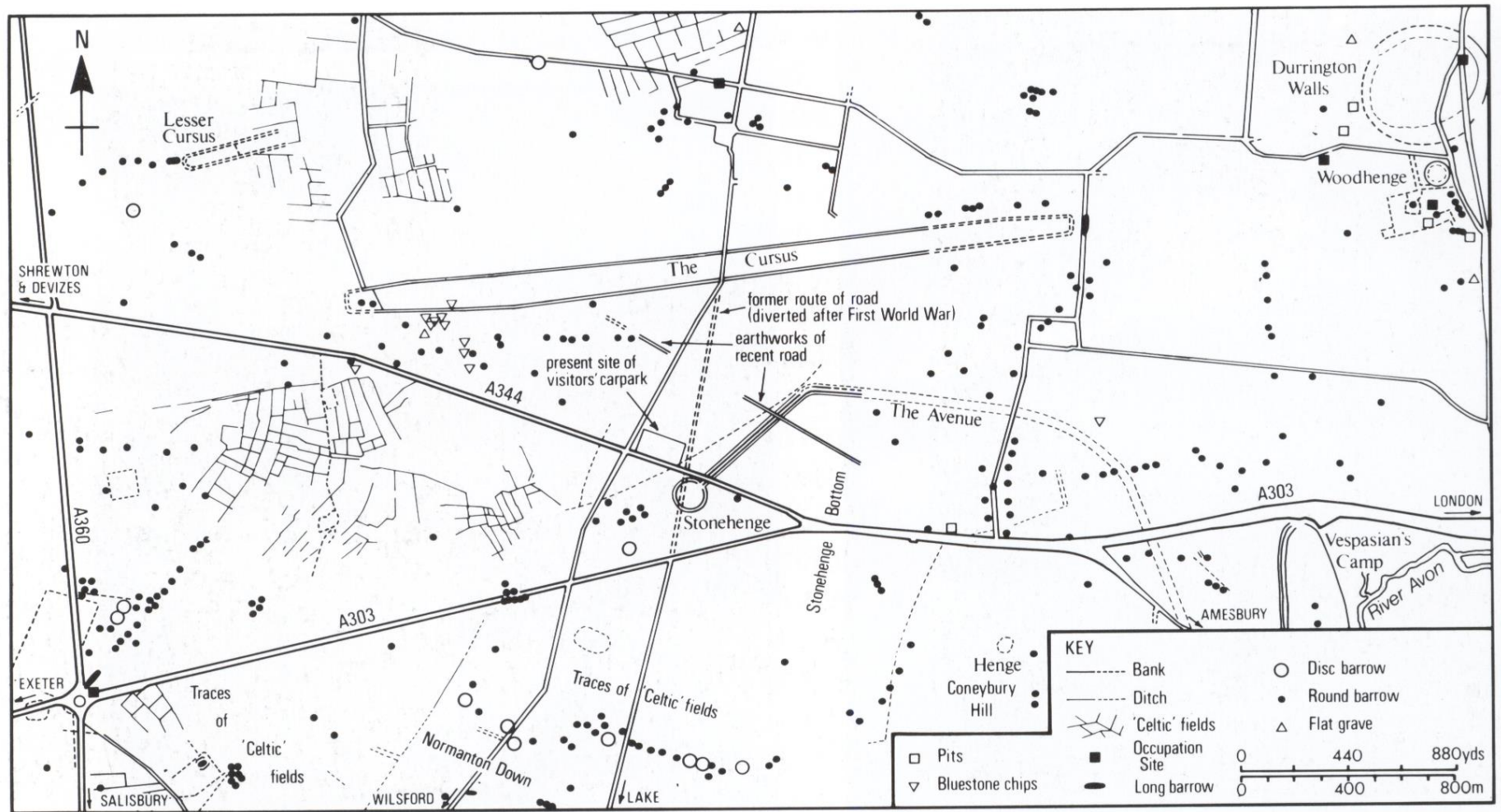
Allineamento con l'alba

Con il suo ingresso principale verso nordest, Stonehenge probabilmente doveva allinearsi con l'alba del solstizio d'estate. Il monumento di pietra della fase 3 perfezionò l'allineamento.

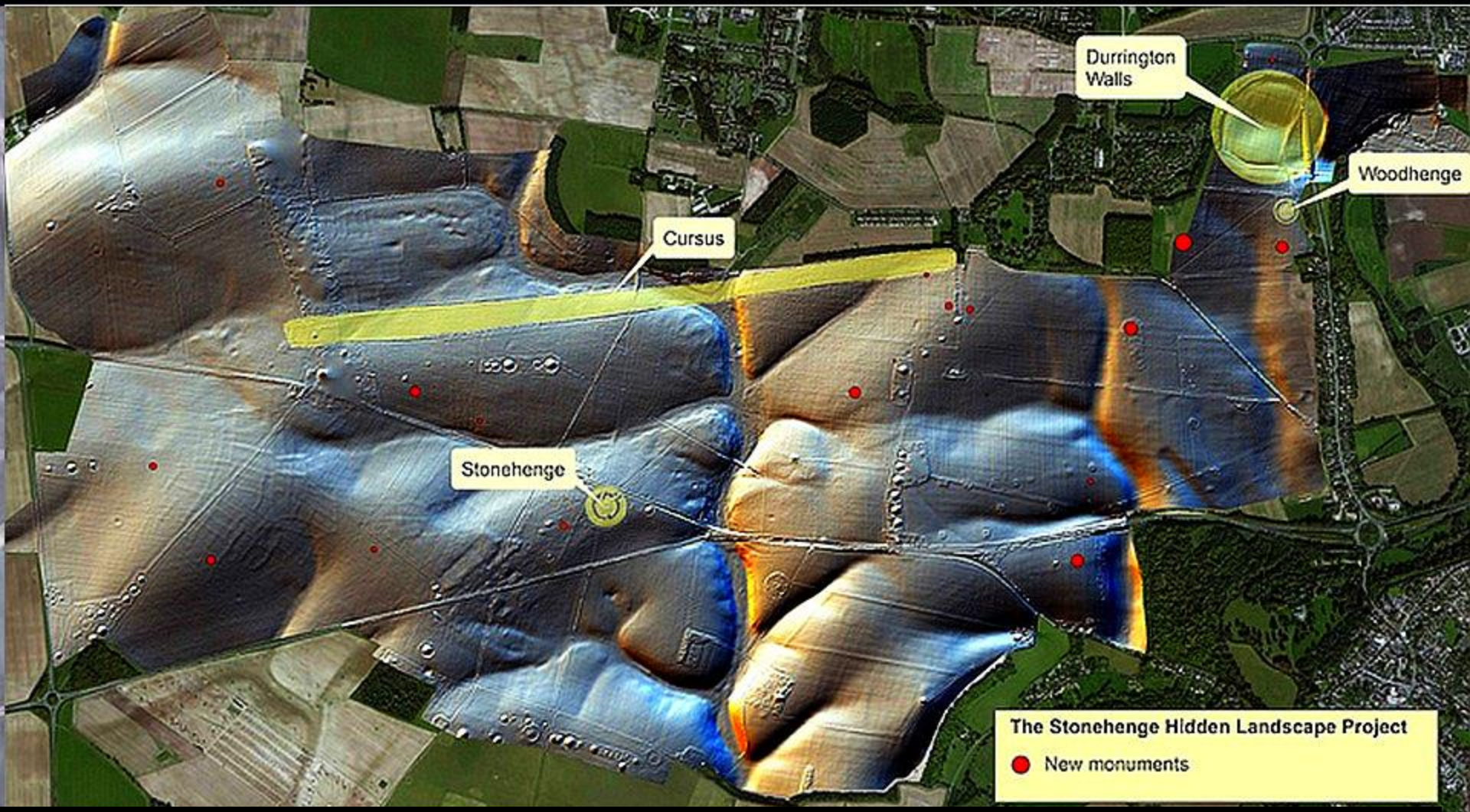
Salisbury Plain



Salisbury Plain



Salisbury Plain



G.P.R. - Ground Penetrating Radar

Woodhenge



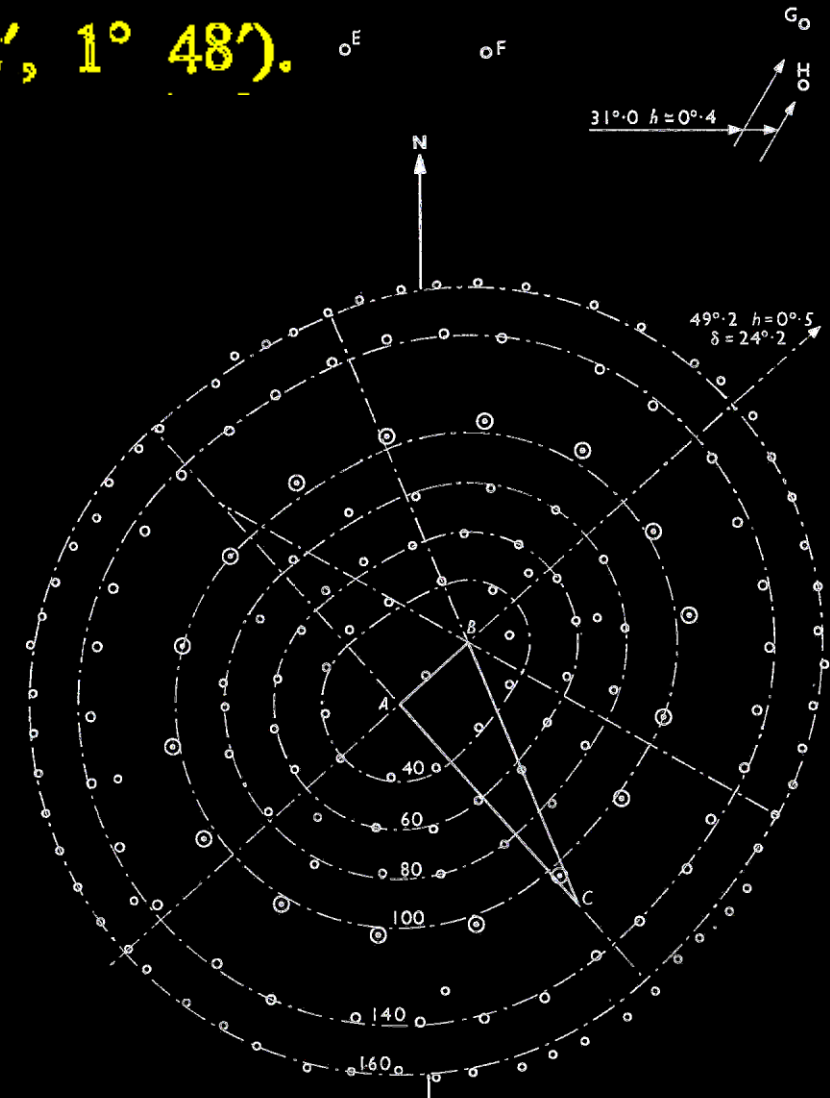
Woodhenge



Woodhenge



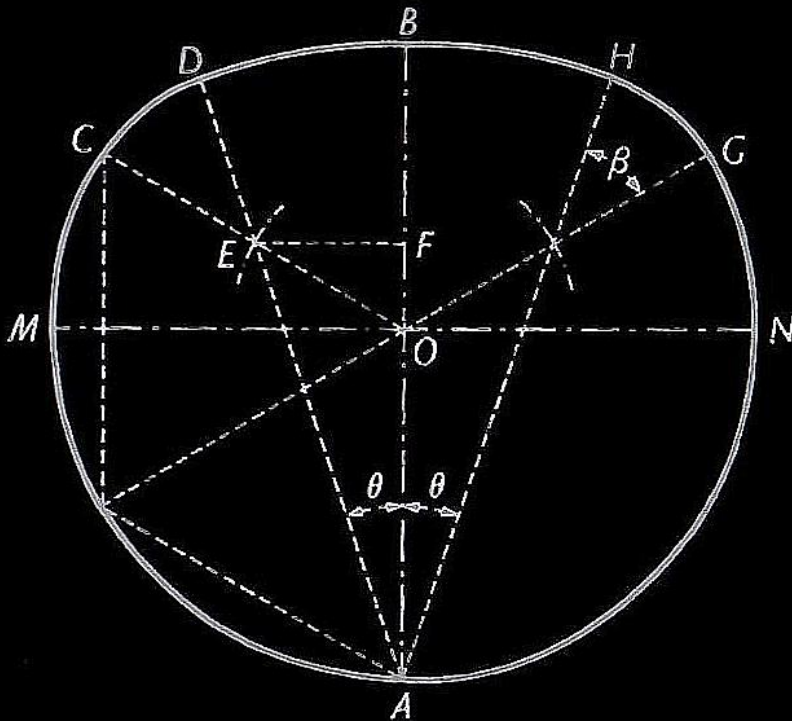
Woodhenge, S 5/4 ($51^{\circ} 12'$, $1^{\circ} 48'$).



Woodhenge, S 5/4 ($51^{\circ} 12'$, $1^{\circ} 48'$). Construction superimposed: $AB = 6$, $AC = 17\frac{1}{2}$, $CB = 18\frac{1}{2}$ MY; r = radii struck from $A = (P - 9.08) \div 2\pi$; $P = 40, 60, 80, 100, 140$, and 160 MY (P = perimeter).

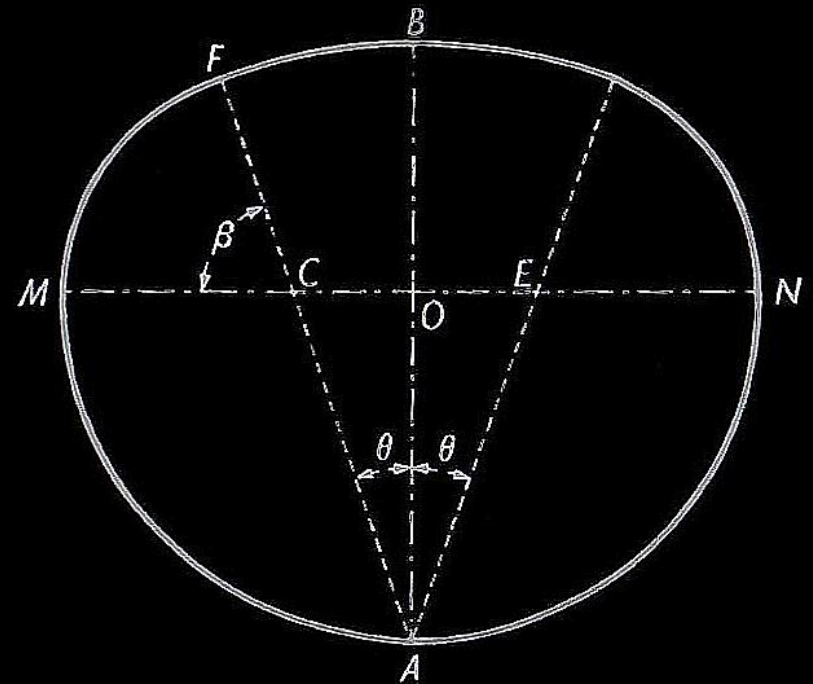
Morfologia Geometrica ...e Informazione

Cerchi schiacciati



Flattened circle. Type A.

$$\text{perimeter}/MN = \pi' = \frac{5\pi}{6} + \frac{\sqrt{7}}{2} \times \theta = 3.0591,$$

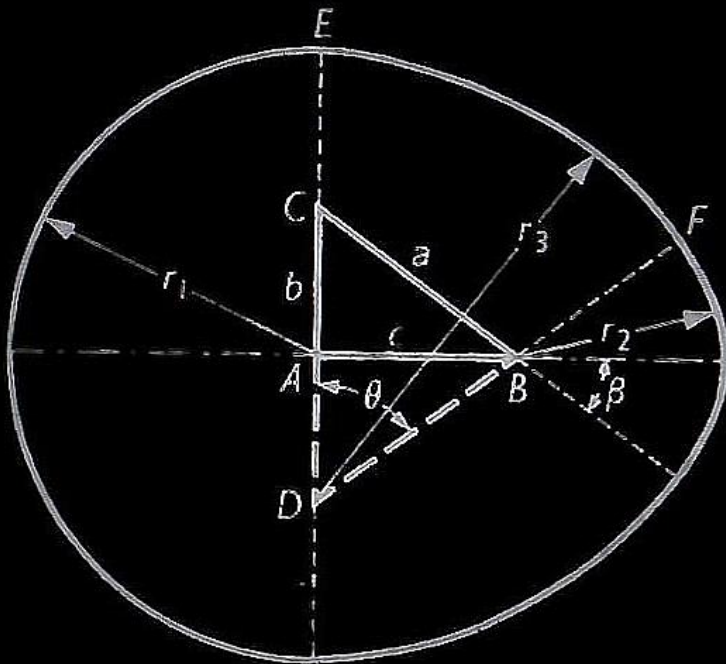


Flattened circle. Type B.

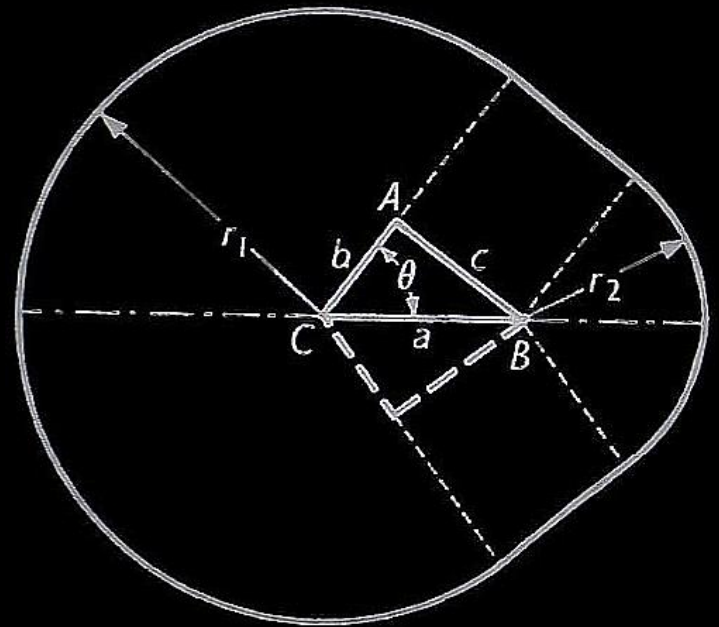
$$\pi' = \text{perimeter}/MN = \frac{5\pi}{6} + \frac{\sqrt{10}}{3} \theta = 2.9572,$$

$$\tan \theta = \frac{1}{3},$$

Ovali (Egg-shaped)



Egg-shaped circle. Type I.



Egg-shaped circle. Type II.



Carrowmore (Irlanda)
Cairn 04

Dinnever Hill, S 1/8 (50° 35'·4, 4° 38'·8).

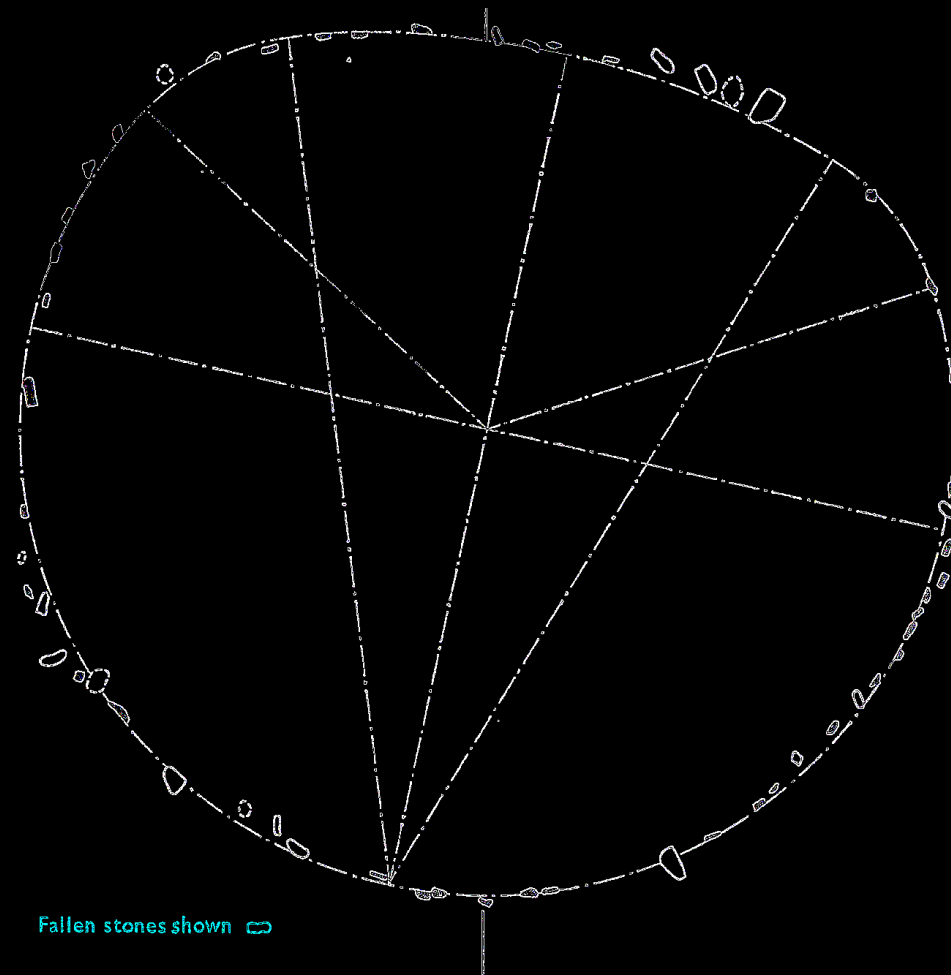


Stannon Stone Circle

Stannon Stone Circle



Dinnever Hill, S 1/8 (50° 35'·4, 4° 38'·8).



10 0 10 20 30 40 50 60 70 feet

Stannon Stone Circle

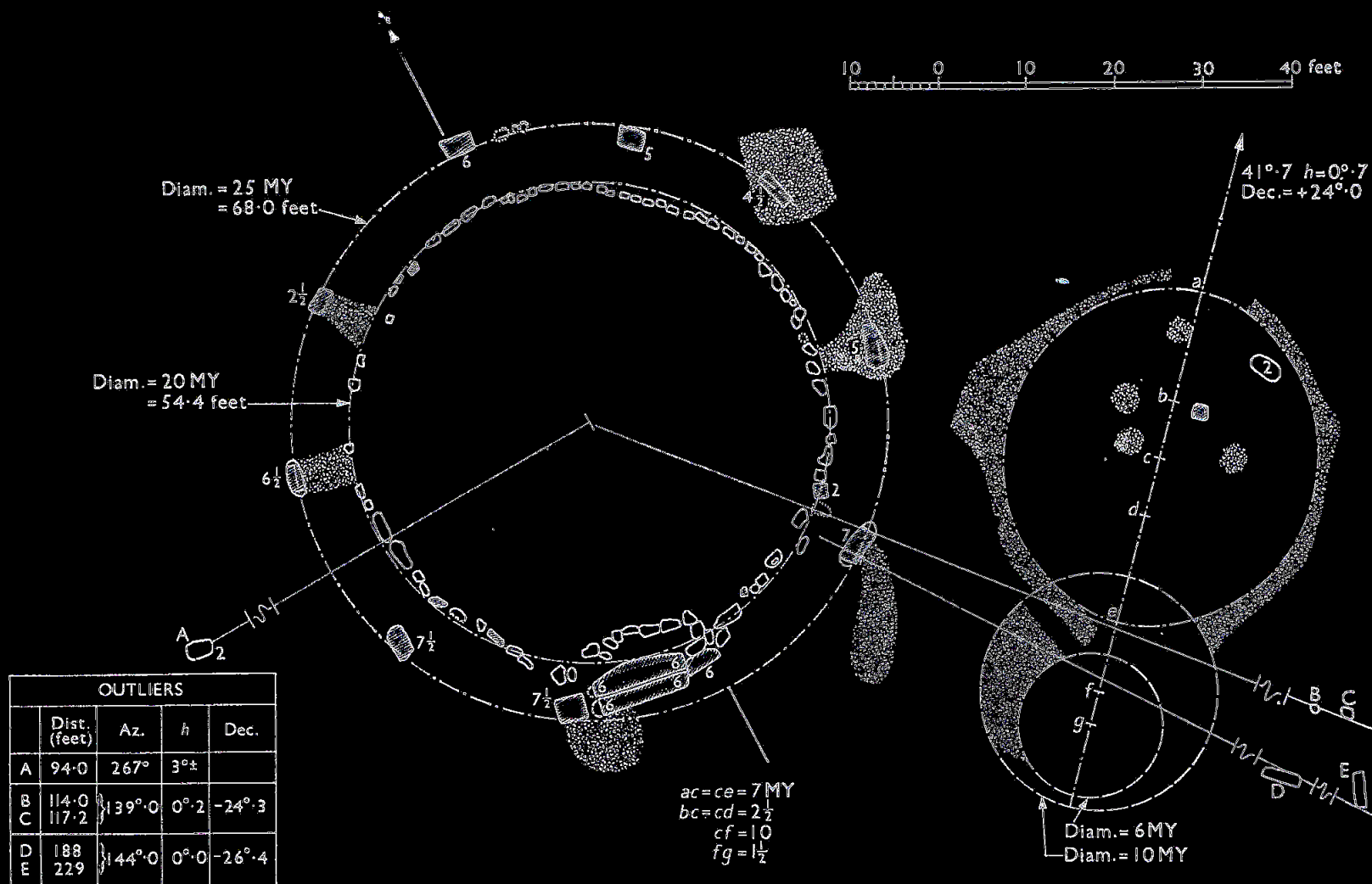
Loanhead of Daviot Stone circle



Loanhead of Daviot Stone circle



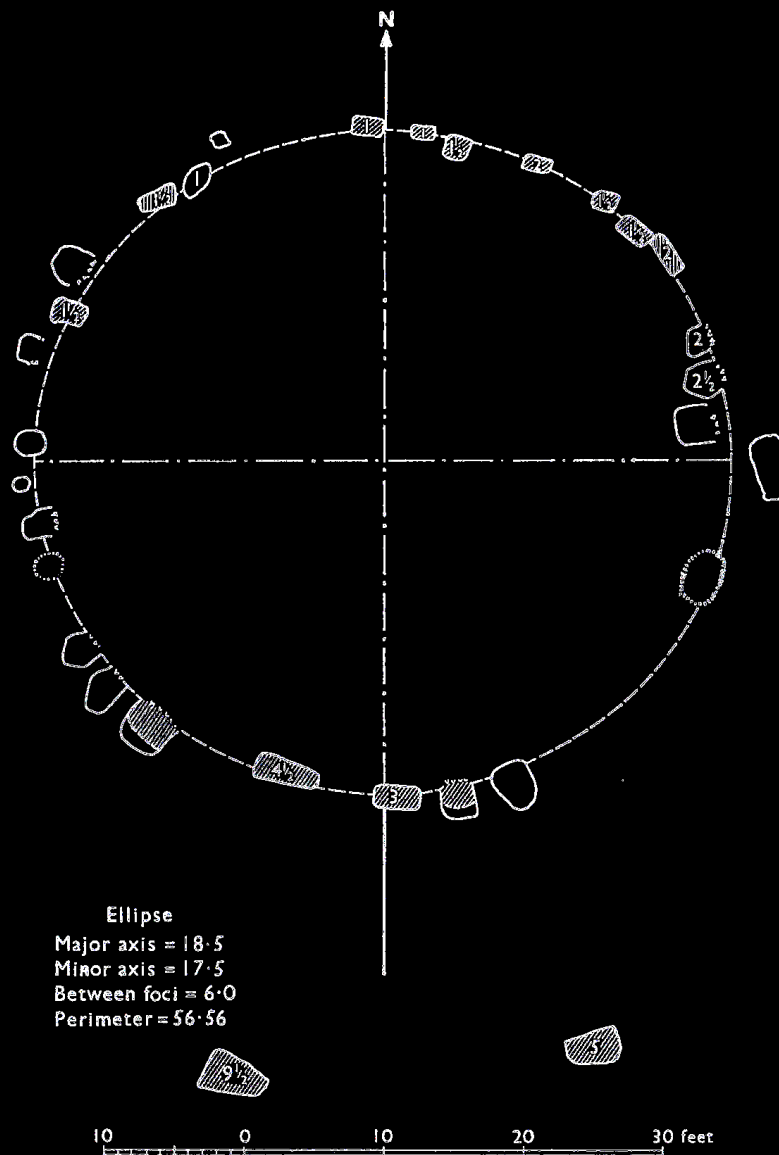
Loanhead, B 1/26 (57° 21', 2° 25').



Loanhead, B 1/26 (57° 21', 2° 25').

Loanhead of Daviot Stone circle

Daviot, B 7/5 ($57^{\circ} 26' \cdot 4$, $4^{\circ} 07' \cdot 2$).



Daviot, B 7/5 ($57^{\circ} 26' \cdot 4$, $4^{\circ} 07' \cdot 2$).

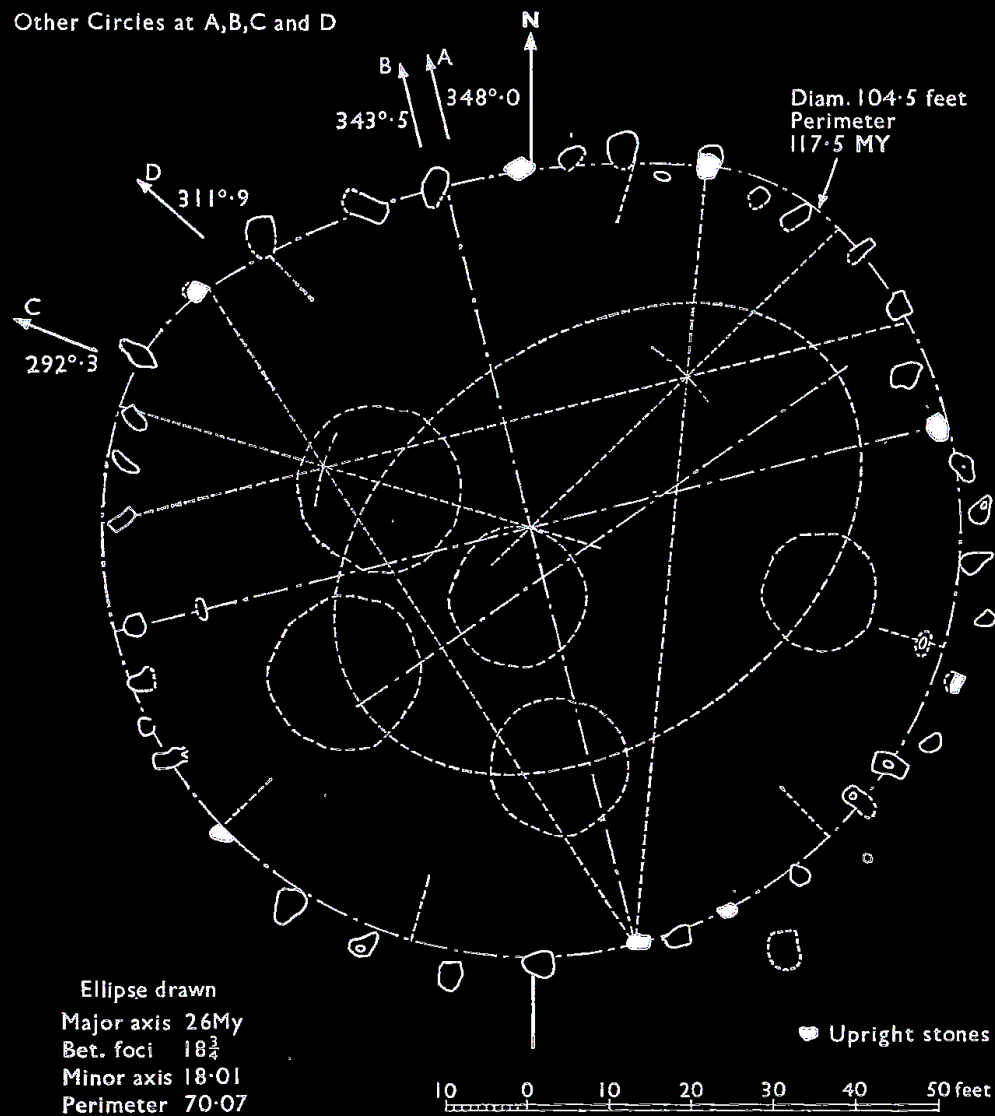
Burnmoor Stone Circles



Burnmoor Stone Circles



Burnmoor E, L 1/6 (54° 24'·6, 3° 16'·5).



Burnmoor E, L 1/6 (54° 24'·6, 3° 16'·5).

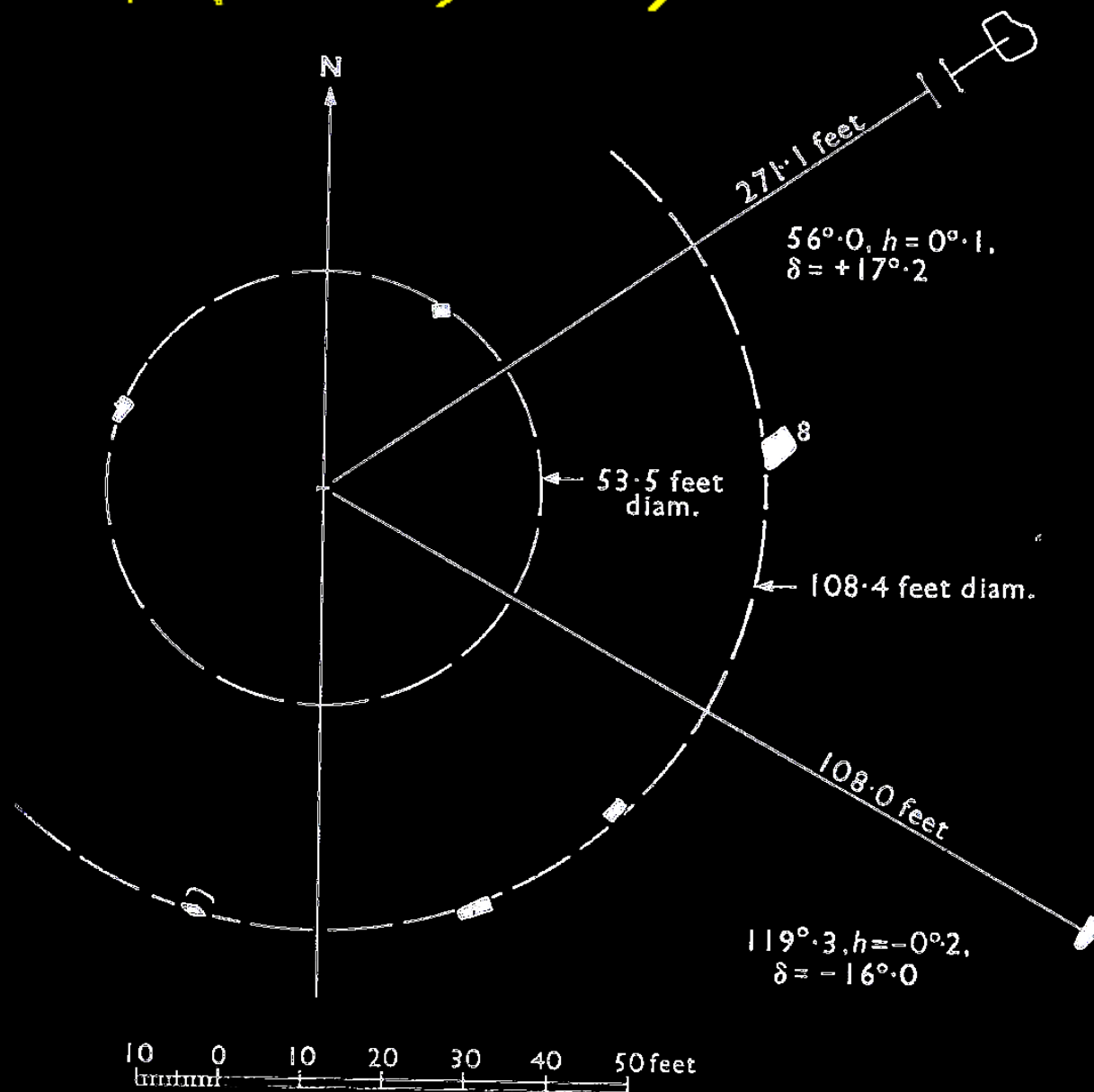
Sheldon Stone Circle



Sheldon Stone Circle



Sheldon, B 1/8 ($57^{\circ} 19'$, $2^{\circ} 18'$).



Sheldon, B 1/8 ($57^{\circ} 19'$, $2^{\circ} 18'$).

Clava Cairns



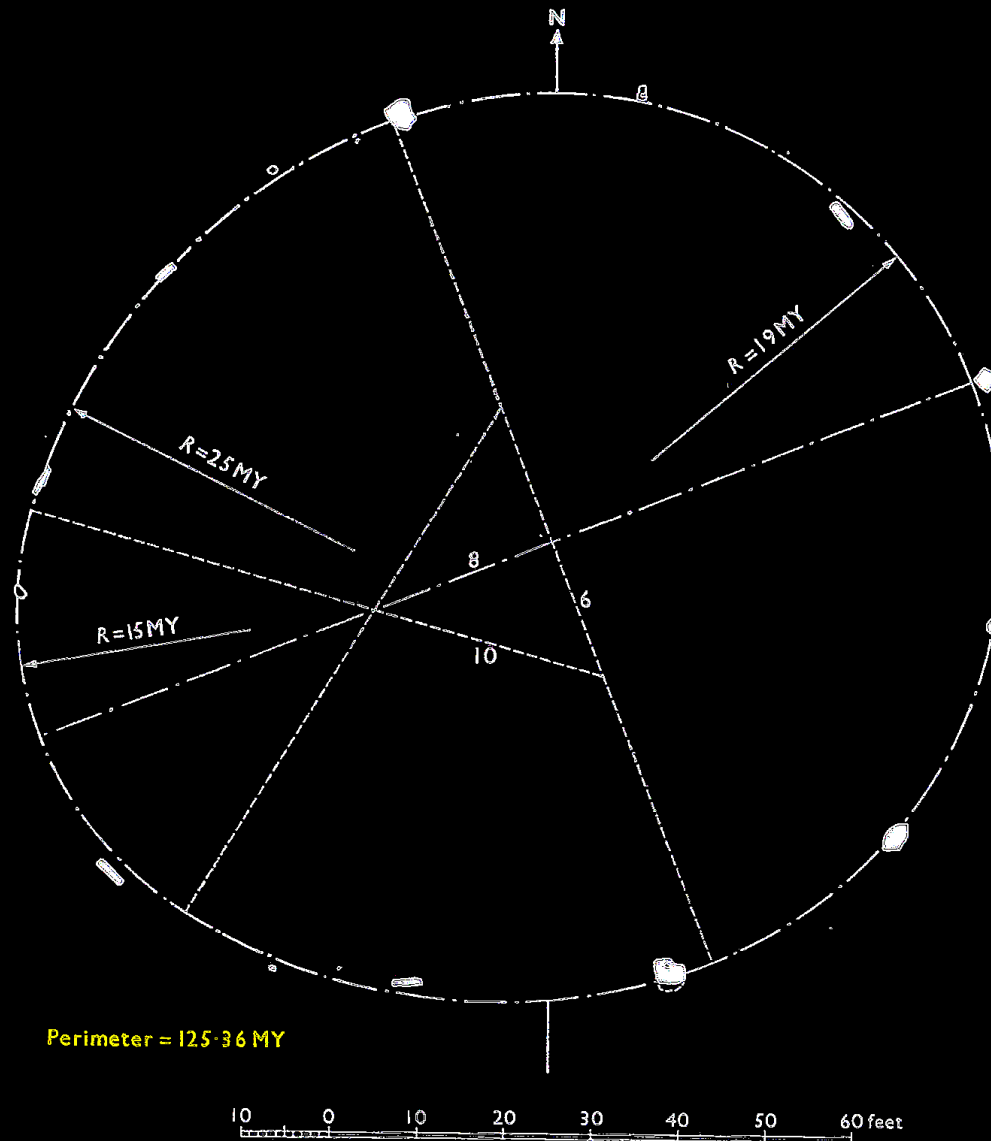
Clava Cairns



Clava Cairns



Clava, B 7/1 ($57^{\circ} 29'$, $4^{\circ} 5'$).



Clava, B 7/1 ($57^{\circ} 29'$, $4^{\circ} 5'$).

Rollright Stone Circle



Rollright Stone Circle





King's Stone

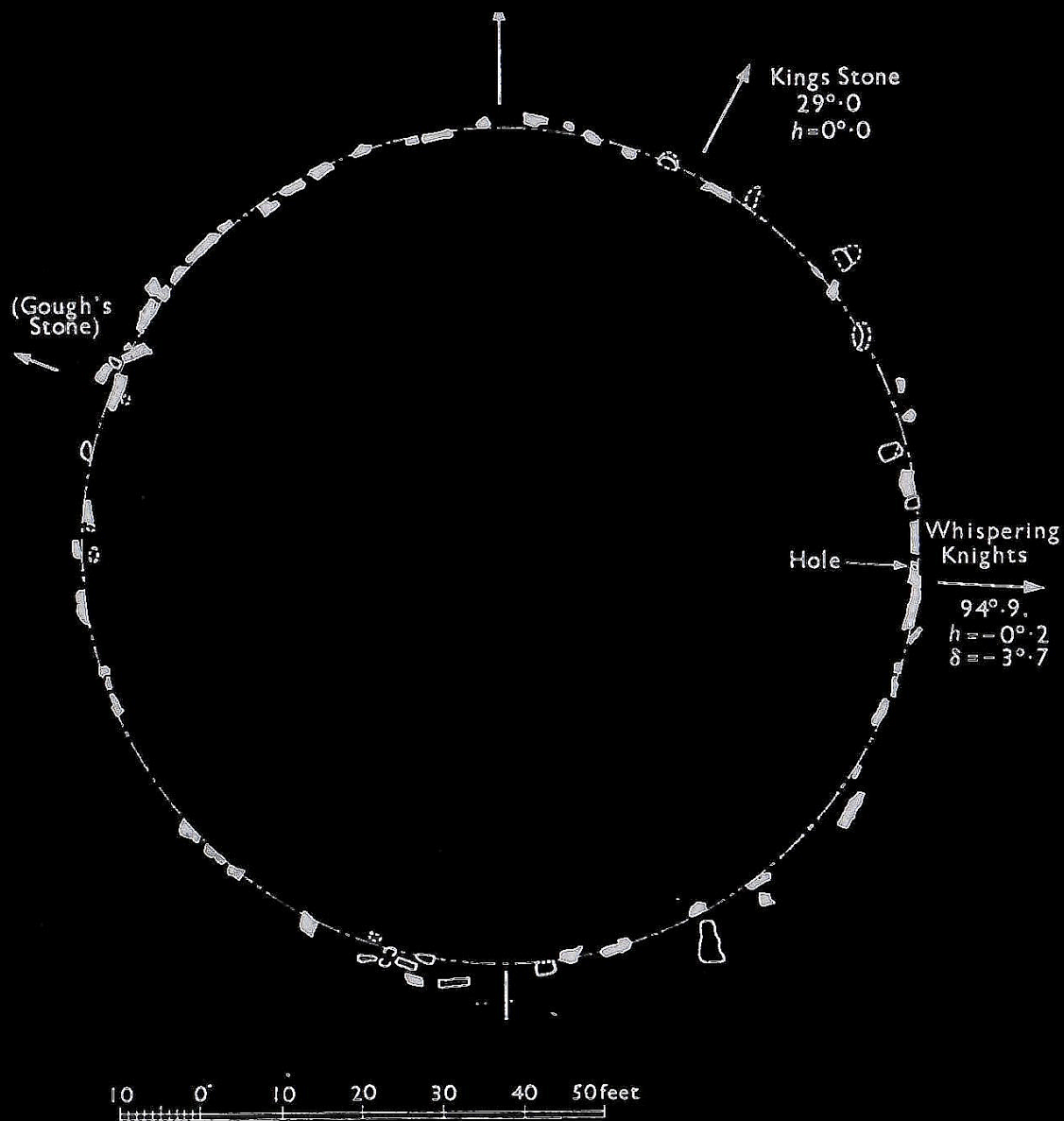


1645-1662

Rollright Stone Circle

Rollright Stone Circle

Rollright, S 6/1 (51° 58', 1° 34').



Cambret Moor (Glenquicken) Stone Circle



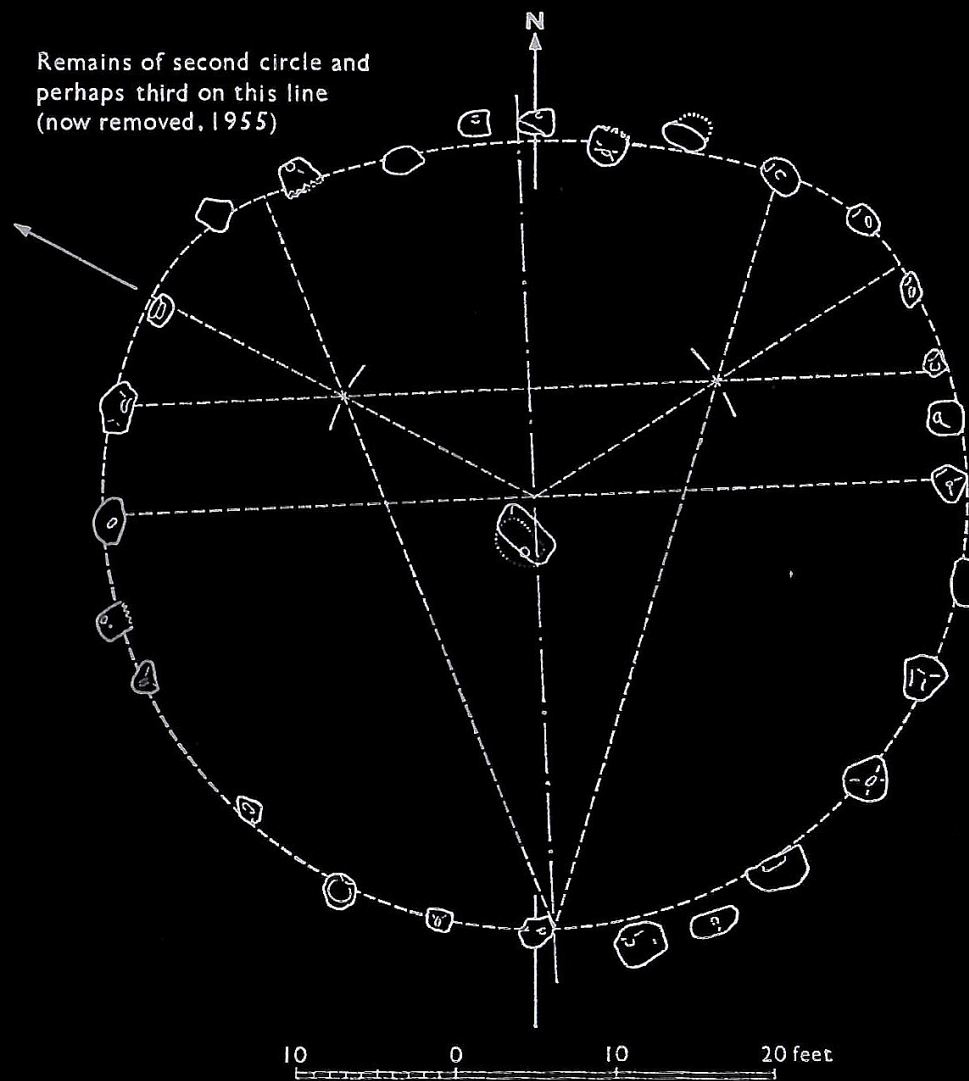
Cambret Moor (Glenquicken) Stone Circle



mapping plc

Data di acquisizione delle immagini: 1/1/2003 54°53'48.70"N 4°19'34.99"O

Cambret Moor, G 4/12 ($55^{\circ} 53' 47''$, $4^{\circ} 19' 28''$).



Cambret Moor, G 4/12 ($55^{\circ} 53' 47''$, $4^{\circ} 19' 28''$).

Black Marsh (Hoarstones) Stone Circle



Black Marsh (Hoarstones) Stone Circle



Black Marsh, D 2/2 ($52^{\circ} 35'.5$, $2^{\circ} 59'.9$).



Black Marsh, D 2/2 ($52^{\circ} 35'.5$, $2^{\circ} 59'.9$).

Barbrook Stone Circle



Barbrook Stone Circle



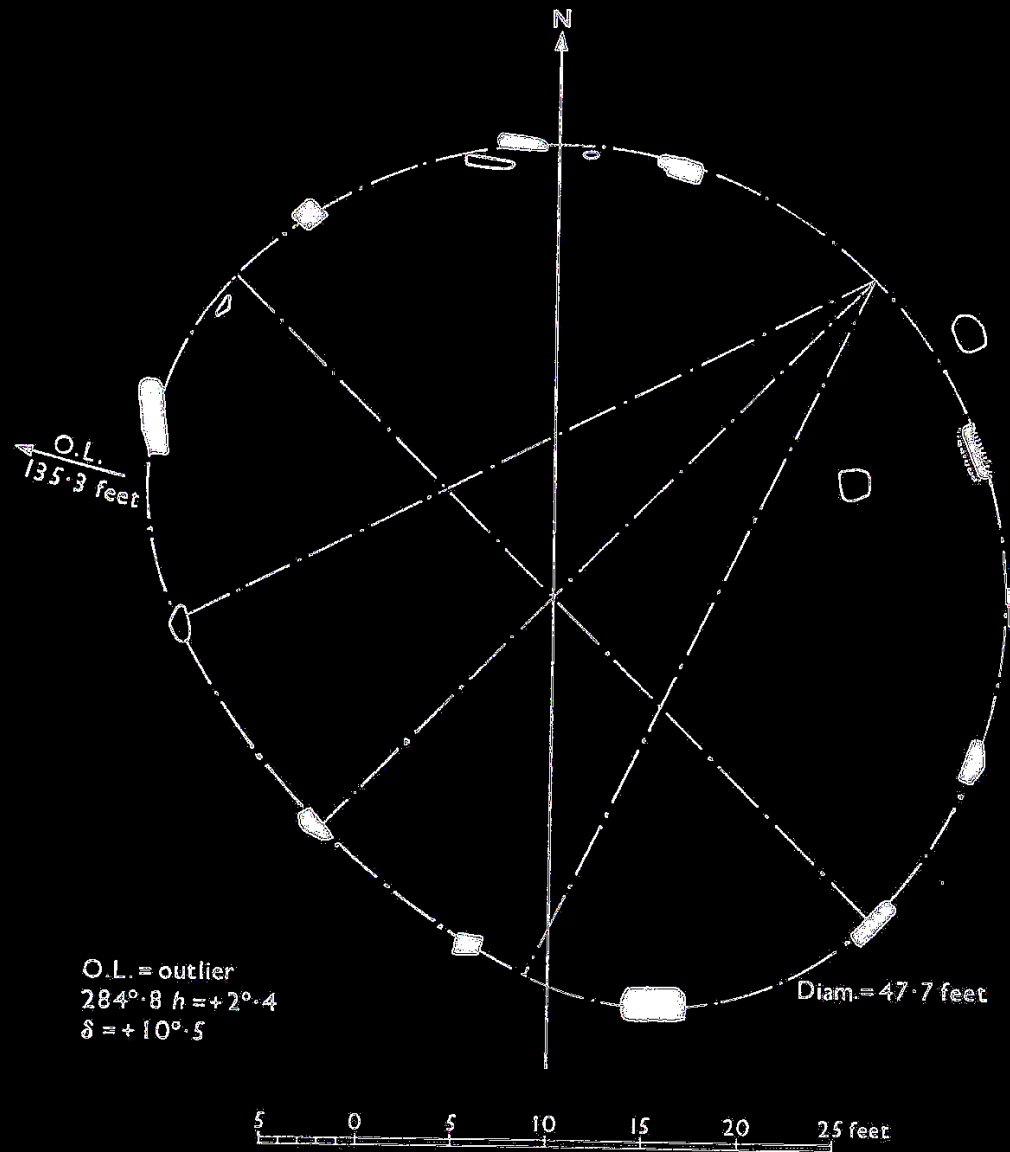
Barbrook1

Barbrook2



Barbrook Stone Circle

Bar Brook, D 1/7 ($53^{\circ} 16' \cdot 6$, $1^{\circ} 34' \cdot 9$).

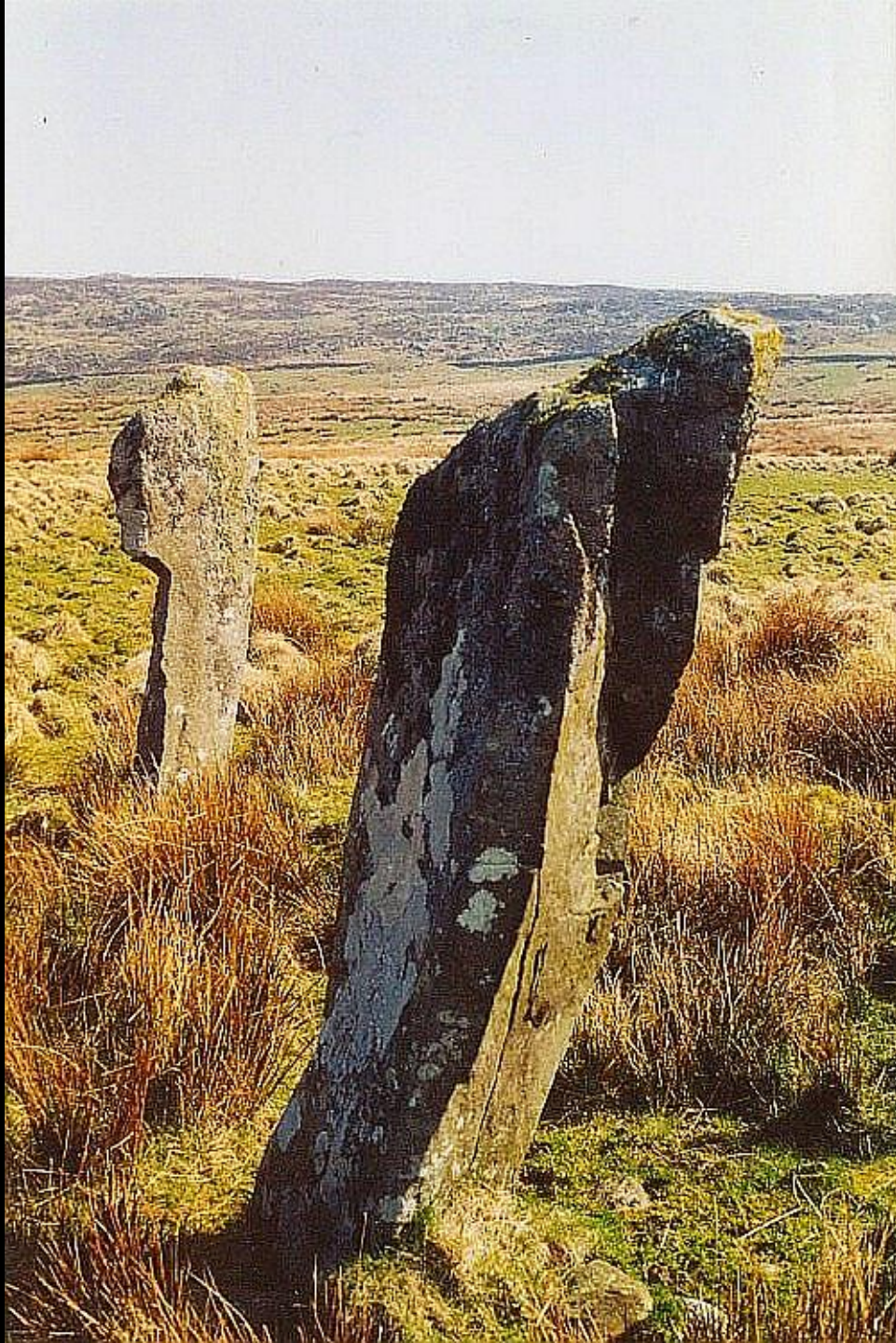


Bar Brook, D 1/7 ($53^{\circ} 16' \cdot 6$, $1^{\circ} 34' \cdot 9$).

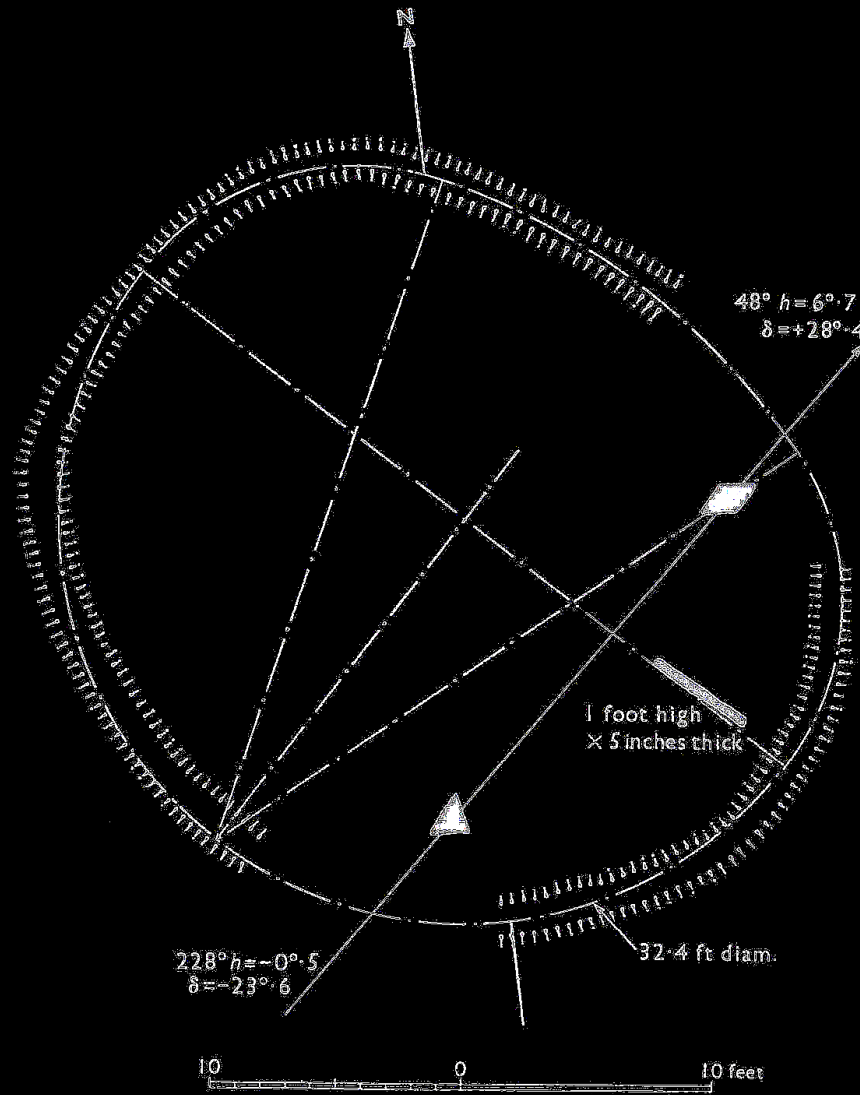
The Thieves



The Thieves



Thieves, G 4/2 ($55^{\circ} 01'$, $4^{\circ} 35'$).



Thieves, G 4/2 ($55^{\circ} 01'$, $4^{\circ} 35'$).

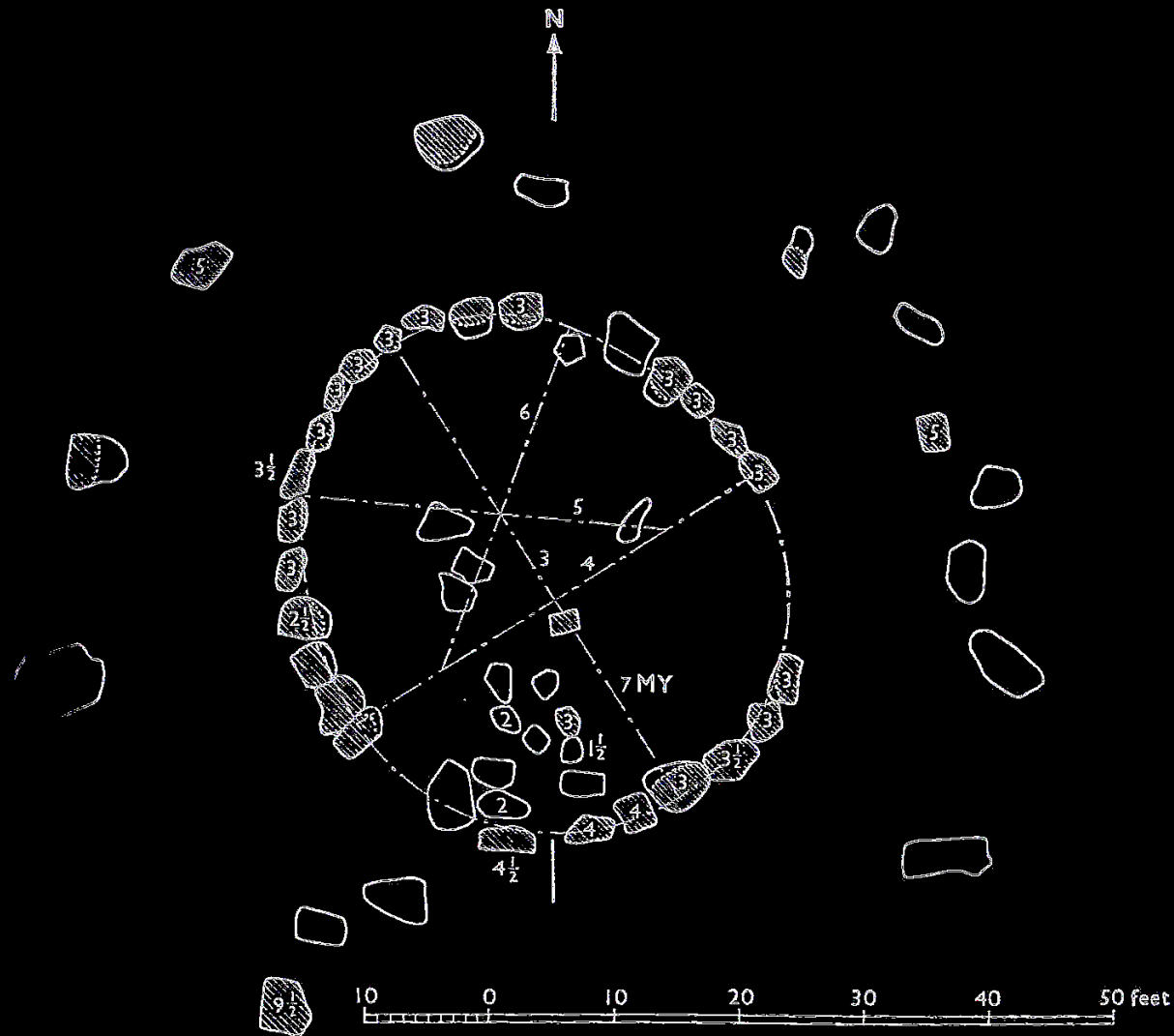
Druids Temple



Druids Temple



Druid Temple, B 7/18 ($57^{\circ} 27'$, $4^{\circ} 11' \cdot 4$).



Druid Temple, B 7/18 ($57^{\circ} 27'$, $4^{\circ} 11' \cdot 4$).

Castle Rigg



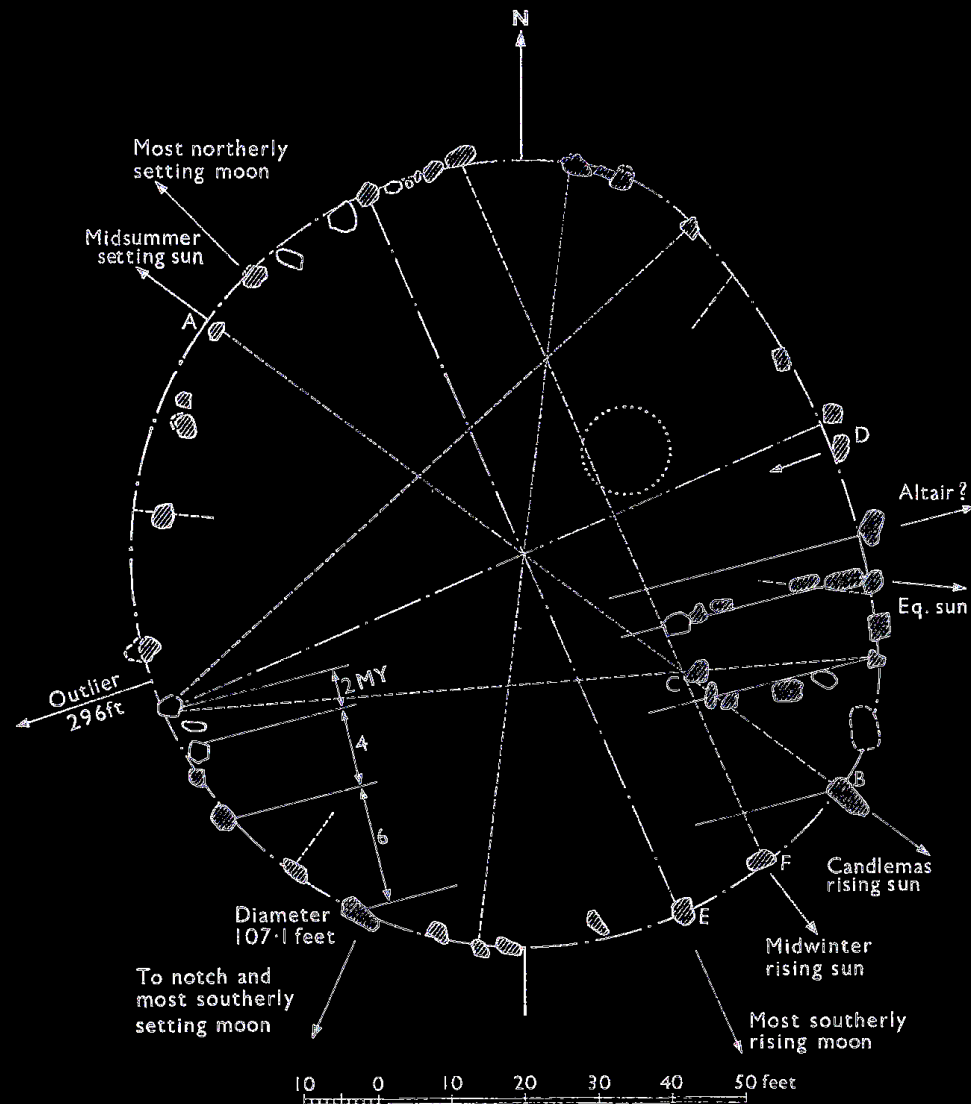


Castle Rigg

Castle Rigg



Castle Rigg, L 1/1 ($54^{\circ} 36' \cdot 1$, $3^{\circ} 05' \cdot 5$).



Castle Rigg, L 1/1 ($54^{\circ} 36' \cdot 1$, $3^{\circ} 05' \cdot 5$).

Long Meg and Her Daughters



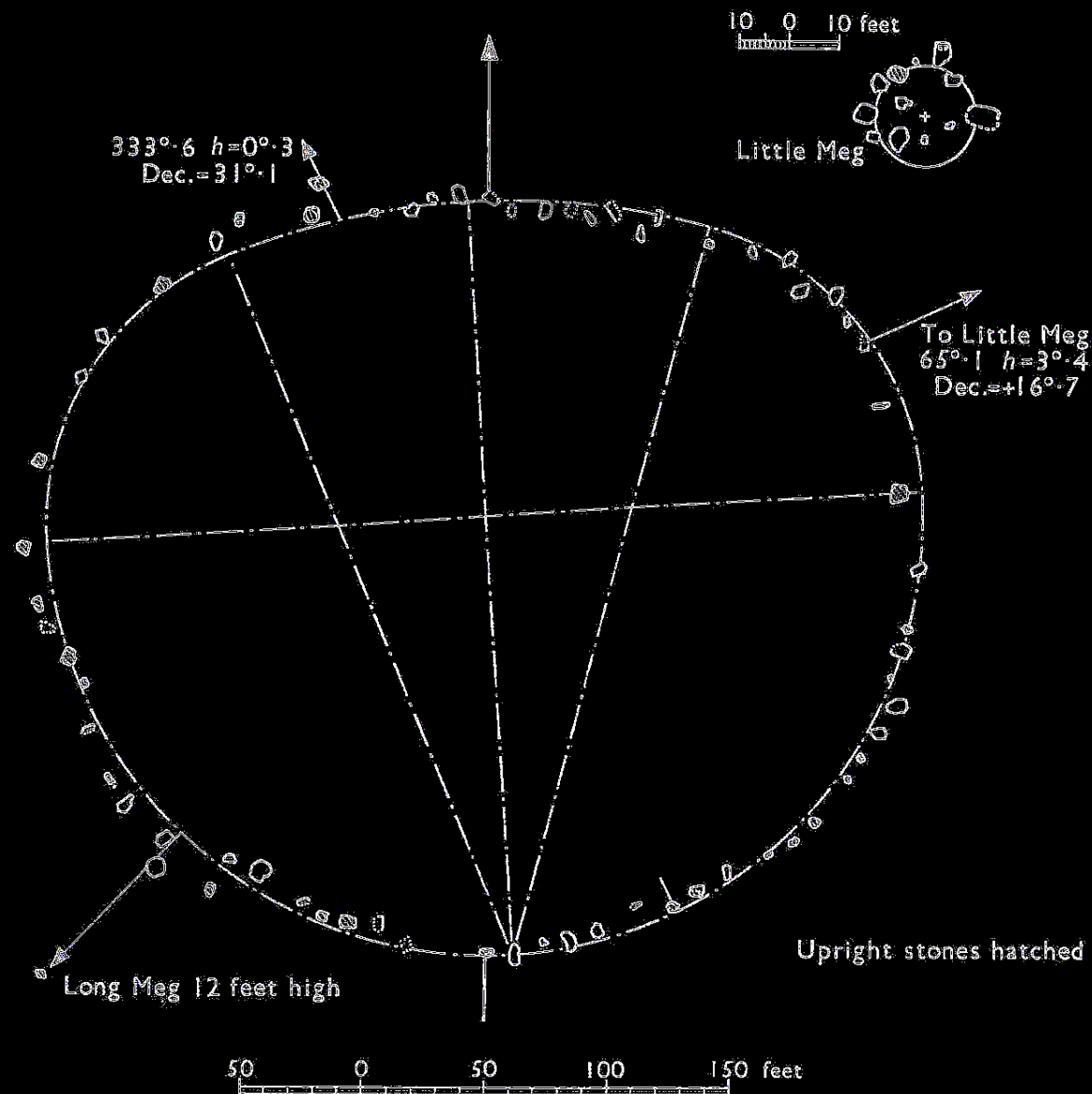
Long Meg and Her Daughters





Long Meg and Her Daughters

Long Meg and her Daughters, L 1/7 ($54^{\circ} 44'$, $2^{\circ} 40'$).



Long Meg and her Daughters, L 1/7 ($54^{\circ} 44'$, $2^{\circ} 40'$).

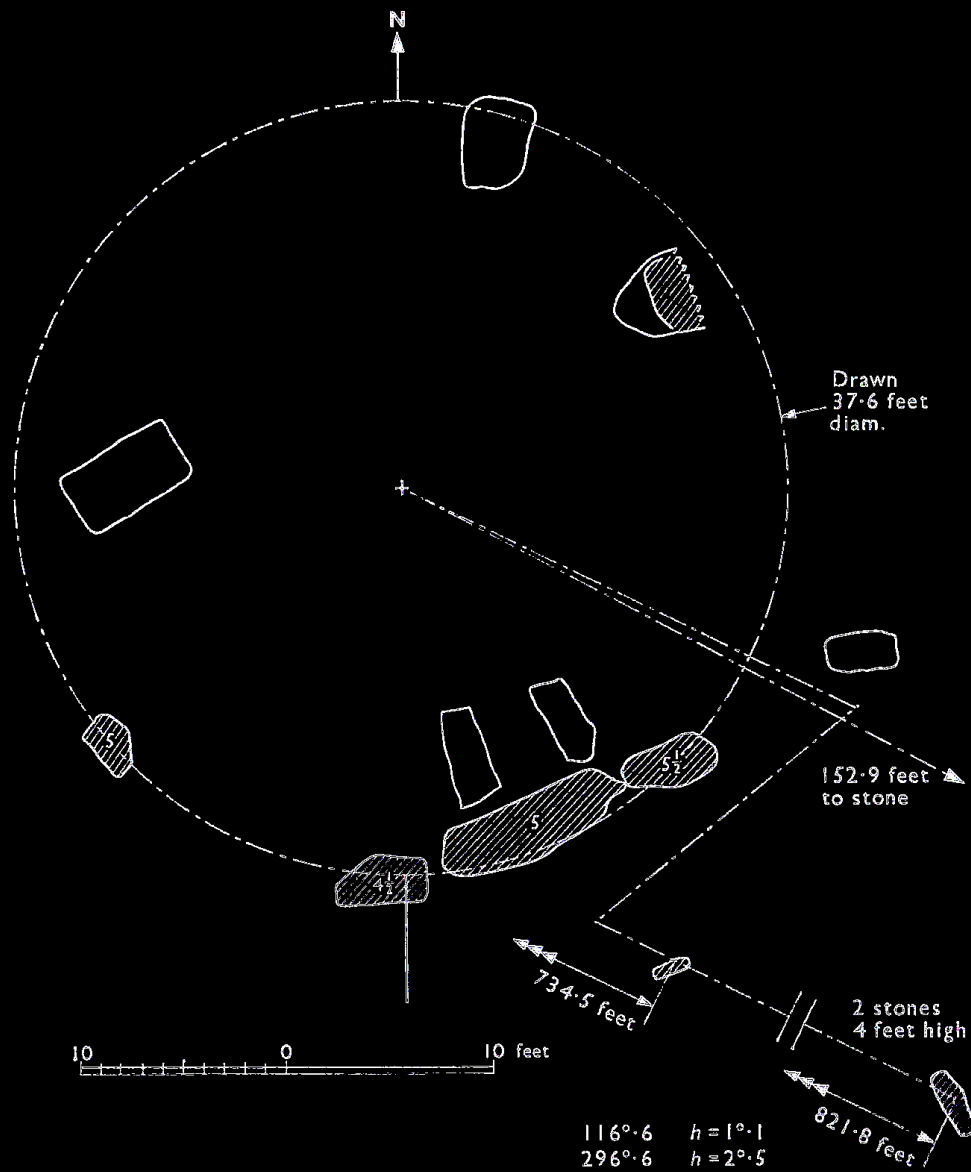
Ardlair Stones



Ardlair Stones



Ardlair, B 1/18 ($57^{\circ} 20'$, $2^{\circ} 44'$).



Ardlair, B 1/18 ($57^{\circ} 20'$, $2^{\circ} 44'$).

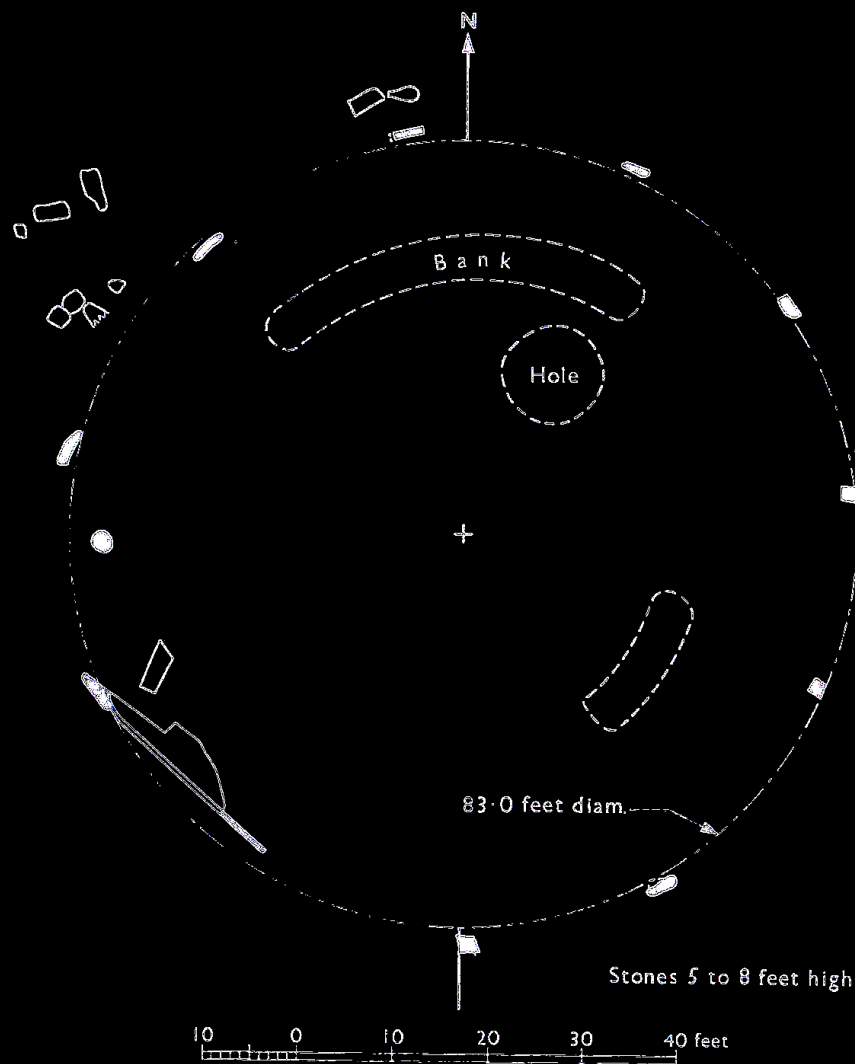
Sunhoney Stone Circle



Sunhoney Stone Circle



Sunhoney, B 2/2 ($57^{\circ} 8' \cdot 5$, $2^{\circ} 28' \cdot 2$).



Sunhoney, B 2/2 ($57^{\circ} 8' \cdot 5$, $2^{\circ} 28' \cdot 2$).

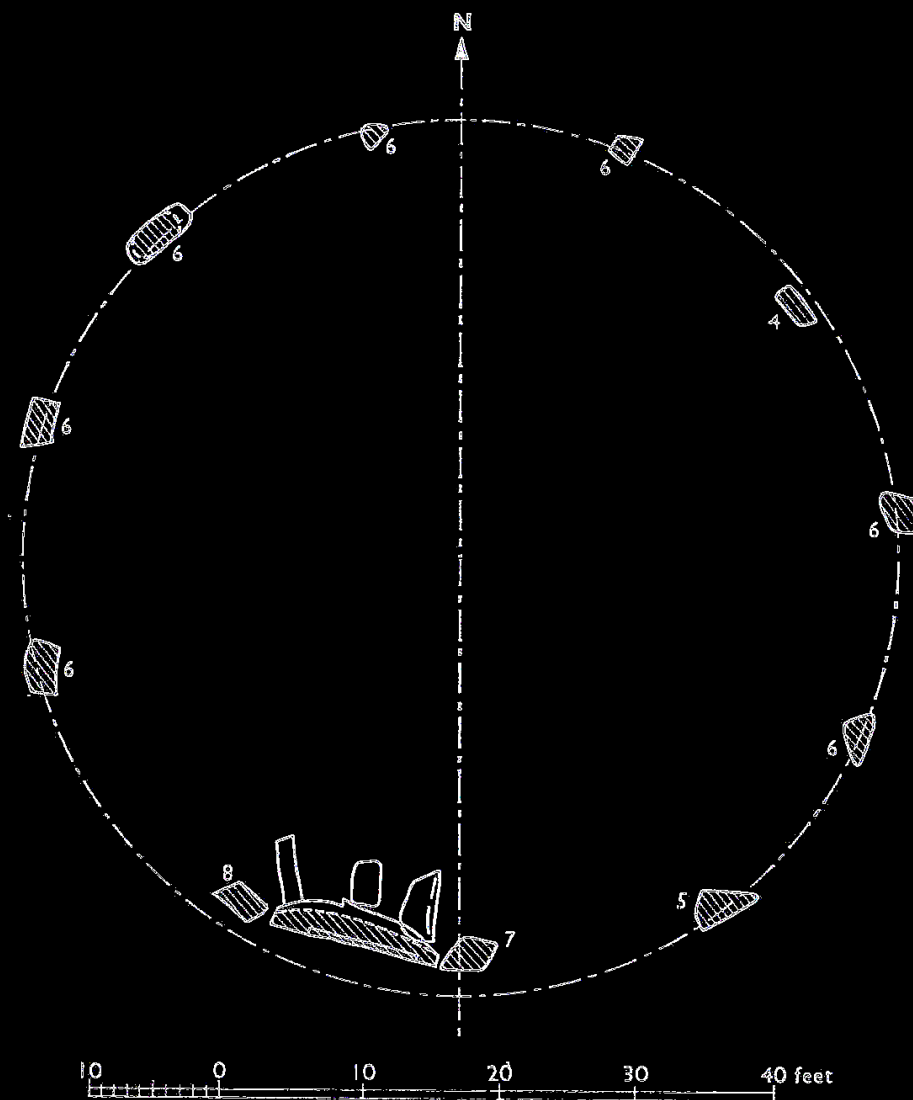
Aquorties Manar (East Aquorties) Stone Circle



Aquorties Manar (East Aquorties) Stone Circle



Aquorthies, Manar, B 1/6 ($57^{\circ} 16' \cdot 6$, $2^{\circ} 40' \cdot 7$).



Aquorthies, Manar, B 1/6 ($57^{\circ} 16' \cdot 6$, $2^{\circ} 40' \cdot 7$).

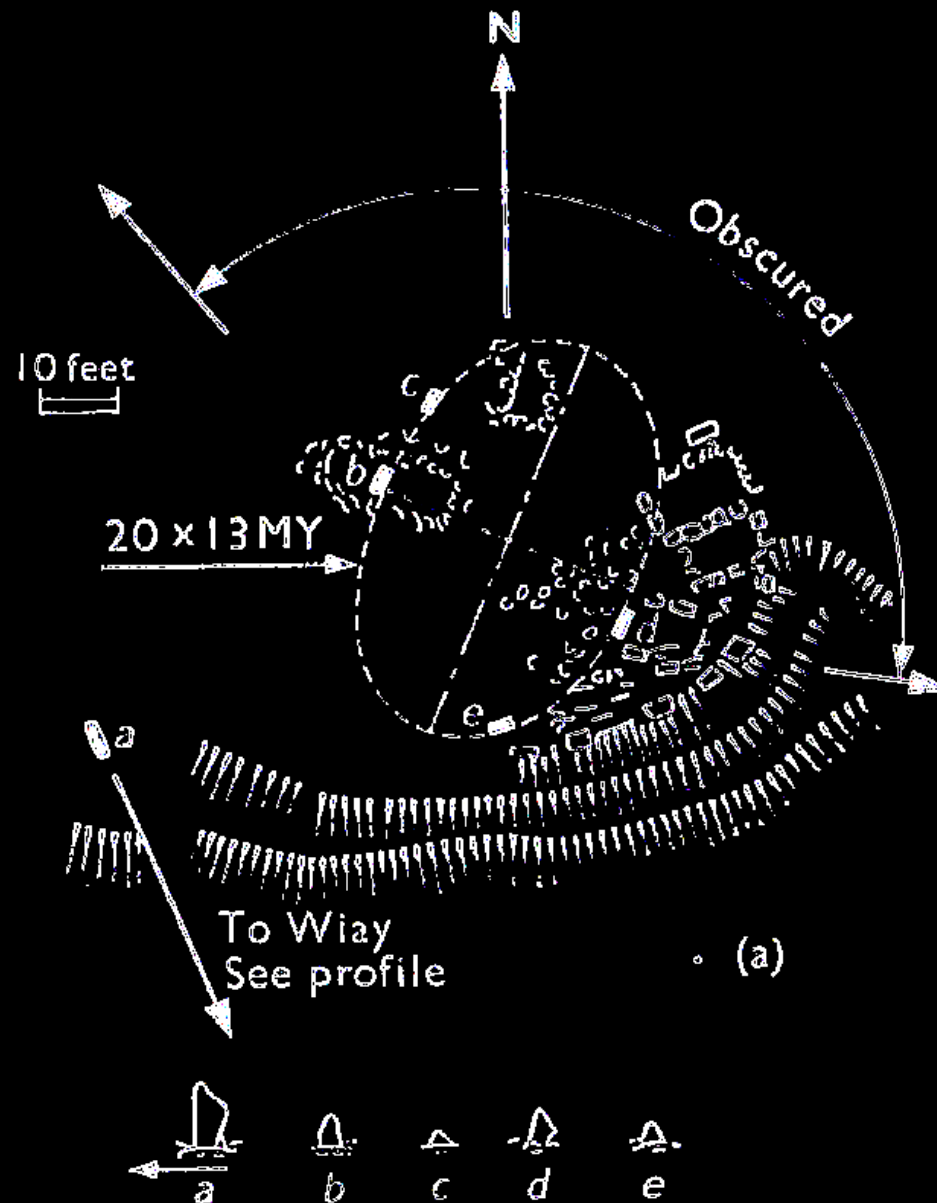
Leachac an Tigh Chloiche



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Data di acquisizione delle immagini: 4/23/2022 57°34'38.67"N 7°21'19.75"O

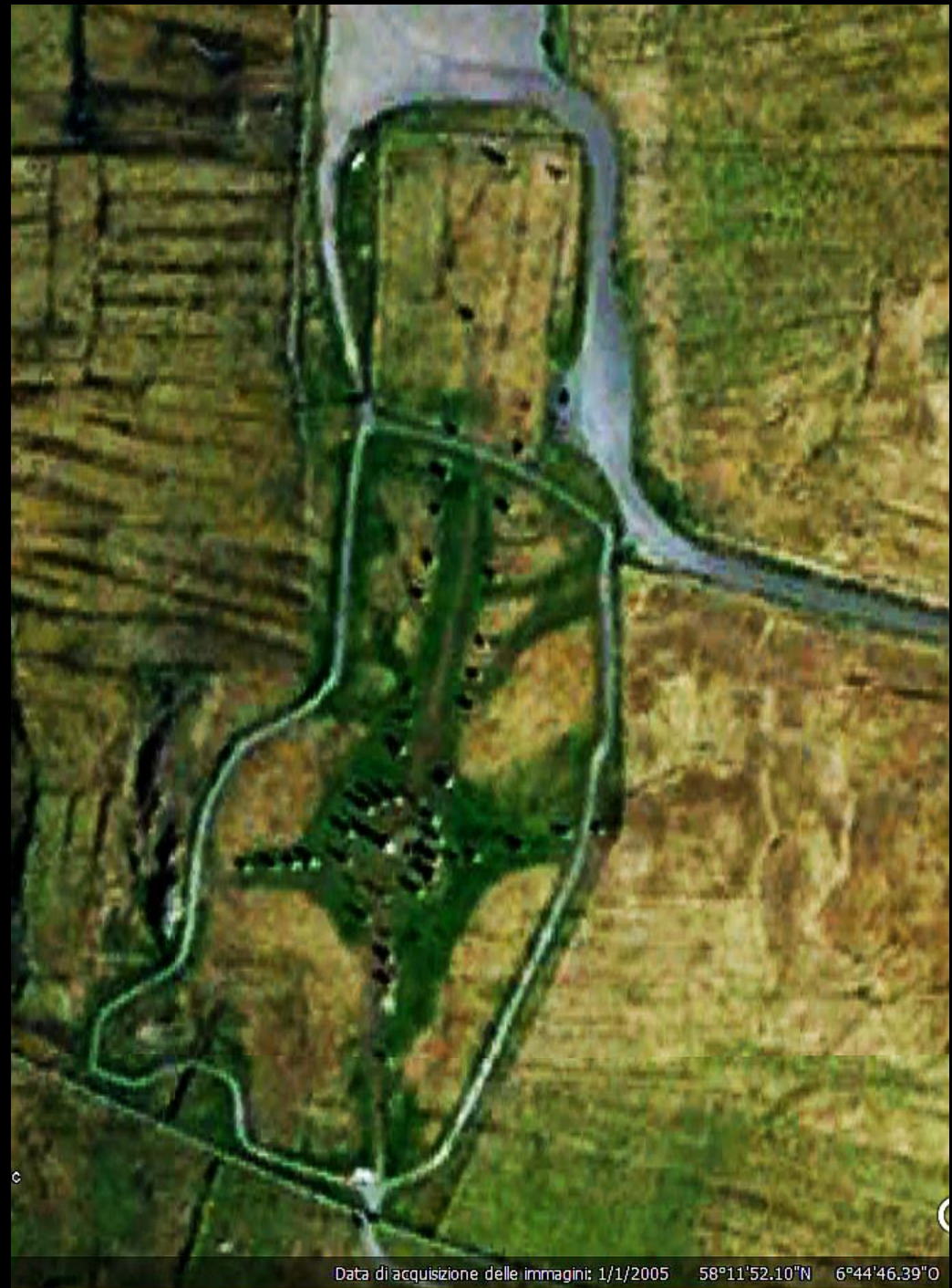
Leacach an Tigh Chloiche, H 3/11 (57° 34' 38", 7° 21' 17")



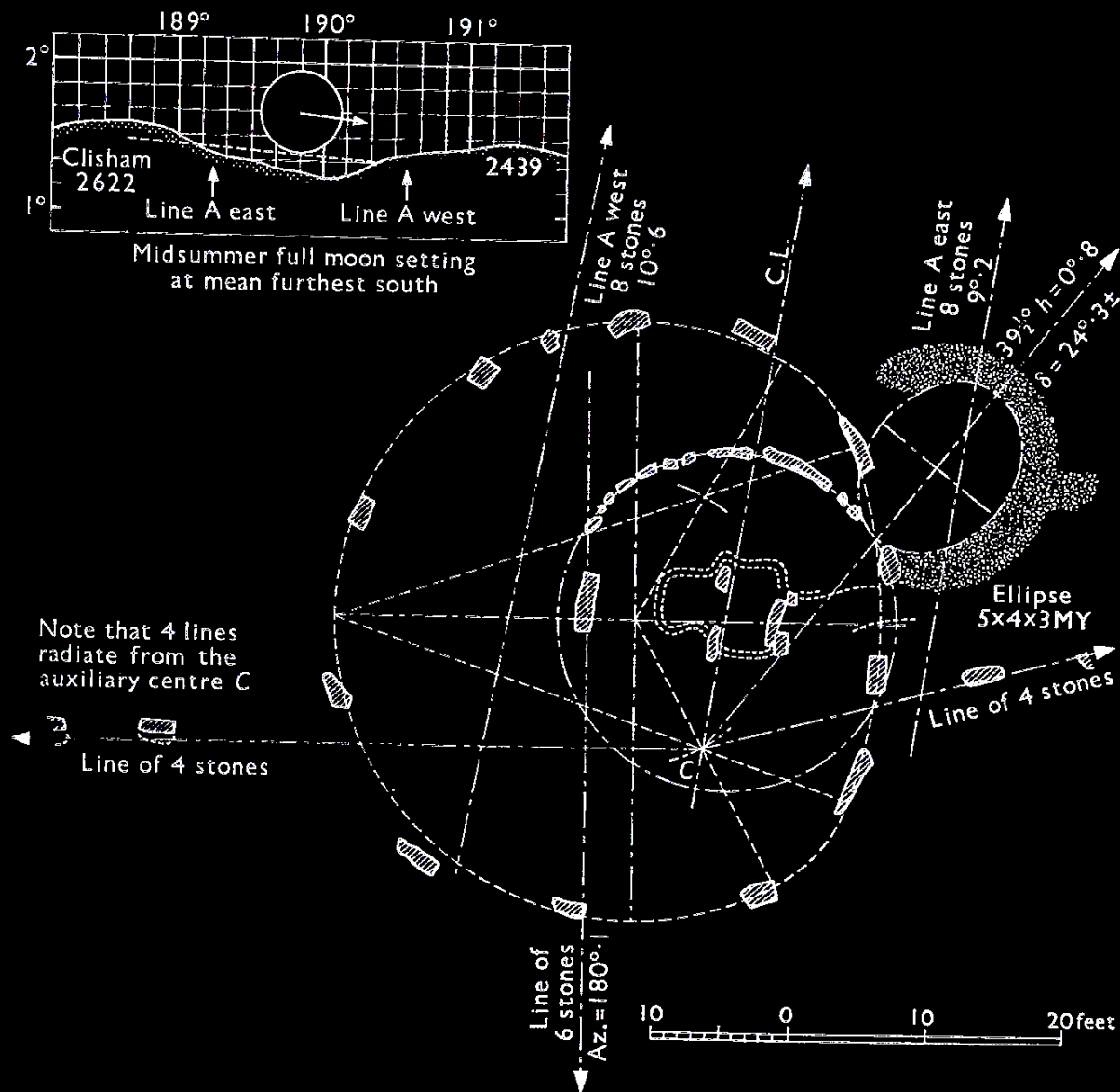
Callanish



Callanish

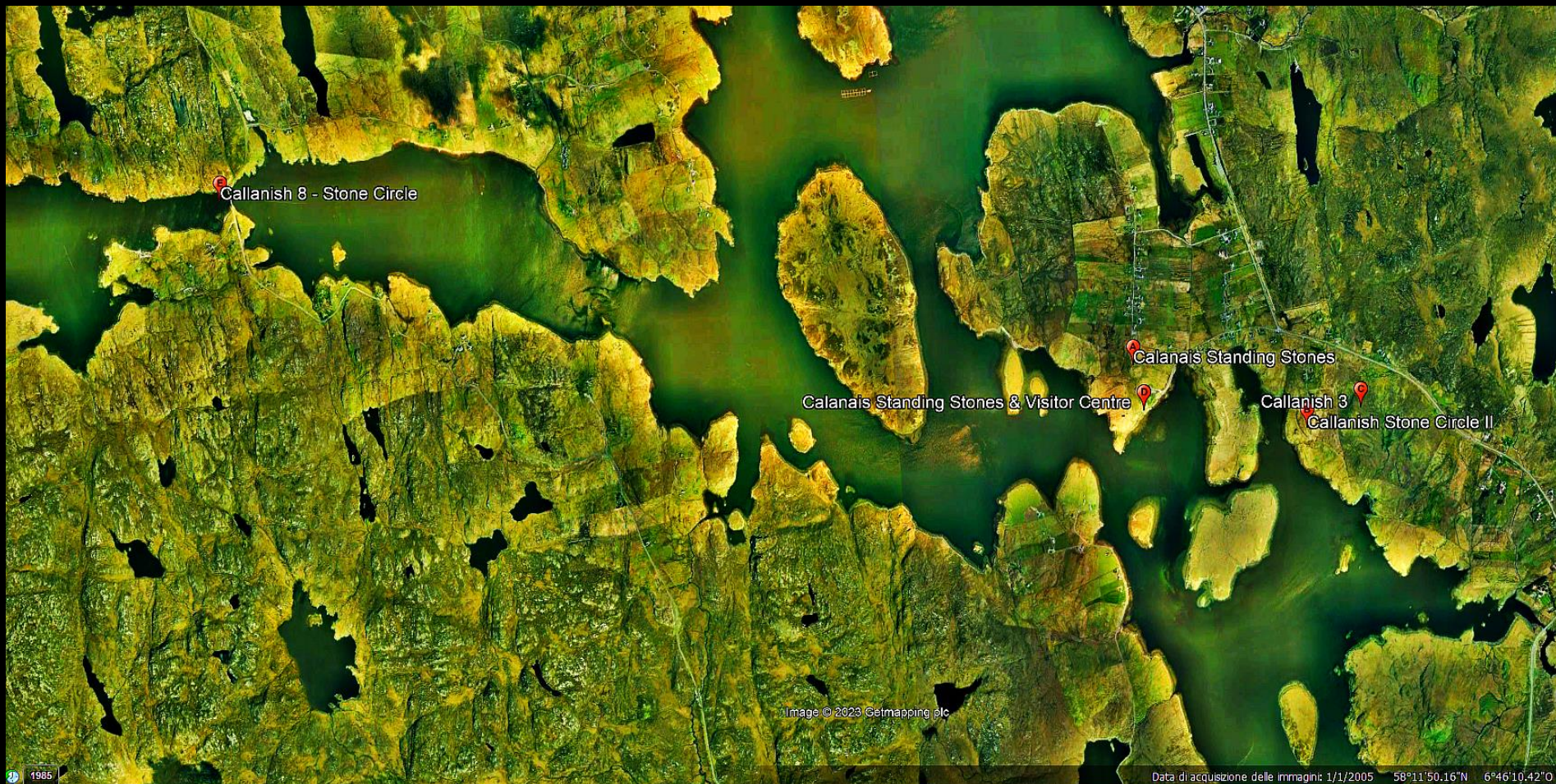


Tursachan Callanish, H 1/1.



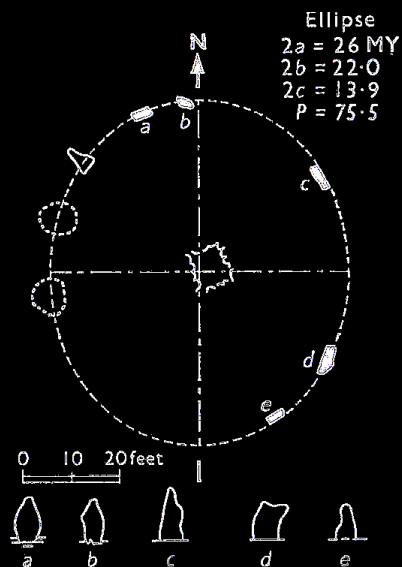
Tursachan Callanish, H 1/1.

Callanish

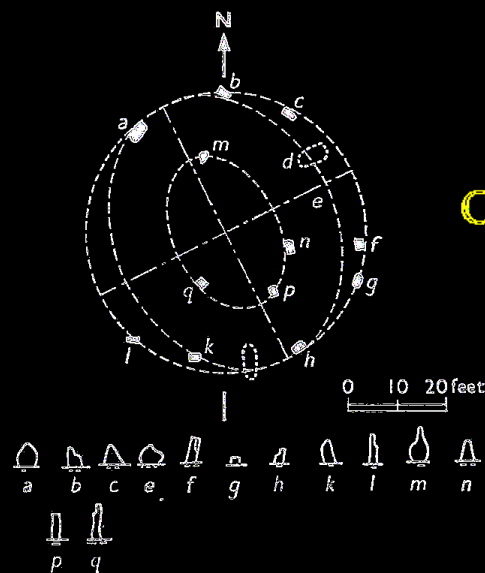


Callanish II, H 1/2; Callanish III, H 1/3; Callanish IV, H 1/4; Great Berneray, H 1/8.

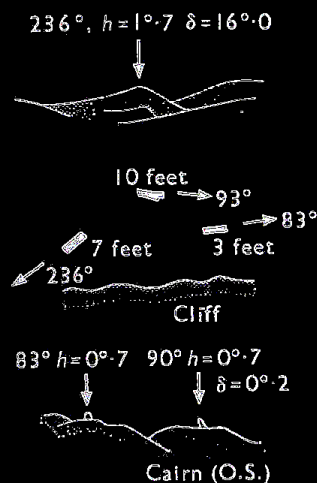
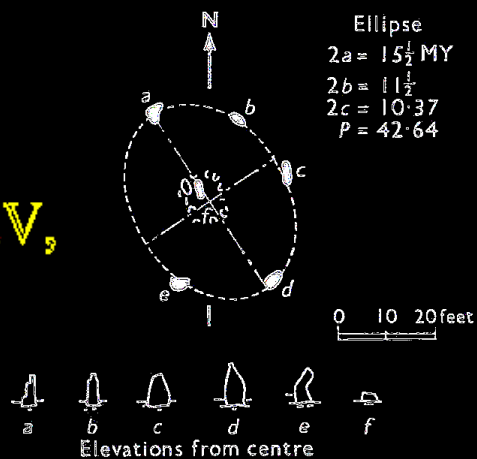
Callanish II,



Callanish III,



Callanish IV,



Callanish II, H 1/2; Callanish III, H 1/3; Callanish IV, H 1/4; Great Berneray, H 1/8.

Easter Delfour



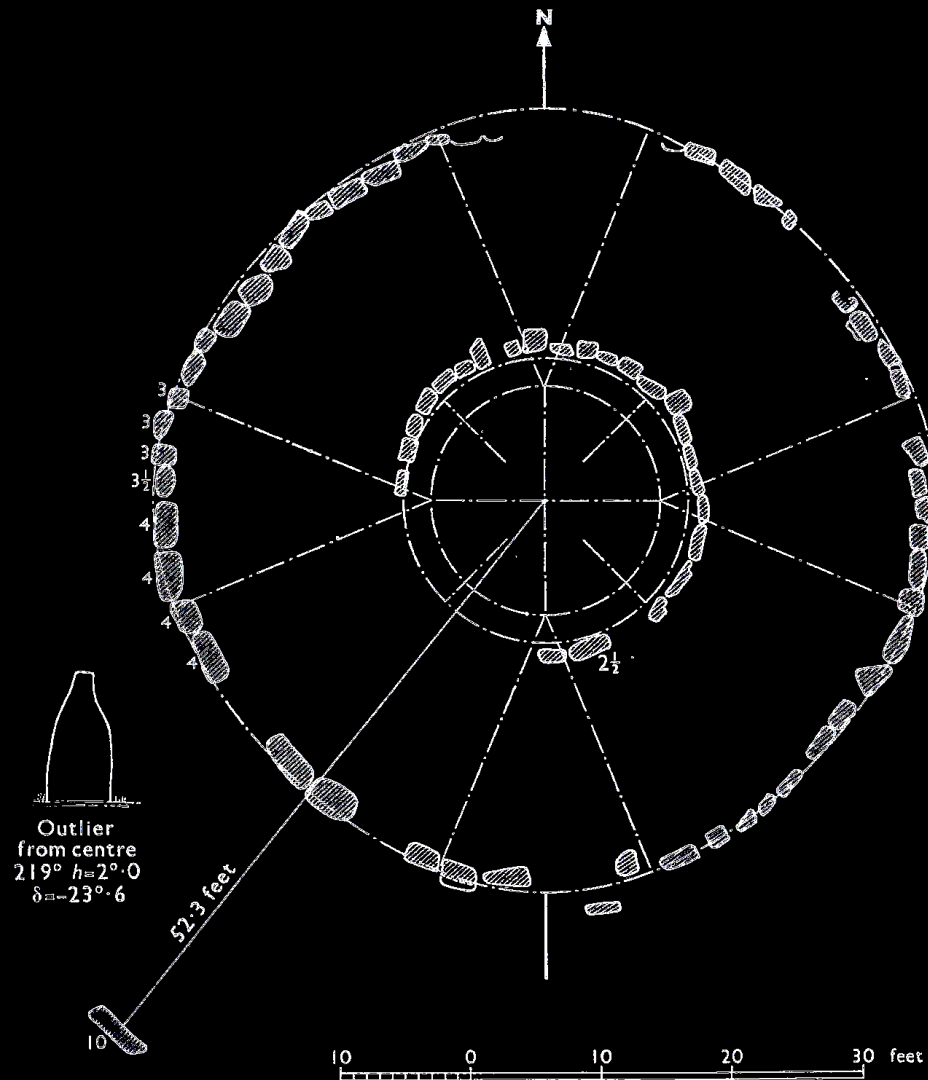
Easter Delfour



Easter Delfour



Easter Delfour, B 7/10 ($57^{\circ} 09'$, $3^{\circ} 54'$).



Easter Delfour, B 7/10 ($57^{\circ} 09'$, $3^{\circ} 54'$). Taking maximum outer diameter = 22 MY and diameter of small circle = $6\frac{1}{2}$ MY, calculation shows minimum outside diameter = 21.01 and $P = 67.56$

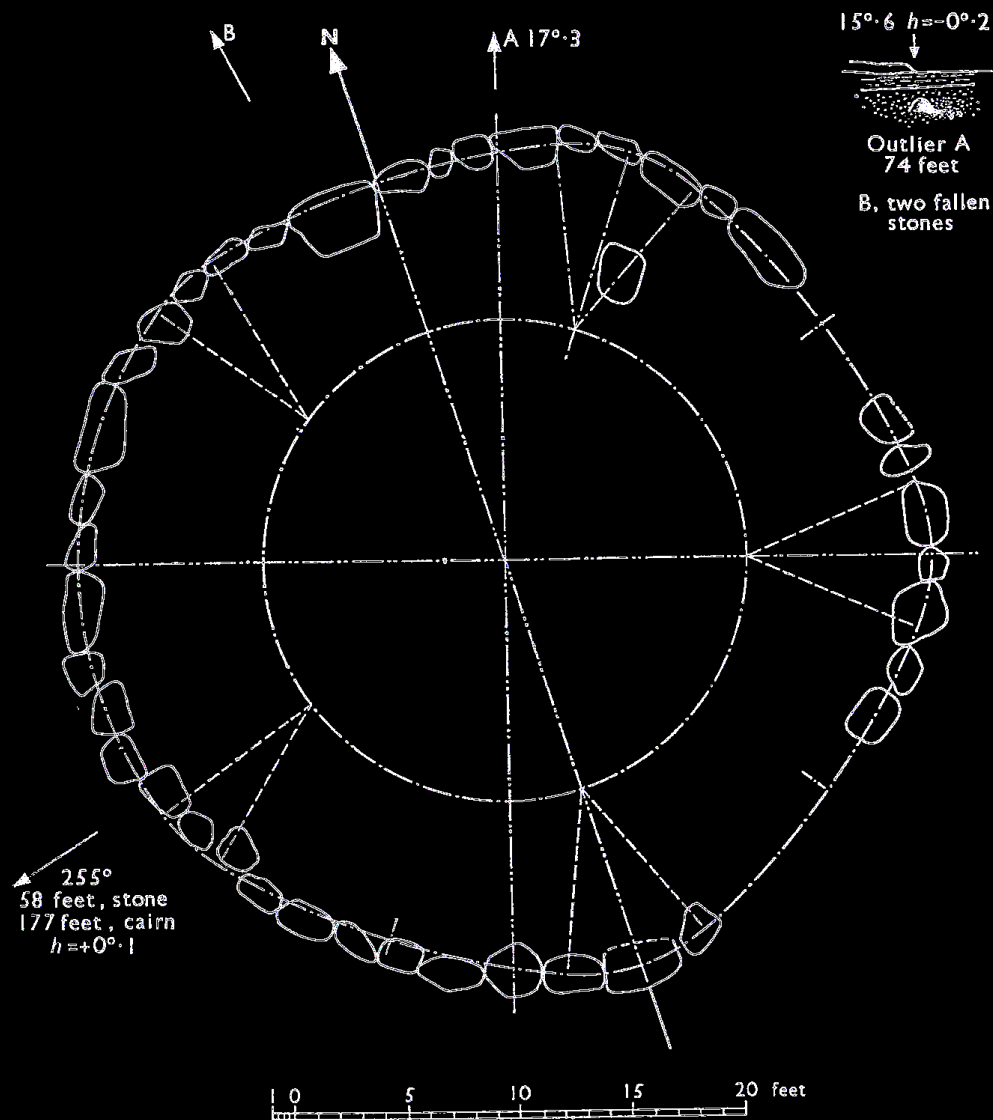
Moel Ty Uchaf



Moel Ty Uchaf



Moel ty Ucha, W 5/1 ($52^{\circ} 55' \cdot 4$, $3^{\circ} 24' \cdot 2$).



Moel ty Ucha, W 5/1 ($52^{\circ} 55' \cdot 4$, $3^{\circ} 24' \cdot 2$).

Postbridge

Soussons Stone Circle



Postbridge

Soussons Stone Circle



Postbridge, S 2/8.

Soussons Stone Circle



5 0 5 10 15 feet

Postbridge, S 2/8.

Aviemore Stone Circle



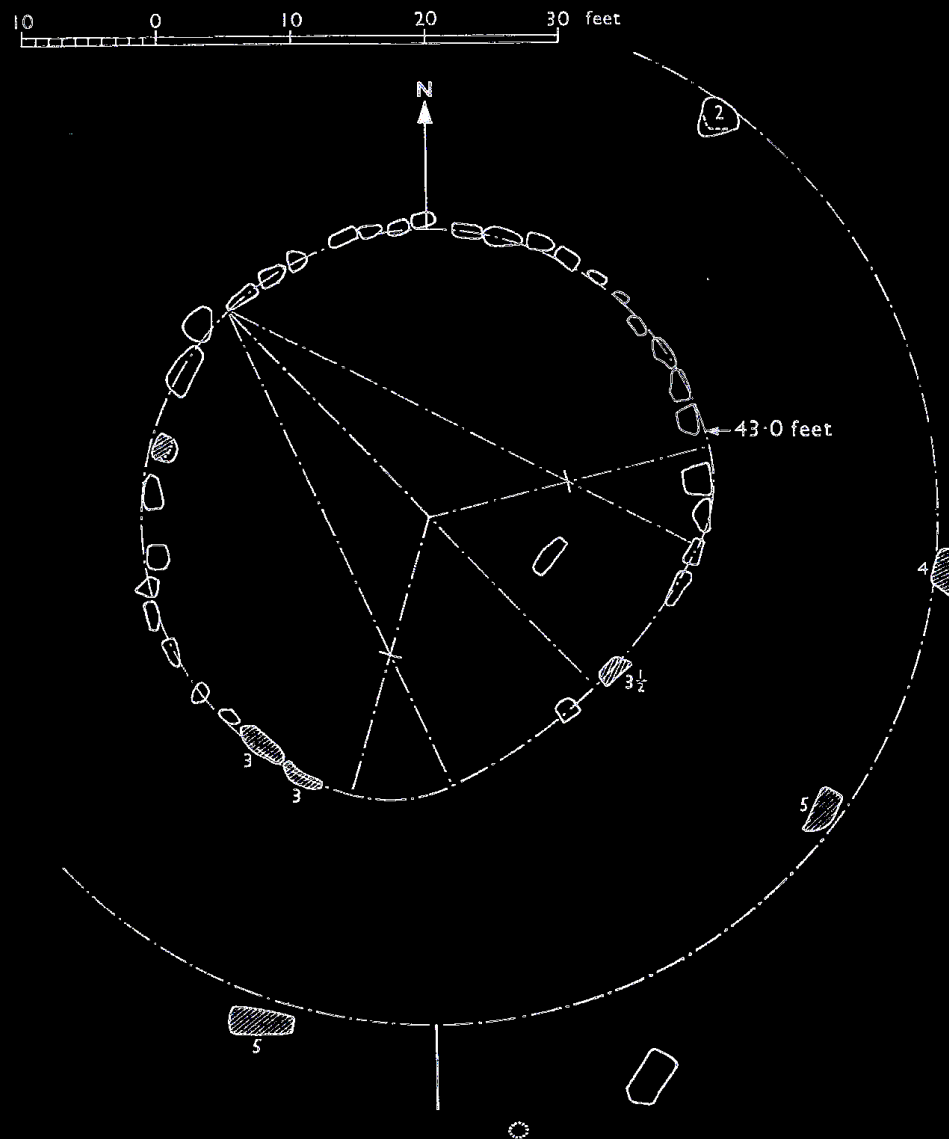
Aviemore Stone Circle



Image © 2023 Maxar Technologies

Data di acquisizione delle immagini: 2/19/2022 57°11'56.47"N 3°49'40.02"E

Aviemore, B 7/12 ($57^{\circ} 12'$, $3^{\circ} 50'$).



Aviemore, B 7/12 ($57^{\circ} 12'$, $3^{\circ} 50'$).

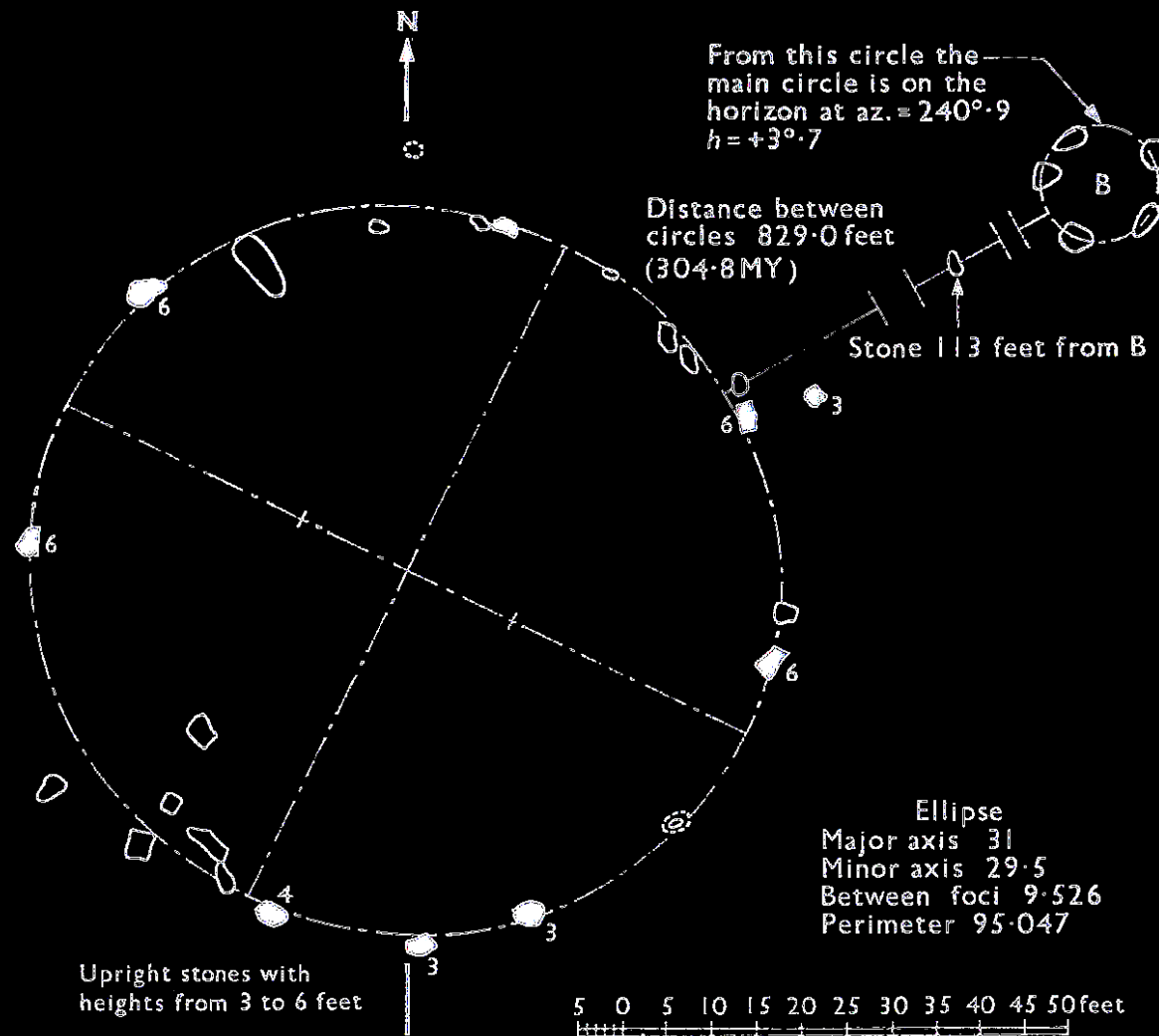
Penmaen-Mawr (Cefn Coch) stone circle



Penmaen-Mawr (Cefn Coch) stone circle



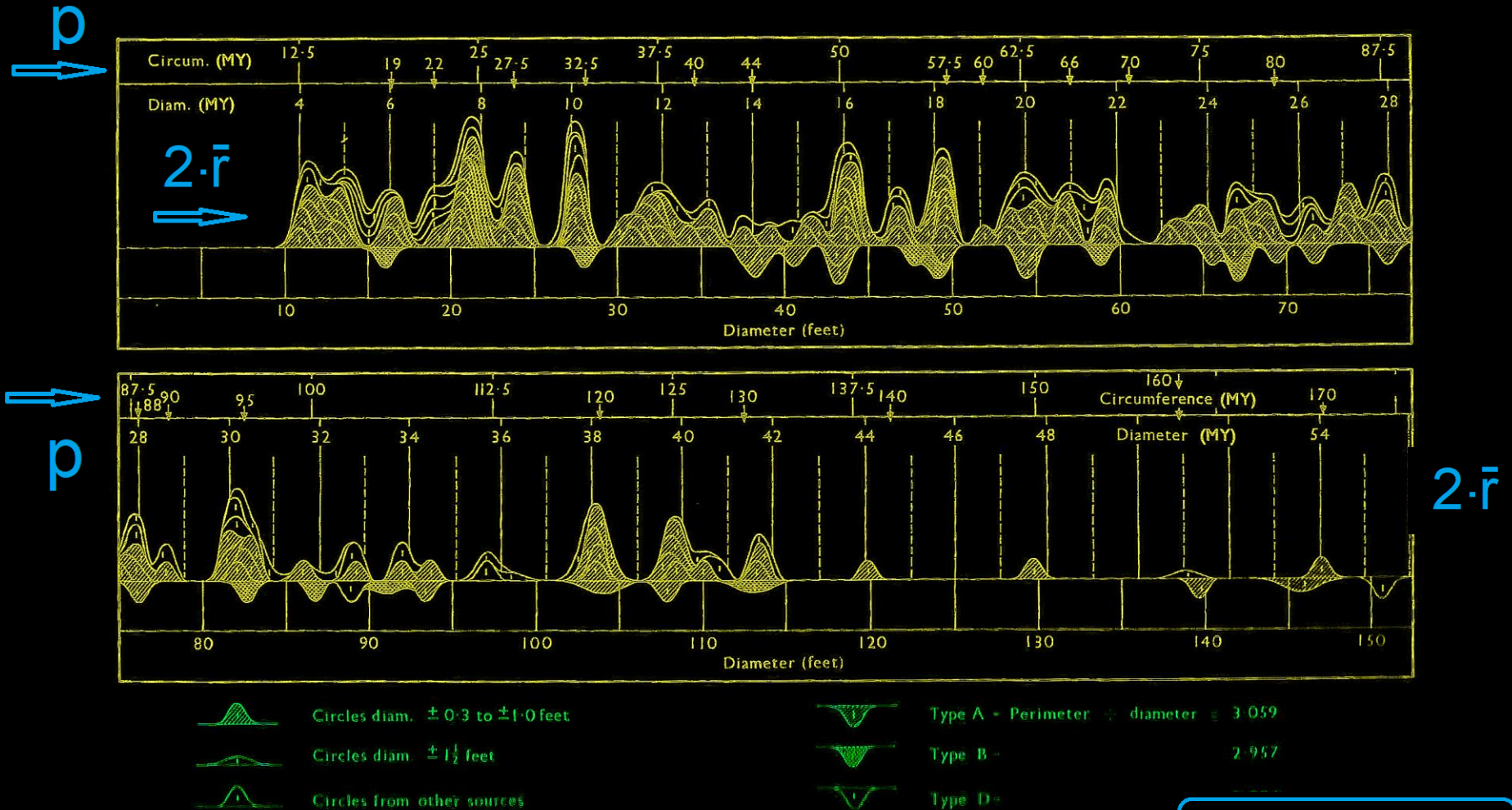
Penmaen-Mawr, W 2/1 ($53^{\circ} 15'$, $3^{\circ} 55'$).



Penmaen-Mawr, W 2/1 ($53^{\circ} 15'$, $3^{\circ} 55'$).

Circoli di Pietre megalitici britannici

Istogramma dei diametri



$$S = K \cdot 2 \cdot \pi \cdot \bar{r}$$

$$1 \text{ foot} = 30.48 \text{ cm}$$

$$I = e^{K \cdot 2 \cdot \pi \cdot \bar{r}}$$

Orientazioni Astronomiche

Site		Class	Type	Az	<i>h</i>	<i>h_E</i>	Decl.	Star	Date	Remarks
A 10/6	Stillaig	A	OSIF	325.5	0.8		+27.9	Moon		
A 11/2	Blanefield	A	A4	56.7	+7.2		+24.0±	Sun		
B 1/8	Sheldon of Bourtie	A	CO	119.7	-0.2		-16.0	Sun		
"	"	A	CO	55.9	0.0		+17.1±	Sun		
B 1/18	Ardlair	A	CSSS	116.0	+1.1		-13.4	—		
B 1/26	Loanhead	B	CC	41.6	+0.7		+24.0	Sun		
"	"	A	CSS	144.0	0		-26.4	—		
"	"	A	CSS	139.0	0.2		-24.3	Sun		
B 2/4	Esslie (S)	A	CC	43.1	1.1		+24.1	Sun		To B 2/5
"	"	A	CS	306.2	0.2		+18.4±	Moon		
B 2/5	Esslie (N)	A	CC	223.1	2.7		-21.2	Sun		To B 2/4
B 3/3	Raedykes	B	CS	259.2	0.8	1.7	-4.4	Bellatrix	1670	
"	"	B	CC	314.2	2.1		+23.9	Sun		
B 3/5	Kempston Hill	B	SS	231.4	0.6		-19.8	Moon		
B 7/1	Clava	A	PP	216.5	1.7		-24.3	Sun		
B 7/3	Dulnanbridge	A	AS	230.9	0.9		-19.5	Moon		
B 7/10	Easter Delfour	A	CO	219	2.0		-23.6	Sun		
D 1/7	Barbrook	A	CO	284.8	2.3		+10.5	Spica	2000	
"	"	B	CO	118.6	2.2		-15.1			Below grass hor.
G 1/4	Ballantrae	A	SSS	11.8	+2.7		+36.5	Deneb		
G 3/3	Laggangarn	B	CS	296	2.1		+16.2			
"	"	B	CS	106.2	0.7		-9.0	Sun		Long stone
"	"	B	CS	105.4	0.7		-8.5	Sun		
"	"	B	CS	150.3	0		-30.4	Moon		
"	"	B	CS	124.8	0		-19.6	Moon		
"	"	B	CC	133.8	0.2		-23.7	Sun		
G 3/12	Drumtroddan	A	A3	43.3	+0.4		+24.8	Sun		Re-erected (?)
G 3/13	Wren's Egg	B	—	227.5	-0.2		-23.6	Sun		To Big Scare
G 3/17	Whithorn	B	SS	254.3	+0.9		-8.5	Sun		
G 4/1	Carsphairn	B	CO	100.4	+3.2		-3.5			
G 4/2	The Thieves	C	SS	228	-0.4		-23.4	Sun		Axis of ring
"	"	C	SS	48	+6.7		+28.5	Moon		" "

G 4/13	Kirkmabreck	B	SSS	5.9	3.1	+37.7			Meridian (?)
G 4/12	Cambret	A	CCC	296.7	0.2	+14.7			
"	"	A	CCC	116.7	5.7	-10.3	Antares	1860	
"	"	B	CS	254.3	4.3	-5.4	Bellatrix	1870	Stone on skyline
G 4/14	Cauldside	A	CSSC	156.8	8.7	-23.9			
"	"	A	IF	59.5	0.3	+16.8	Sun		Peak
"	"	B	IF	78.2	+0.3	+6.6			
"	"	"	"	"	"	+7.2	Altair	1900	
G 6/2	Auldgirth	B	COIF	281.2	+3.3	+8.9	Sun		Reported fake
G 7/4	Loupin Stanes	A	CC	306.5 $\pm$	5.1	+24.1	Sun		
"	"	B	CSS	201.2	1.5	-31.0			
G 8/8	Dere Street IV	B	SSC	276.7	2.3	+5.4			To Dere St. II
G 8/9	Eleven Shearers	A	A18	94.7	4.1	+0.5	Sun		
"	"	A	A	109.2	3.1 $\pm$	-8.3	Sun		Estimated <i>h</i>
G 9/10	Borrowston Rig	A	CSS	333.3	2.0	+31.8	Capella	1930	
G 9/13	Kell Burn	A	A	129.8	1.8	-19.7	Moon		
"	"	A	A	309.8	2.9	+23.5	Sun		
H 1/1	Callanish I	A	CA	9.2	1.5	+32.5	Capella	1790	
"	"	A	CA	10.6	1.6	+32.5	"	"	
"	"	A	AC	190.6	1.3	-30.2	Moon		
"	"	A	AC	189.2	1.5	-30.2	"		
"	"	A	CA	270.9	0.5	+0.3	Sun		
"	"	A	CA	77.8	0.9	+6.9	Altair	1760	
"	"	B	CC	142	+0.5	-24.5	Sun?		To V
H 1/2	"	II	B	CC	129.5	+0.3	Moon		To VI
H 1/3	"	III	B	CC	280	0.6	+5.4	Sun	To I
"	"	III	B	CC	249	+1.7	-10.2	Antares?	1880 To II
H 1/4	"	IV	B	CC	89	+1.0	+1.0	Sun	To VI
"	"	IV	B	CC	135	+1.4	-22.8	Sun	To V
H 1/5	"	V	B	CC	64	+0.7	+13.6	Sun	To VI
"	"	V	B	CC	332.8	+0.3	+27.8	Moon	To II
"	"	V	B	CC	322	-0.2	+23.8	Sun	To I
H 1/6	"	VI	B	CC	304.9	-0.2	+16.9	Sun	To I
"	"	VI	B	CC	269.0	+1.0	0.0	Sun	To IV
"	"	VI	B	CC	244	+0.9	-12.9	Sun	To V

Site		Class	Type	Az	<i>h</i>	<i>h_E</i>	Decl.	Star	Date	Remarks
II 1/7	Gt. Bernera	B	IF	236	1·7		− 16	Sun		Dip
"	"	B	IF	83			+ 6±			Cairn
"	"	B	IF	90	0·7		0·3	Sun		Cairn
II 1/10	Steinacleit	B	CO	89·1	0·7±		+ 0·7±	Sun		Too close
II 1/12	Clach an Trushel	B	AC	77·9	0·9		+ 6·8	Altair	1700	To H 1/10
II 1/14	Clach Stein	A	CC	24·8	0·4		+ 28·5	Moon		To H 1/15
"	"	A	IF	98·3	0·4		− 4·5	Sun		To Suilven
II 1/15	Dursainean	A	SC	227·9	2·0		− 19·3	Moon		H 1/15 on hor.
II 2/1	Clach an Teampuill	B	CC	138	1·9		− 21·8	Sun		To Hill
II 2/2	Clach Mhic Leoid	A	IF	271·0	− 0·1		0·0	Sun		To Boreray
II 2/3	Borvemore	B	IF	317·2	− 0·1		+ 22·3	Sun		To Gasgier
II 3/1	Cladh Maolrithe	A	IF	296·6	− 0·2		+ 13·2			To Spuir Islet
II 3/2	Clach ant Sagairt	A	IF	287·6	− 0·0		+ 8·8	Sun		To Boreray
II 3/3	Clettraval	C	SC	126·5	− 0·1		− 19·2	Moon		To H 3/11
II 3/5	Fir Bhreige	B		121·8	0±		− 16·0	Sun		To H 3/9
II 3/6	Barpanan Feannag	C	—	160·7±	0·7		− 29·8±	Moon		Az. doubtful; stone on hor.
"	"	C	CC	220·0±	0·6		− 24·2±	Sun		To Tigh Chloiche
II 3/8	Na Fir Bhreige	B	SSS	288·9	2·3		+ 11·7	—		Perhaps reverse
"	"	A	IF	271·8±	0·4		+ 0·8±	Sun		To H 3/6 and hill
"	"	C	IF	253·2	1·3		− 8·2	Sun		To Marrival
II 3/9	Ben a Charra	B	IF	255·7	− 0·3		− 8·1	Sun		To Deasgeir
II 3/11	Leacach an Tigh Chloiche	C	IF	304·1	− 0·2		+ 17·0	Sun		To Haskeir
"	Leacach an Tigh Chloiche	A	CCC	131·8	− 0·3		− 21·7	Sun		To H 3/20
II 3/12	Clach Mhor à Ché	A	IF	281·9	+ 0·4	0·9	+ 6·8	Altair	1700	To Craig Hasten
"	"	A	IF	281·9	+ 0·4	0·5	+ 6·4	Procyon	1750	" "
II 3/15	Claddach illeray	C	—	288·3	0·0		+ 9·3	Sun		" "
II 3/18	Sornach Coir Fhinn	A	IF	303·2	+ 0·6		+ 21·6	Sun		To Cringraval
"	"	A	IF	318·5	+ 0·8		+ 24·0	"		To H 3/11
II 3/20	Craonaval	A	CCC	311·8	+ 0·6		+ 20·9	—		To H 3/11
II 4/2	Gramisdale (S)	C	CC	120·7	+ 0·3		− 16·2	Sun		To Hacklet
II 4/4	Rueval Stone	A	IF	303·8	− 0·1		+ 16·9	Sun		To Boreray
II 5/1	An Carra	C	—	315·4	− 0·1		+ 21·9	Sun		"
II 5/9	Pollachar Inn	C	—	227·6	− 0·1		− 22·1	Sun		Not visited
II 6/3	Brevig, Barra	A	A	135·0	− 0·3		− 23·6	Sun		
II 6/5	Berneray	C	CS	342	4·8		+ 35·9	Deneb		To Hecla
L 1/1	Castle Rigg	A	CO	251·5	3·2		− 8·1	Sun		Good outlier
"	"	A	SS	127·0	5·2		− 16·0	Sun		Diameter
"	"	A	SS	307·0	4·6		+ 24·3	"		"
"	"	A	SS	157·1	2·8		− 29·8	Moon		Cross axis

L 1/3	Sunkenkirk	B	—	128.8	+0.5	—21.5	Sun		'Entrance'
L 1/6	Burnmoor	A	CC	348.0	+7.5	+42.1	Arcturus	1900	E to A
"	"	A	CC	343.5	7.7	+41.5	"	1800	E to B
"	"	B	CC	292.3	6.2	+17.9	Moon		
"	"	B	CC	311.9	+5.5	+27.6	Pollux (?)	1600	E to D
"	"	B	CC	243.6	-0.5	-16.0	Sun		D to C
"	"	B	CC	131.9	+1.6	-21.6	Sun		D to E
"	"	B	CC	63.6	4.3	+18.5	Moon		C to D
"	"	B	CC	112.3	2.6	-10.8	Antares	1700	C to E
"	"		CC	358.7			Meridian		C to B
L 1/7	Long Meg, etc.	A	CO	223.4	1.1	-24.2	Sun		To Long Meg
"	" "	A	CC	65.1	3.4	+16.7	Sun		To Little Meg
"	" "	B	SS	86.0	3.7	+ 5.2			Cross axis
L 1/10	Seascale	A	CO	354.0	1.0	+36.3	Deneb		Good outlier
L 1/11	Giants' Graves	A	SSS	30.8	2.1	+31.8	Capella	1920	
"	" "	B	SSS	210.8	0.5	-30.2	Moon (?)		<i>h</i> guessed
L 3/3	Five Kings	B	A4	252	4.5±	- 6.5	—		Uncertain
"	" "	A	IF	312.6	21.3	+41.1	Vega	1820	Stone on hor.
L 6/1	Devil's Arrows	B	A3	331.2±	0.7	+31.2	Capella?		Re-erected (?)
"	" "	B	A3	151.2±	0.4	-30.7	Moon?		Trees?
M 1/4	Dervaig (A)	A	A4	342.0	0.0	+31.7	Capella	1930	One fallen
M 1/5	Dervaig (B)	B	A7	334.0	0.7±	+29.9	Castor	1700	Poor <i>h</i>
"	" "	B	A7	154.0	1.6±	-28.4	—		"
M 1/9	Ardnacross	B	A	339±	2.0	+32.7	Capella	1750	Fallen alignment
M 2/6	Ross of Mull	A	IF	59.9	1.5	+17.1	Sun		Peak

Site		Class	Type	Az	<i>h</i>	<i>h_E</i>	Decl.	Star	Date	Remarks
M 2/8	Bunessan	B	IF	330.7	0.2		+28.6	Moon		St. on hor.
M 2/9	Ardlanish	B	CS	282.4	2.6		+ 9.0	Sun		From ring
M 2/10	Uisken	B	IF	229.6	0.3		-21.3	Sun		
M 2/14	Loch Buie	A	CO	123.4	6.8		-12.0			
"	" "	A	CO	223.6	0.4		-23.7	Sun		
"	" "	A	CO	237.0	2.1		-16.0	Sun		
"	" "	B	CO	330.8	14.1		+42.1	Arcturus	1740	
"	" "	B	CC	297.9	9.0 $\pm$		+23.2 $\pm$	Sun (?)		To small circle
"	" "	A	SSIF	348.5	10.3		+42.9	Arcturus	1980	Stone on hor.
"	" "	C	SS	65.7	+6.2		+18.2	Moon		
"	" "	A	OS	245.1	3.5		-10.4	Antares	1850	
"	" "	B	SCIF	324.7	16.8		+42.4	Arcturus	1900	Peak
"	" "	C	SC	150.8	5.1		-24.2	Sun		
M 4/2	Tiree S	B	IF	190.2	2.8		-30.4	Moon		Flat hill top
M 8/2	Barcaldine	A	IF	319.5	2.3		+26.6	Pollux	1930	Double stone
N 1/8	Loch of Yarrows	B	SS	343.0	0.0		+29.6	Castor	1800	Reverse?
N 1/13	Latheron Wheel	A	CO	196.1	1.0 $\pm$		-29.7	Moon		
N 2/1	Learable Hill	A	A	92.8	2.4		+ 0.3	Sun		Multiple rows
"	" "	A	A	61.6	2.4		+16.6	"		" "
"	" "	A	AIF	75.0	2.2		+ 9.5	"		Single row
P 1/1	Muthill	A	A3	57.3	1.8		+18.7	Moon (?)		
"	"	A	A3	237.3	5.6		-12.7	Sun		
P 1/2	Doune	A	A3	13.5 $\pm$	0.5		+32.7	Capella	1760	
P 1/8	Comrie	A	SS	296.8	5.3		+18.2	Moon		
"	"	B	SS	116.8	2.3		-12.3	Sun		
P 1/10	Fowlis Wester	B	CS	30.9	0.6		+29.4			
P 1/13	Monzie	B	CS	305.5	4.8		+22.8			
P 1/14	Tullybeagles	B	CC	264 $\pm$	3.7		- 0.5 $\pm$	Sun		
P 1/19	Croftmoraig	B	CO	101.7	8.9 $\pm$		+ 0.8 $\pm$	Sun		Close outlier
P 2/8	Shianbank	A	CC	137.5	2.6		-21.9	Sun		
"	"	A	CC	317.5	0.6		+24.2	Sun		
P 2/12	Dunkeld	B	A2	310 $\pm$	3.7		+24 $\pm$	Sun		
P 2/17	Dowally	B	SS	106.4	6.2		- 3.9	Sun		
P 3/1	Glen Prosen	A	A4	198.1	1.9		-29.9	Moon		
P 7/2	Galabraes	B	SO	86.8	5.6		+ 6.2	Procyon	1840	

S 1/1	The Hurlers	B	A4	76.3	0.8		+ 9.0	Sun		Far uprights
"	" "	B	A4	256.3	0.5		- 8.6	Sun		" "
"	" "	B	SCC	16.5	3.4		+40.7	Vega		& Arcturus
"	" "	B	CC	12.4	3.3		+41.5	Arcturus	1800	Trees (?)
"	" "	B	CC	10.1	2.4		+41.9	"	1860	"
S 1/2	Nine Stones	A	CA	63.5	1.5		+17.5	Moon		
S 1/5	Treswigger	B	CS	317.2	1.9		+29.3	Castor	1840	Poor
S 1/6	Leaze	A	CS	59.1	1.7		+16.3	Sun		
S 1/7	Rough Tor	B	CS	351.5	5.1		+43.7			
S 1/9	Nine Maidens	A	A9	26.1	2.0		+36.5	Deneb		Good line
S 1/11	Nine Maidens	B	CSS	332.7	0.5		+34.4			
S 2/2	Merrivale	A	CO	70.4	3.5		+14.9			
S 3/1	Stanton Drew	B	CC	232.7	1.6±		-21.2±	Sun		Trees
"	" "	B	CC	52.7	1.3±		+22.9±			"
"	" "	B	CC	211.4	1.7±		-30.9±	Moon (?)		h unknown
S 5/2	The Sanctuary	A	IF	320.0	0.3		+28.4	Moon		
S 5/3	Avebury	A	CC	339.2	0.5	1.3	+36.5	Deneb		
S 5/4	Woodhenge	A	CS	31.0	0.4	0.5	+32.5	Capella	1790	
S 6/1	Rollright	A	CO	29.0	0.0	0.5	+32.7	Capella	1750	
"	"	A	CC	95.0	-0.2		- 3.8	Sun		The Whispering Knights
W 2/1	Penmaen-Mawr	A	CC	60.9	-0.2		+16.4	Sun		Large to small
"	" "	A	CC	240.9	+3.7		-14.1			Small to large
"	" "	B	A3	18.6		1.3	+35.5	Deneb		? reverse
W 5/1	Moel ty Ucha	B	IF	256.7	0.1		- 7.6			
"	" "	A	CS	17.3	-0.2	1.3	+36.1	Deneb		
"	" "	B	CC	298.6	0.6		+16.9	Sun		To W 5/2
W 5/2	Twyfos	A	CC	118.6	5.0		-12.7	Sun		To W 5/1
W 6/2	Rhos y Beddau	A	CA	79.1	5.0		+10.5	Spica	2000	
"	" "	B	AC	259.1	3.8±		- 3.7	Sun		
"	" "	B	CA	72.7	5.5±		+15.0			
W 8/1	Rhosygelynnen	A	A	82.1	0.6		+ 4.9	Sun		
"	"	A	A	262.1	2.2		- 3.3			

Site		Class	Type	Az	h	h_E	Decl.	Star	Date	Remarks
W 9/2	Gors Fawr	A	A4	49.6	1.3		+24.3	Sun		
"	" "	A	A4	229.6	-0.2		-24.2	Sun		
W 9/4	Castell-Garw	A	CCSS	214.3	0.0 $\pm$		-31.2 $\pm$	Moon (?)		Trees
W 9/5	St. Nicholas	A	CSS	71.0	0.3		+11.4	—		
W 9/7	Parc-y-meirw	A	A4	301.4	-0.4		+17.8	Moon		
W 11/1	Saeth-maen	B	A8	83.5	3.6		+ 6.6	Procyon	1660	
W 11/2	Y Pigwn	B	CC	53.3	0.4		+21.5	Sun		Stone on horizon
"	"	B	CC	233.3	1.0 $\pm$		-21.0 $\pm$	"		
"	"	B	CS	131.0	0.9		-23.5	"		
W 11/3	Maen Mawr	A	CO	335.2	4.3		+38.0			
"	" "	B	CS	4.5	4.6		+42.4	Arcturus	1950	
W 11/4	Usk River	B	CO	285.0	1.5		+10.1	Spica	1900	
"	" "	B	A3	78 $\pm$	3.3		+ 9.7 $\pm$	Sun		
"	" "	A	CC	295.3	1.2		+16.0	Sun		
"	" "	A	CC	115.3	2.9		-13.1	Sun		
W 11/5	Ynys Hir	B	IF	126.5	0.2		+21.7	Sun		Vis. unchecked
W 8/3	Four Stones	B	COO	67.5	0.9		+13.9			Distant outliers