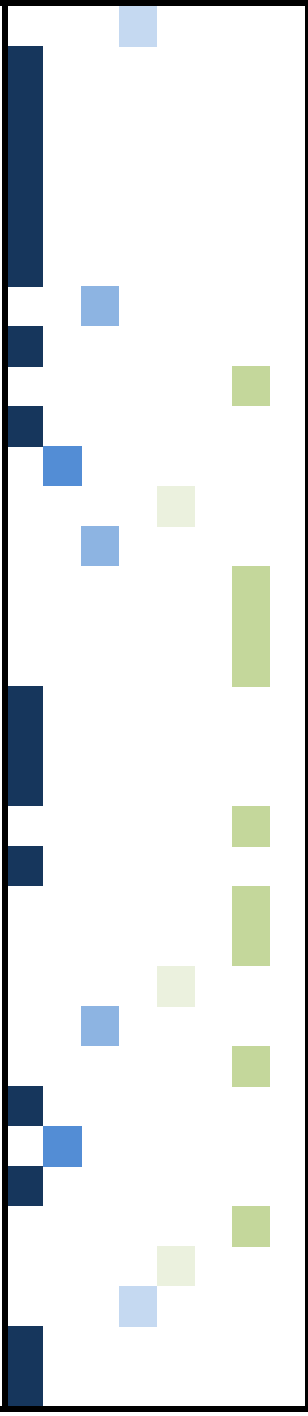
TABLE S4.4. Declinations of Kahikinui and Kaupō temples in all four directions, including columns summarizing the elevation of the *heiau* and, where known, the chronology (in varying shades, depending upon the precision)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declination (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set	Elevation									Chronology								
						~0 m	~100 m	~200 m	~300 m	~400 m	~500 m	~60o m	~700 m		~A.D. 1450	~A.D. 1500	~A.D. 1550	~A.D. 1600	~A.D. 1650	~A.D. 1700	~A.D. 1750	~A.D. 1800	
MAH-231	N	Yes	**85.3**	**0.6**	**Rise**																		
KIP-1010 (W)	N	Yes	**84.7**	**1.0**	**Set**																		
KIP-414	N		84.6	0.9	Rise																		
KIP-1	N		84.0	0.1	Rise																		
KIP-306	N	Yes	**83.0**	**0.2**	**Set**																		
KIP-1010 (E)	N	Yes	**82.5**	**2.0**	**Set**																		
WF-AUW-493	N		82.1	0.1	—																		
WF-AUW-343	N		82.1	0.1	Set																		
LUA-39	N	Yes	**81.7**	**0.1**	**Rise**																		
WF-AUW-574	N	Yes	**81.6**	**0.5**	**—**																		
WF-AUW-403	N		81.1	0.6	—																		
KIP-1025	N		81.0	0.5	Set																		
LUA-1	N		81.0	2.5	Rise																		
NAK-34	N	Yes	**80.9**	**0.8**	**Set**																		
WF-AUW-359	N		80.9	0.9	—																		
AUW-9	N	Yes	**80.3**	**0.5**	**—**																		
WF-AUW-338	N	Yes	**80.3**	**0.3**	**Set**																		
WF-AUW-391	N		80.2	1.4	Set																		
ALE-121	N	Yes	**79.9**	**2.2**	**Set**																		
NUU-101	N		79.7	0.9	Rise																		
KIP-273A	N	Yes	**79.6**	**1.3**	**Set**																		
KIP-366	N		79.3	1.6	Set																		
WF-AUW-176A	N	Yes	**78.8**	**1.0**	**Rise**																		
ALE-1	N	Yes	**78.7**	**0.4**	**Set**																		
NUU-100	NNE		77.7	2.9	Rise																		
NUU-79	NNE		77.7	2.0	Rise																		
KIP-405	N		77.4	3.4	Set																		
KAU-995 (Kou)	N		77.2	0.5	Rise																		
LUA-3	N	Yes	**77.1**	**1.6**	**Set**																		
KIP-275	NNW		76.1	3.1	Set																		
KIP-188	N		75.6	8.6	Rise																		
KIP-1156	NNW		74.8	7.0	Set																		

Table S4.4 (continued)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declination (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set
KIP-1151	NNW		74.5	1.0	Set
KIP-307	NNW	Yes	**73.9**	**0.9**	**Set**
LUA-36	NNW		73.6	0.9	Set
KIP-330	NNW		73.3	1.7	Set
KAU-324 (Pōpōʻiwi)	NNW	Yes	**72.0**	**2.4**	**Set**
AUW-11	NNE	Yes	**71.5**	**0.8**	**Rise**
NUU-81	NNE		70.0	1.7	Rise
WF-AUW-100	NNE	Yes	**70.0**	**0.2**	**Rise**
KIP-273B	NNW		68.6	1.6	Set
NAK-30	NNW		68.0	0.3	Set
LUA-4	NNW	Yes	**64.1**	**2.3**	**Set**
KAU-994 (Loʻaloʻa)	NNW		64.0	0.2	Set
KIP-567	NNW		61.8	0.3	Set
MAW-2	NNW		61.6	2.4	Set
KIP-77	NNW		61.1	2.7	Set
NAK-29	NNW		60.7	3.6	Set
KIP-75	NNW		60.5	0.4	Set
ALE-140	NNW		59.9	2.9	Set
ALE-4	NNW	Yes	**57.1**	**0.4**	**Set**
LUA-29	NNE	Yes	**55.9**	**1.0**	**Rise**
NAK-27	NW		54.7	3.8	Set
LUA-29	WNW		29.9	0.6	Set
KIP-75	ENE	Yes	**29.2**	**2.6**	**Rise**
KIP-77	ENE	Yes	**28.8**	**0.6**	**Rise**
KIP-567	ENE	Yes	**28.5**	**0.1**	**Rise**
MAW-2	ENE		27.8	2.5	Rise
NAK-29	ENE	Yes	**25.4**	**0.9**	**Rise**
ALE-140	ENE		24.6	1.4	Rise
KAU-994 (Loʻaloʻa)	ENE	Yes	**23.4**	**0.1**	**Rise**
LUA-4	ENE		23.4	5.6	Rise
NAK-30	ENE	Yes	**22.5**	**0.3**	**Rise**
KIP-1156	ENE	Yes	**22.3**	**0.3**	**Rise**
WF-AUW-176A	WNW		20.5	2.1	Set
KAU-995 (Kou)	WNW		18.9	1.3	Set
KIP-273B	ENE	Yes	**18.6**	**2.0**	**Rise**



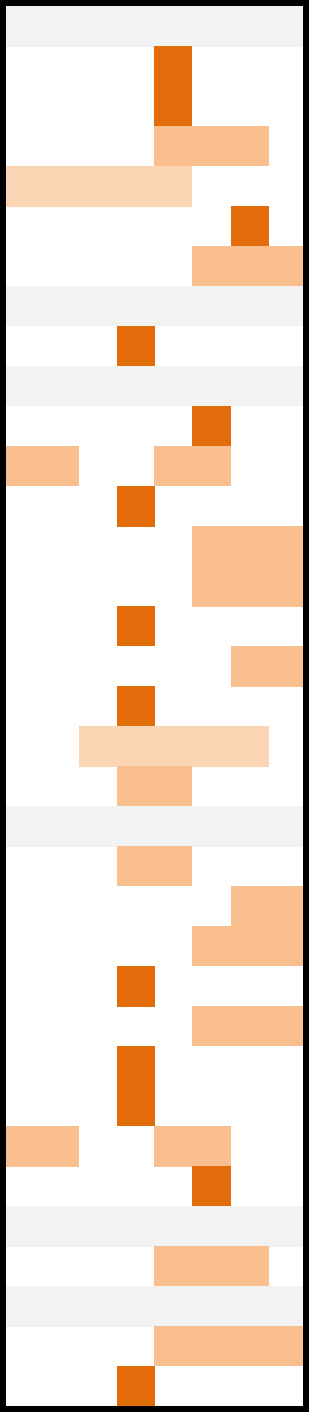


Table S4.4 (continued)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declin-ation (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set
KAU-324 (Pōpōʻiwi)	ENE		18.5	2.3	Rise
NUU-81	WNW	Yes	**17.8**	**1.2**	**Set**
KIP-330	ENE	Yes	**16.7**	**2.0**	**Rise**
AUW-11	W		11.6	6.7	Set
ALE-121	E		10.1	4.7	Rise
NAK-34	E		9.6	1.0	Rise
NUU-100	W	Yes	**9.5**	**0.3**	**Set**
NUU-79	W		9.0	2.5	Set
LUA-3	E		8.4	5.0	Rise
LUA-36	E	Yes	**8.2**	**0.9**	**Rise**
KIP-366	E	Yes	**7.2**	**1.9**	**Rise**
LUA-1	W		7.2	3.9	Set
KIP-307	E		7.1	2.1	Rise
KIP-414	W		6.0	2.0	Set
KIP-188	W		5.5	5.0	Set
WF-AUW-574	E		5.2	5.1	Rise
KIP-405	W		5.1	4.0	Set
NUU-101	W		5.0	2.0	Set
WF-AUW-403	W		4.9	0.4	Set
KIP-273A	E		4.6	2.3	Rise
WF-AUW-391	E	Yes	**4.5**	**4.2**	**Rise**
KIP-1025	E	Yes	**4.3**	**3.3**	**Rise**
WF-AUW-338	E		4.3	4.4	Rise
WF-AUW-493	E	Yes	**3.6**	**3.5**	**Rise**
AUW-9	W		3.3	6.3	Set
KIP-1010 (E)	E		3.3	0.9	Rise
WF-AUW-359	W		2.4	4.5	Set
KIP-1010 (W)	W		2.2	3.4	Set
KIP-306	E		1.6	0.9	Rise
LUA-39	W		1.5	0.9	Set
WF-AUW-343	W		-0.1	2.9	Set
WF-AUW-343	E		-0.5	3.4	Rise
KIP-306	W		-0.7	1.0	Set
KIP-1	W		-1.2	0.6	Set
KIP-1010 (W)	E		-1.2	3.2	Rise

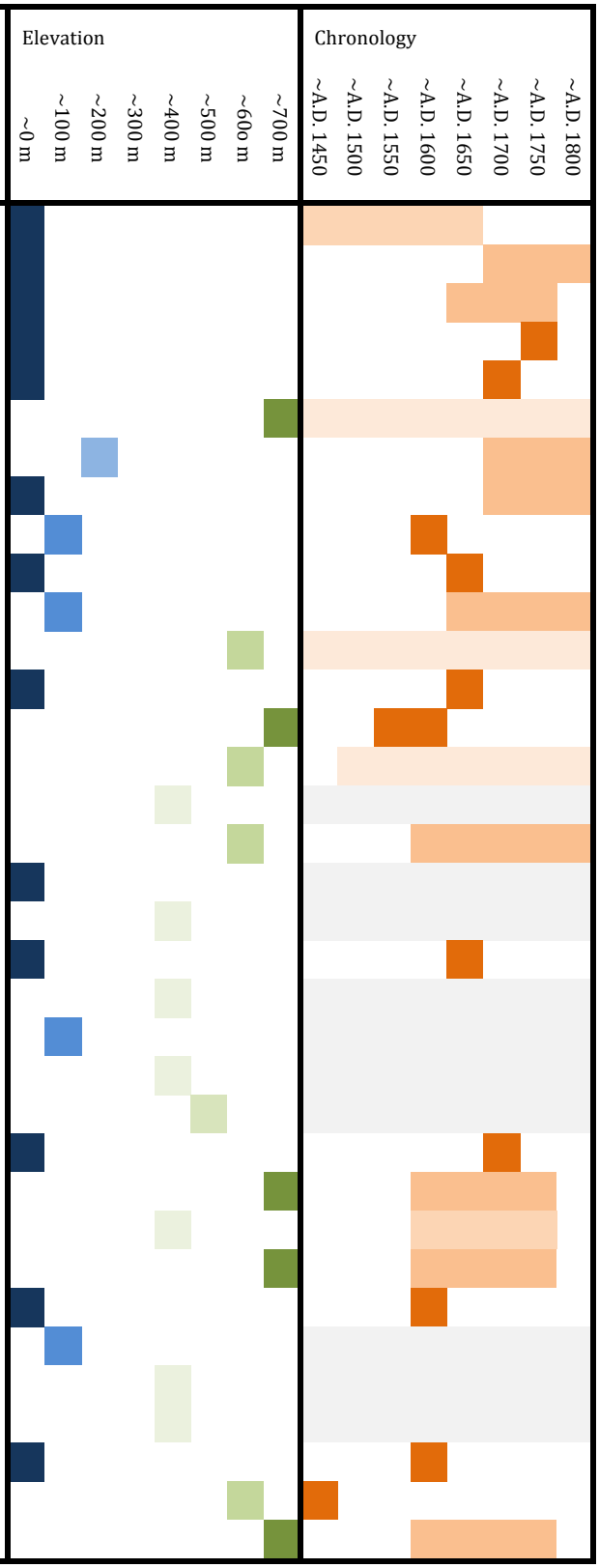
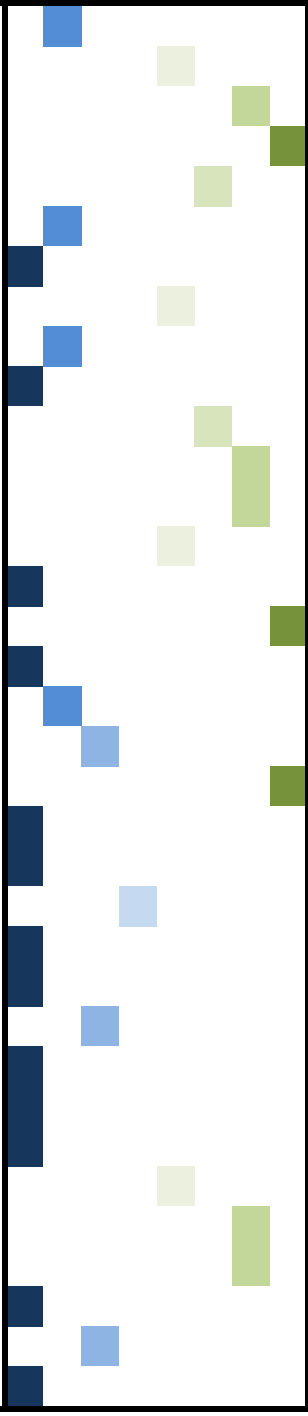


Table S4.4 (continued)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declination (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set
LUA-39	E		-1.2	0.9	Rise
WF-AUW-359	E	Yes	**-1.9**	**5.1**	**Rise**
LUA-1	E	Yes	**-2.3**	**3.9**	**Rise**
KIP-1010 (E)	W		-2.5	1.0	Set
WF-AUW-493	W		-2.7	4.1	Set
ALE-1	W		-3.1	5.9	Set
NUU-101	E		-3.1	-2.2	Rise
WF-AUW-403	E	Yes	**-3.6**	**0.3**	**Rise**
KIP-1025	W		-3.8	3.5	Set
KIP-273A	W		-3.8	2.4	Set
MAH-231	W		-3.8	1.5	Set
KIP-188	E	Yes	**-4.2**	**4.7**	**Rise**
KIP-405	E	Yes	**-4.3**	**3.7**	**Rise**
WF-AUW-338	W		-4.3	4.3	Set
NUU-79	E	Yes	**-5.1**	**2.3**	**Rise**
KIP-414	E	Yes	**-5.2**	**1.8**	**Rise**
KIP-307	W		-6.5	2.2	Set
KIP-366	W		-6.6	2.0	Set
NUU-100	E		-6.6	0.3	Rise
NAK-34	W		-7.2	0.9	Set
LUA-36	W		-8.3	0.9	Set
ALE-121	W		-8.8	4.7	Set
KIP-1151	WSW		-10.4	2.4	Set
KIP-275	WSW		-11.2	9.0	Set
KIP-330	WSW		-15.6	2.0	Set
WF-AUW-100	ESE		-16.0	3.3	Rise
KAU-324 (Pōpōʻiwi)	WSW		-16.6	2.2	Set
KAU-995 (Kou)	ESE	Yes	**-16.9**	**1.2**	**Rise**
KIP-273B	WSW		-18.1	2.0	Set
KIP-1156	WSW		-20.9	0.3	Set
NAK-30	WSW		-21.0	0.3	Set
NAK-29	WSW		-22.2	0.7	Set
LUA-4	WSW		-23.1	5.0	Set
MAW-2	WSW		-25.9	2.4	Set
ALE-4	WSW		-27.1	0.6	Set



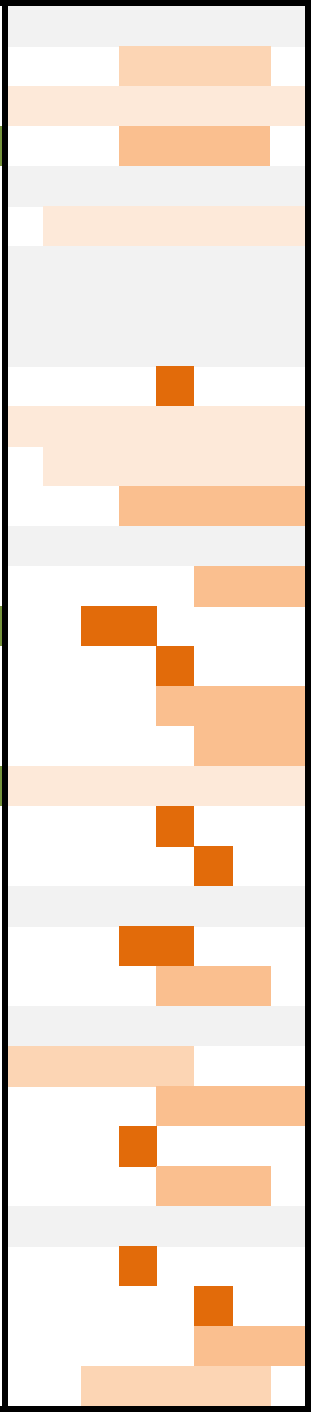
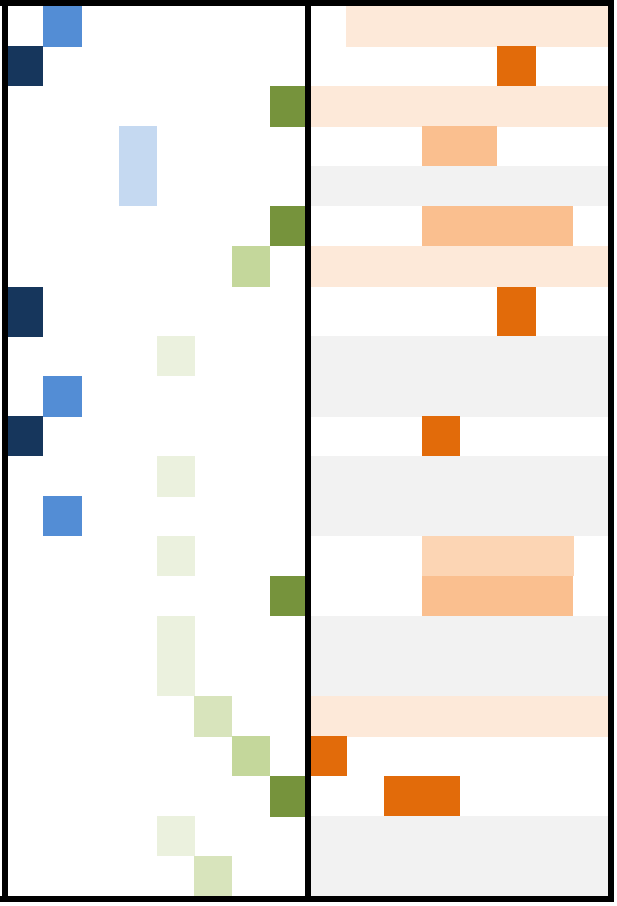


Table S4.4 (continued)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declin-ation (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set	Elevation								Chronology							
						~0 m	~100 m	~200 m	~300 m	~400 m	~500 m	~60o m	~700 m	~A.D. 1450	~A.D. 1500	~A.D. 1550	~A.D. 1600	~A.D. 1650	~A.D. 1700	~A.D. 1750	~A.D. 1800
KIP-567	WSW		-27.4	0.1	Set																
LUA-29	ESE		-28.6	0.5	Rise																
NAK-27	WSW		-29.5	0.4	Set																
NAK-27	SE		-48.6	3.5	Rise																
LUA-29	SSW		-51.6	0.8	Set																
ALE-4	SSE		-51.9	0.2	Rise																
NAK-29	SSE		-53.8	2.9	Rise																
KIP-75	SSE		-53.9	0.3	Rise																
ALE-140	SSE		-54.2	2.4	Rise																
MAW-2	SSE		-54.3	1.8	Rise																
KIP-77	SSE		-54.5	2.3	Rise																
KIP-567	SSE		-55.1	0.3	Rise																
KAU-994 (Loʻaloʻa)	SSE		-57.0	0.1	Rise																
LUA-4	SSE		-58.4	1.8	Rise																
NAK-30	SSE		-59.8	0.1	Rise																
KIP-273B	SSE		-60.9	1.5	Rise																
NUU-81	SSW		-62.4	1.2	Set																
KAU-324 (Pōpōʻiwi)	SSE		-62.6	1.8	Rise																
WF-AUW-100	SSW		-63.1	0.1	Set																
AUW-11	SSW		-64.1	0.6	Set																
KIP-330	SSE		-64.8	1.2	Rise																
KIP-307	SSE		-65.2	0.5	Rise																
KIP-1156	SSE		-65.5	4.6	Rise																
KIP-188	S		-65.7	5.1	Set																
LUA-36	SSE		-65.9	0.5	Rise																
KIP-1151	SSE		-66.1	0.7	Rise																
KIP-275	SSE		-66.7	1.9	Rise																
NUU-79	SSW		-67.0	1.0	Set																
NUU-100	SSW		-67.1	1.5	Set																
KAU-995 (Kou)	S		-68.0	0.2	Set																
KIP-405	S		-68.0	2.8	Rise																
LUA-3	S		-68.0	0.9	Rise																
NUU-101	S		-68.2	0.4	Set																
KIP-366	S		-68.4	0.8	Rise																
KIP-273A	S		-68.7	0.6	Rise																

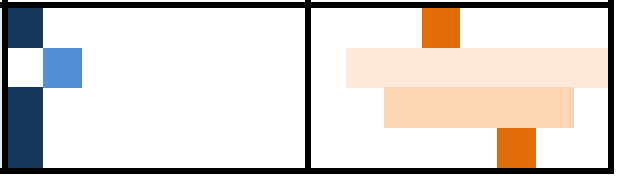
Table S4.4 (continued)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declination (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set
ALE-1	S		-68.8	0.2	Rise
ALE-121	S		-68.9	1.1	Rise
NAK-34	S		-68.9	0.4	Rise
NUU-175	S		-69.0	1.4	Rise
WF-AUW-176A	S		-69.0	0.6	Set
KIP-1010 (E)	S		-69.7	0.7	Rise
LUA-1	S		-69.7	1.1	Set
AUW-9	S		-69.9	0.2	Rise->Set
WF-AUW-391	S		-69.9	0.7	Rise
KIP-1025	S		-70.0	0.2	Rise
KIP-306	S		-70.0	0.1	Rise
WF-AUW-338	S		-70.1	0.1	Rise
LUA-39	S		-70.2	0.1	Set
WF-AUW-359	S		-70.3	0.4	—
KIP-1010 (W)	S		-70.5	0.3	Rise
WF-AUW-403	S		-70.5	0.2	Rise
WF-AUW-574	S		-70.5	0.2	—
MAH-231	S		-70.6	0.1	Set
KIP-1	S		-70.7	0.1	Set
KIP-414	S		-70.7	0.3	Set
WF-AUW-343	S		-70.7	0.1	—
WF-AUW-493	S		-70.8	0.1	—



The following sites/directions have horizons that are too close for the declination to be accurately determinable:

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declination (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set
ALE-140	WSW	Yes			
ALE-1	E				
ALE-4	ENE				
AUW-9	E				



(continued)

Site	Direction	Is this the direction faced by the *heiau*?	**Mean declin-ation (δ)**	Semi-width of dec. range (Δ_δ)	Rise/set	Elevation								Chronology							
						~0 m	~100 m	~200 m	~300 m	~400 m	~500 m	~60o m	~700 m	~A.D. 1450	~A.D. 1500	~A.D. 1550	~A.D. 1600	~A.D. 1650	~A.D. 1700	~A.D. 1750	~A.D. 1800
AUW-11	E					■														■	
KAU-994 (Loʻaloʻa)	WSW						■							■	■			■	■		
KIP-1	E	Yes										■	■	■							
KIP-75	WSW											■	■							■	■
KIP-77	WSW											■	■						■	■	■
KIP-275	ENE	Yes				■											■	■			
KIP-1151	ENE	Yes							■												
LUA-3	W						■										■				
MAH-231	E										■			■	■	■	■	■	■	■	■
NAK-27	ENE	Yes										■	■								
NUU-81	ESE					■													■	■	■
NUU-175	N								■								■	■			
NUU-175	E	Yes							■								■	■			
NUU-175	W								■								■	■			
WF-AUW-100	WNW							■													
WF-AUW-176A	ESE								■												
WF-AUW-391	W									■											
WF-AUW-574	W									■											