

PRINCIPAL TRIANGULATION.

BELLEFIELD.

3-ft. Theodolite, B.O.

From 2nd to 9th June 1807. Observer: Major-Gen. COLBY, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Delamere, Old ¹ .	25° 23' 57.07"	7	6.21	1.14	Rivington . . .	188° 1' 10.65"	5	11.74	7.30
Cyrn-y-Brain . .	48 42 2.93	1	—	15.99	Knoll Hill . . .	214 29 26.08	2	7.79	15.17
Heswell . . .	86 27 35.79	4	4.81	1.66	Mowcopt . . .	317 4 38.60	4	3.69	0.94
Billinge . . .	152 17 13.65	6	6.85	1.79					

¹ A correction of $-1''.07$ to be applied to this bearing, to reduce it to the new station.

BEN CHEILT.

3-ft. Theodolite, B.O.

From 18th to 21st September 1819. Observers: Major-Gen. COLBY, Lieut. Col. ROBE, and Capt. DAWSON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Scarabin . . .	48° 7' 26.27"	6	4.38	0.73	South Ronaldshay	206° 5' 32.83"	6	9.02	2.75
Ben Clibrig . .	81 27 47.99	5	6.32	2.04	Knock . . .	336 12 57.95	9	7.04	1.43
Ben Hope . . .	98 38 16.58	4	5.36	2.05	Bin of Cullen . .	337 30 46.67	9	6.52	1.02
Ben Hutig . . .	111 37 32.64	4	4.48	2.03	Corryhabbie . .	354 13 26.22	6	3.11	0.48
Wart Hill Hoy .	181 58 23.40	7	4.33	0.72					

BEN CLEUGH.

3-ft. Theodolite, R.S.

From 27th September to 13th November 1848. Observer: Corp. WINZER, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Cairnsmuir on	0° 0' 0"		"		Craigowl . . .	228° 49' 38.69"	19	7.04	0.38
Deugh . . .	15 16 14.94	11	8.49	1.02	East Lomond . .	259 16 5.55	22	7.42	0.31
Merrick . . .	20 59 10.06	13	9.09	0.69	Largo Law . . .	263 47 37.58	18	7.55	0.37
Corkmulaw . .	49 5 47.13	21	5.33	0.30	Sayrs Law . . .	298 22 1.08	16	5.57	0.27
Bin of Campsie .	50 28 41.24	22	7.28	0.49	Calton Observa-				
Goat Fell . . .	55 34 43.16	8	2.79	0.26	tory Dome ¹ . .	304 54 53.37	7	4.31	0.51
Hill of Stake . .	57 39 37.89	24	11.13	0.41	Arthur's Seat . .	305 10 1.74	8	6.16	1.18
Ben Lomond . .	90 54 22.98	48	16.16	0.36	Allarmoor . . .	315 17 31.46	30	7.35	0.26
Ben Nevis . . .	132 20 35.37	27	7.57	0.25	Carnethy Cairn .	320 40 53.75	30	10.27	0.57
Ben Lawers . .	145 16 23.84	38	10.40	0.26	Dunrich . . .	331 36 30.00	10	4.32	0.48
Ben Macdui . .	183 31 26.17	26	6.55	0.22	Hart Fell . . .	344 56 3.41	9	4.17	0.34
Glashmeal . . .	197 41 34.89	21	7.32	0.32	Tinto . . .	354 14 8.27	17	6.72	0.40
Mount Battock .	216 10 28.01	11	7.84	0.78					

¹ A correction of $+9''.57$ to be applied to this bearing, to reduce it to the trigonometrical station.

OBSERVATIONS.

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BEN CLIBRIG.

3-ft. Theodolite, B.O.

From 5th August to 20th September 1839. Observers: Lieuts. ROBINSON, PIPON, and HAMLEY, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Wyvis . . .	9 11 42.13	25	7.19	0.41	Dunnet Head . .	231 1 33.23	6	4.64	0.95
Scournalapich ¹ .	22 3 58.93	13	5.44	0.35	South Ronaldshay	233 55 25.86	4	1.80	0.22
Storr	53 6 52.83	15	15.56	1.59	Ben Cheilt . . .	260 35 6.21	16	8.96	0.94
Suillbheinn . . .	72 58 30.60	5	8.58	3.64	Scarabin	271 36 34.34	36	14.78	0.50
Cuinnag	86 51 4.75	33	10.99	0.30	Bin of Cullen . .	304 13 29.71	6	9.77	4.92
Monach	97 42 21.30	16	14.23	1.15	Findlay Seat . .	316 3 30.17	3	4.05	1.82
Foinnebheinn . .	125 42 7.95	5	5.60	1.56	Duke of Suther-				
Fashven	142 1 38.22	20	10.92	0.57	land's Monument	319 38 0.50	4	10.49	8.28
Ben Hope	149 54 17.98	6	8.56	3.02	Buck	320 17 3.91	3	9.61	12.70
Ben Hutig	170 25 45.44	34	14.04	0.56	Ben Lundie . . .	321 33 2.76	28	14.25	0.58
Fitty Hill	214 14 27.50	3	7.40	6.25	Corryhabbie . . .	323 24 41.65	9	3.85	0.36
Wart Hill Hoy . .	219 35 36.56	7	9.44	2.54	Ben Macdui . . .	340 49 41.45	7	11.00	3.25

¹ A correction of + 38".45 to be applied to this bearing, to reduce it to the new Station.

BEN HEYNISH.

3-ft. Theodolite, B.O.

From 2nd to 17th October 1822. Observers: Captains DAWSON and VETCH, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Ival Barra . .	149 50 0.84	7	4.19	0.51	Ben More in Mull	273 5 2.18	27	6.62	0.17
Ben More, S. Uist	165 56 19.88	7	4.06	0.47	Jura	316 46 38.20	17	5.75	0.14
Storr	200 42 52.45	1	—	6.05	Ben Tartevel . .	339 38 12.05	16	6.54	0.43
Ben Nevis	251 18 47.90	2	0.33	0.02					

BEN HUTIG.

3-ft. Theodolite, B.O.

From 11th July to 17th August 1838. Observers: Major-Gen. COLBY, Lieut.-Col. ROBE, and Lieut. ROBINSON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Wyvis	2 19 38.89	3	6.69	5.61	Wart Hill Hoy . .	239 40 30.92	11	10.25	1.36
Ben Hope	19 50 9.65	7	6.84	1.38	South Ronaldshay	253 33 25.56	6	4.88	0.96
Foinnebheinn . .	54 31 8.17	4	3.08	0.60	Dunnet Head . . .	258 18 17.93	12	10.78	1.48
Fashven	93 14 49.54	6	20.03	12.65	Ben Cheilt	290 39 32.96	13	5.25	0.40
Cnoc-ghiubhais .	97 56 16.52	4	3.79	0.92	Scarabin	303 56 51.08	4	4.06	1.29
North Rona Island	130 44 23.76	4	4.51	1.28	Ben Clibrig	350 20 33.48	10	8.77	1.74
Fitty Hill	226 4 57.50	5	6.41	1.91					

PRINCIPAL TRIANGULATION.

BEN LAWERS.

3-ft. Theodolite, B.O.

From 12th October to 17th November 1850. Observer: Corp. JENKINS, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Merrick . . .	5° 46' 14.67	16	2.72	0.06	Largo Law . .	292° 52' 54.37	24	4.90	0.17
Hill of Stake . .	22 56 28.65	23	6.88	0.28	East Lomond . .	298 13 15.48	17	7.03	0.35
Goat Fell . . .	30 58 50.81	14	4.85	0.24	West Lomond . .	299 55 24.57	15	5.80	0.31
Ben Lomond . . .	32 59 47.29	34	6.34	0.12	Sayrs Law . . .	308 16 47.99	16	3.27	0.10
Jura	57 51 39.38	22	5.97	0.26	Allarmoor . . .	319 59 29.37	18	4.58	0.14
Ben More in Mull	83 51 24.12	22	6.97	0.20	Carnethy Cairn .	322 36 16.09	4	3.02	0.59
Ben Nevis . . .	120 39 3.03	42	6.20	0.08	Ben Cleugh . . .	324 54 22.33	31	5.02	0.07
Mamsuil	146 34 10.51	26	4.29	0.11	Hart Fell	337 39 45.05	12	2.20	0.08
Ben Amhlair . .	153 34 10.39	26	4.23	0.12	Tinto	341 39 15.31	6	3.94	0.55
Ben Macdui . .	209 43 24.94	40	6.93	0.10	Bin of Campsie .	355 5 56.71	31	6.23	0.11
Glashmeal . . .	234 40 8.80	41	7.19	0.09	Corkmulaw . . .	356 40 38.61	36	5.20	0.09
Craigowl	269 16 0.29	35	6.37	0.11					

BEN LOMOND.

3-ft. Theodolite, B.O.

From 10th to 19th August 1818. Observers: Major-Gen. COLBY and Mr. GARDNER.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Brown Carrick . .	3° 18' 52.81	3	1.34	0.23	East Lomond . .	265° 37' 47.83	11	5.66	0.64
Hill of Stake . .	11 1 47.10	13	8.18	0.80	Ben Cleugh . . .	270 11 16.06	26	6.84	0.16
Goat Fell	29 18 41.60	4	5.83	2.37	Calton Hill . . .	285 34 57.62	4	3.74	1.46
Ben Tuirc	40 29 20.66	6	7.40	2.43	Allarmoor	290 55 4.83	7	3.87	0.47
Knocklyd	42 19 7.32	3	1.46	0.27	Bin of Campsie .	302 22 59.85	30	6.36	0.10
Jura	70 0 37.61	4	4.83	1.63	Dunrich	306 36 53.11	4	3.00	0.72
Ben More in Mull	107 33 54.39	6	6.25	1.62	Corkmulaw . . .	306 40 28.15	9	7.33	1.19
Creachbheinn . .	135 37 21.03	3	2.47	0.70	Tinto	317 16 30.11	5	2.53	0.28
Ben Nevis	161 29 0.99	5	1.19	0.91	Hart Fell	317 55 15.34	3	1.91	0.41
Ben Amhlair . . .	188 24 21.86	4	5.90	2.85	Cairnsmuir on				
Ben Lawers . . .	212 38 39.85	6	3.37	0.59	Deugh	345 35 39.18	4	2.19	0.30

BEN LUNDIE.

3-ft. Theodolite, B.O.

From 25th to 28th September 1819. Observers: Major-Gen. COLBY and Capt. DAWSON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Airdross	37° 22' 42.71	11	5.44	0.33	Bin of Cullen . .	296° 58' 28.48	6	5.47	0.92
Ben Wyvis	42 35 0.42	7	4.81	0.92	Knock	300 22 47.68	6	6.97	2.27
Cairn Cruniach . .	57 1 21.10	7	7.93	1.66	Balnaskerrish . .	318 9 15.42	10	6.85	1.00
Cuinnag	113 19 10.83	3	5.11	3.65	Corryhabbie . . .	324 27 19.66	6	2.75	0.58
Ben Clibrig . . .	141 51 38.94	8	8.37	1.34	Dornoch Spire . .	355 27 18.38	3	0.72	0.06

BENCORR.

3-ft. Theodolite, B.O.

From 27th July to 31st August 1830. Observer: Capt. PORTLOCK, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Baurtregaum . .	1° 1' 3.98	6	7.79	2.21	Knockalongy . .	221° 9' 30.66	2	4.44	4.92
Brandon . . .	12 35 49.98	5	7.44	2.45	Keeper . . .	308 44 41.66	13	8.92	0.84
Slieve More . .	162 39 3.07	8	4.22	0.50	Slievecarran . .	310 53 48.13	20	8.12	0.39
The Reek . . .	197 7 35.60	5	1.12	0.09	Slievecallan . .	334 36 0.28	18	8.77	0.68
Nepin . . .	206 10 36.40	15	11.77	0.86	Knockanore . .	353 25 46.20	3	2.41	0.64

BEN NEVIS.

3-ft. Theodolite, R.S.

From 1st August to 14th November 1846. Observer: Corp. WINZER, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Jura	32° 16' 10.63	13	3.91	0.17	Scournalapich . .	176° 57' 15.22	50	6.94	0.10
Ben More in Mull	56 41 57.25	28	9.47	0.30	Ben Wyvis . . .	194 26 41.61	42	7.96	0.11
Creachbheinn . .	62 46 13.65	18	8.93	0.42	Corryhabbie . .	240 9 13.00	14	7.87	0.46
Ben Heynish . .	72 55 15.04	23	6.46	0.22	Ben Macdui . . .	248 53 44.10	35	10.05	0.20
Referring-object .	81 52 46.07	23	13.23	0.68	Ben Amhlair . .	266 29 31.38	19	3.83	0.15
Ben More, S. Uist	111 14 50.35	13	9.14	0.90	Ben Lawers . . .	299 59 31.59	38	10.63	0.23
Elms Hill . . .	113 48 43.16	3	1.87	0.48	Ben Cleugh . . .	311 19 5.44	16	7.40	0.39
Storr	138 25 45.76	14	5.14	0.25	Ben Lomond . . .	341 10 43.04	19	7.55	0.49
Mamsuil . . .	172 30 10.01	8	2.94	0.19					

BEN TARTEVIL.

3-ft. Theodolite, B.O.

From 17th July to 2nd August 1822. Observers: Captains VETCH and DAWSON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Slieve Snaght . .	44° 3' 58.65	6	6.98	2.01	Jura	234 19 29.88	40	7.90	0.13
Ben Heynish . .	160 2 5.73	9	3.92	0.29	Carn na Leagh . .	317 20 48.58	16	8.27	0.54
Ben More in Mull	198 48 39.51	14	7.39	0.80	Oa or Cairnard . .	317 52 44.00	25	6.72	0.25
Creachbheinn in Mull . . .	205 37 37.10	4	4.67	1.48	Trostan	346 17 28.44	5	5.31	1.59
					Knocklayd . . .	348 53 59.14	21	6.89	0.34

OBSERVATIONS.

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BEN WYVIS.

3-ft. Theodolite, B.O.

From 8th to 12th September 1819. Observers: Major-Gen. COLBY, Lt.-Col. ROBE, and Capt. DAWSON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Nevis . . .	14 47 45.67	4	9.69	5.97	Balnaskerrish . . .	247 14 22.90	3	5.99	4.03
Mamsuil . . .	36 24 44.61	1	—	6.95	Bin of Cullen . . .	270 8 3.86	3	4.70	2.46
Scournalapich ¹ . . .	40 3 26.95	5	2.41	0.32	Knock . . .	274 49 51.43	3	2.51	0.75
Suilbheinn . . .	146 1 36.20	5	2.50	0.31	Findlay Seat . . .	277 25 48.39	2	0.70	0.12
Cuinnag . . .	155 10 4.34	3	3.54	1.66	Corryhabbie . . .	293 36 17.61	6	2.25	0.19
Ben Hutig . . .	182 16 15.23	2	3.79	3.59	Ben Macdui . . .	320 40 42.90	7	3.53	0.47
Ben Clibrig . . .	189 3 7.63	8	7.83	1.08	Ben Amhlair . . .	355 51 12.04	5	9.89	4.15
Scarabin . . .	223 42 17.47	2	1.73	0.74					

¹ A correction of + 1' 0" .54 to be applied to this bearing, to reduce it to the new station.

BERKHAMPSTEAD.

3-ft. Theodolite, B.O.

September 1823. Observers: Captains VETCH and DRUMMOND, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Leith Hill Tower . . .	14 55 45.83	11	12.50	1.68	Chingford . . .	327 24 25.29	21	7.40	0.19
Dunstable . . .	113 2 37.76	16	4.63	0.16	Wrotham Staff . . .	329 39 56.11	4	3.44	0.98
Thaxted Spire . . .	235 28 15.26	3	6.62	4.87	Severndroog . . .	338 14 49.47	5	6.49	2.01
High Beach . . .	312 26 58.02	10	6.03	0.51	St. Paul's . . .	356 3 1.60	5	7.31	3.02

BERYL.

3-ft. Theodolite, B.O.

From 28th May to 3rd June 1808. Observer: Major-Gen. COLBY, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Black Comb . . .	158 8 14.39	6	14.12	6.29	Billinge . . .	329 42 25.44	3	4.61	3.02
Rivington . . .	306 21 7.52	1	—	14.41	Go Hill . . .	344 6 52.63	4	4.51	2.10

BESSY BELL.

3-ft. Theodolite, B.O.

From 22nd May to 16th June 1827. Observer: Lieut. PORTLOCK, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Cuilcagh . . .	26 46 52.23	17	20.15	2.60	Sawel . . .	236 41 41.39	36	6.62	0.14
Breasy . . .	66 35 35.34	9	12.45	3.10	Slieve Gallion . . .	262 31 8.50	8	4.69	0.45
BarnesmoreConnell . . .	97 8 25.36	14	6.99	0.62	Mullaghearn . . .	275 46 37.74	6	5.71	1.31
Slieve Snaght . . .	183 53 40.09	18	10.26	0.57	Slieve Donard . . .	299 50 38.87	1	—	12.51

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PRINCIPAL TRIANGULATION.

CNOC-GHIUBHAIS.

3-ft. Theodolite, B.O.

From 3rd to 18th September 1838. Observers: Lieuts. ROBINSON and PIPON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Cuinnag . . .	5° 23' 12.52"	11	12.02	1.62	Ben Hutig . . .	277° 32' 10.09"	14	5.53	0.26
Suilbheinn . . .	9° 46' 36.02"	8	8.47	1.28	Fashven . . .	297° 18' 35.49"	11	13.02	3.12
Monach . . .	72° 22' 28.43"	8	16.06	5.84	Ben Hope . . .	310° 51' 58.85"	8	8.68	2.10
North Rona . . .	141° 36' 47.01"	3	12.68	17.95	Foinnebhenn . . .	342° 51' 49.02"	5	7.63	2.89
Dunnet Head . . .	263° 34' 11.66"	2	0.13	0.01					

COLLIER LAW.

3-ft. Theodolite, R.S.

From 22nd June to 11th August 1851. Observer: Corp. GROSE, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Water Crag . . .	13° 12' 44.10"	10	8.21	0.86	Durham Observa- tory Dome . . .	270° 33' 42.27"	9	5.84	1.11
Cross Fell . . .	77° 14' 36.58"	32	7.73	0.21	Brandon . . .	275° 12' 46.83"	9	8.68	1.44
Cheviot . . .	172° 15' 48.84"	22	9.74	0.41	Easington . . .	286° 56' 11.03"	22	4.51	0.11
Rathbury Crag . . .	187° 44' 42.56"	4	3.19	0.91	Burleigh Moor . . .	289° 51' 5.29"	14	7.00	0.39
Rufflaw, Old . . .	195° 16' 52.13"	7	7.05	1.55	Merrington Church	292° 48' 19.11"	4	5.55	2.58
Rufflaw, New . . .	195° 19' 21.02"	12	7.29	0.53	Botton Head . . .	304° 49' 56.87"	24	7.35	0.23
Pontop Pike . . .	230° 26' 16.25"	5	4.67	0.98	Black Hambleton	317° 24' 16.61"	6	6.35	1.69
Wordeslow . . .	256° 0' 29.80"	27	6.33	0.17					

CORINGDON.

3-ft Theodolite, B.O.

From 22nd February to 14th March 1845. Observer: Serg. DONELAN, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Swyre Barrow . . .	69° 50' 19.45"	14	5.55	0.39	Dean Hill . . .	207° 54' 8.11"	9	5.37	0.60
Blackdown . . .	99° 13' 32.31"	9	6.55	0.66	Butser Hill . . .	241° 5' 44.05"	15	9.77	0.67
Pillesdon . . .	108° 33' 23.60"	16	6.05	0.31	Nodes Beacon ¹ . . .	262° 33' 36.41"	4	5.02	2.08
Wingreen . . .	168° 5' 3.87"	15	6.16	0.41	Motteston . . .	264° 56' 11.06"	3	1.87	0.43
Horton's Gazebo . . .	184° 56' 44.56"	4	3.55	0.93	Dunnose . . .	271° 4' 16.31"	16	5.00	0.31
Beacon Hill . . .	196° 52' 41.31"	9	6.44	0.80					

¹ A correction of $-58''.76$ to be applied to this bearing, to reduce it to the trigonometrical station.

PRINCIPAL TRIANGULATION.

DUNMURRY.

3-ft. Theodolite, B.O.

From 4th to 6th October 1846. Observer: Capt. PORTLOCK, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Cullenagh . . .	39° 1' 48.78"	2	3.03	2.29	Maynooth Obelisk	232° 24' 6.93"	1	—	5.01
Cushina . . .	88 19 52.22	3	1.56	0.27	Hill of Allen . .	232 59 54.91	4	3.57	0.80
Ballyduff . . .	105 47 14.60	1	—	5.01	Lyons' Hill . . .	248 42 7.53	4	5.00	1.71
Knockastia . . .	120 17 39.40	1	—	5.01	Kippure . . .	272 57 26.21	1	—	5.01
Croghan . . .	125 38 20.96	5	3.21	0.49	Slieveroe . . .	277 33 23.54	4	2.46	0.51
Hill of Carbury .	171 55 36.56	3	6.94	6.08	Lugnaquilla . .	309 10 59.41	1	—	5.01

DUNNET HEAD.

3-ft. Theodolite, B.O.

From 5th to 18th November 1838. Observers: Lieut.-Col. ROBE and Lieuts. ROBINSON and PIPON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Cheilt . . .	0° 37' 52.94"	8	2.41	0.11	Fashven . . .	83° 0' 19.40"	2	2.77	1.91
Scarabin . . .	14 29 35.80	3	3.16	1.38	Wart Hill Hoy .	184 0 0.45	5	3.64	0.63
Ben Clibrig . . .	51 54 43.99	6	2.80	0.37	Deerness . . .	228 29 3.01	1	—	3.21
Ben Hutig . . .	79 16 48.32	5	2.91	0.39	South Ronaldshay	242 55 15.92	5	3.67	0.64

DUNNOSE.

3-ft., R.S., and 18-in. Theodolites.

From 6th to 23rd July 1844. Observers: Corps. STEWART and COSGROVE, R.S.M.;
4th and 5th August 1846. Observer: Corp. STEEL, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Boniface Down .	3° 40' 12.69"	9	12.60	3.38	Dean Hill . . .	145° 15' 29.58"	17	4.89	0.15
Wroxall Down .	20 31 49.19	9	20.34	7.11	Beacon Hill . .	149 50 52.11	6	4.26	1.17
Week Down . .	48 50 33.30	2	0.30	0.02	Ordnance Map				
Swyre Barrow .	89 5 44.64	9	7.88	0.98	Office . . .	156 21 32.09	20	6.55	0.31
Shanklin Down .	90 11 43.37	9	15.52	6.11	Inkpen . . .	167 12 27.96	19	5.56	0.26
Coringdon . .	91 41 3.56	12	6.47	0.49	Butser Hill . .	200 58 27.85	20	6.68	0.30
Blackdown . .	95 5 6.88	11	4.61	0.33	Rooks' Hill . .	225 42 56.53	6	3.67	0.48
Nodes Beacon ¹ .	102 38 58.26	2	2.16	1.16	Ditchling . . .	247 18 44.02	13	6.14	0.39
Motteston . . .	106 24 44.53	6	5.27	0.85	Beachy Head .	261 55 24.63	19	7.91	0.53
Horton's Gazebo	116 57 5.54	2	2.04	1.04	Referring-object .	339 12 19.99	101	7.62	0.03
Wingreen . . .	122 50 5.64	13	5.37	0.37					

¹ A correction of +1' 22" 57 to be applied to this bearing, to reduce it to the trigonometrical station.

PRINCIPAL TRIANGULATION.

EAST LOMOND.

3-ft. Theodolite, B.O.

From 31st May to 14th June 1818. Observers: Major-Gen. COLBY and Mr. GARDNER.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Allarmoor . . .	1° 25' 43.16"	12	5.07	0.29	Caerlock . . .	207° 58' 15.47"	1	"	8.04
Tinto . . .	21° 4' 16.75"	10	5.83	0.71	Red Head, Old . .	226° 58' 15.57"	3	2.62	0.86
Ben Cleugh . . .	79° 43' 17.45"	16	7.15	0.53	Kellie Law . . .	268° 26' 28.86"	7	5.71	1.44
Ben Lomond . . .	86° 48' 9.32"	5	3.91	0.94	Largo Law . . .	272° 48' 1.55"	13	10.97	1.28
Ben Lawers . . .	119° 2' 37.87"	6	9.13	3.25	Lumsden . . .	300° 6' 32.98"	4	5.02	1.90
Glashmeal . . .	172° 43' 23.66"	9	6.95	0.87	Sayrs Law . . .	321° 48' 56.96"	10	7.28	0.74
Mount Battock . .	200° 18' 26.17"	4	4.89	1.52	Calton . . .	355° 47' 29.10"	13	3.89	0.21
Craigowl . . .	200° 26' 40.18"	17	8.48	0.55	Dunrich . . .	358° 15' 11.87"	5	4.36	1.31

EASTON CHURCH TOWER.

18-in. Theodolite.

From 12th July to 22nd August 1843. Observer: Corp. STEEL, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Naseby Tower . .	51° 38' 26.02"	8	12.07	3.84	St. Peter's Church, Walpole . . .	257° 16' 40.54"	6	9.09	3.00
Tilton . . .	93° 56' 59.86"	8	8.49	1.51	Ely Minster . . .	295° 58' 12.89"	4	5.48	2.06
Buckminster Spire	145° 28' 58.47"	11	9.99	2.27	Keysoe Spire . .	352° 42' 52.02"	9	4.59	0.71
Boston Tower ¹ . .	219° 50' 24.05"	10	9.03	1.60					
¹ A correction of + 5".31 to be applied to this bearing, to reduce it to the trigonometrical station.									

ELMS HILL.

3-ft. Theodolite, R.S.

From 18th March to 1st May 1848. Observers: Corp. WINZER and Private BATE, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben More in Mull	0° 54' 10.27"	27	10.47	0.30	Ben Ival, North Uist . . .	128° 10' 54.89"	2	3.12	2.43
Ben More, South Uist . . .	108° 21' 55.30"	28	6.30	0.21	Ben Nevis . . .	292° 58' 35.71"	31	11.57	0.37

PRINCIPAL TRIANGULATION.

FAIRLIGHT.¹

3-ft. Theodolite, B.O.

From 5th September to 6th October 1844, and from 23rd to 29th August 1822. Observers. Serg. DONELAN and Priv. VALLE, R.S.M. Capt. KATER and Mr. GARDNER.

Objects.	Bearings.	No. of Obs.	Range	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Beachy Head . . .	59° 30' 38.86"	14	5.16	0.27	Frittenfield . . .	202° 26' 8.98"	20	6.53	0.30
Ditchling . . .	93 18 32.69	16	100.88	0.82	Tolsford . . .	231 57 5.49	49	6.88	0.08
Brightling Obser- vatory Dome . . .	119 5 43.13	19	6.67	0.25	Paddlesworth . . .	234 0 14.67	16	4.60	0.23
Crowborough . . .	121 26 34.51	36	8.15	0.18	Folkstone . . .	238 47 20.84	53	8.27	0.11
Frant Church . . .	135 10 51.47	19	7.76	0.45	Lydd Church . . .	247 38 28.55	6	4.40	0.73
Wrotham . . .	154 32 66.38	40	5.04	0.06	Blancenez . . .	265 36 39.21	8	6.51	0.85
Goudhurst Church	157 13 62.20	12	11.62	2.51	Referring-object .	276 5 8.93	105	—	—
Hollingbourne . .	184 6 13.85	13	3.46	0.23	Napoleon's Monu- ment . . .	281 45 15.87	7	5.96	0.95
Stede Hill . . .	186 29 10.79	38	10.21	0.29	Montlambert . . .	283 16 4.38	6	5.10	0.91
Tenterden Church	192 37 18.29	7	5.50	0.77					

¹ General Roy's station of 1787 bears 308° 4' 0", and is distant 87.73 feet from this station.

FASHVEN.

3-ft. Theodolite, B.O.

From 25th September to 19th October 1839. Observers: Lieut.-Col. ROBE and Lieuts. ROBINSON and PIPON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Cuinnag . . .	12° 48' 33.30"	14	5.15	0.31	Wart Hill Hoy . .	246° 40' 30.42"	7	12.78	4.23
Suilbheinn . . .	15 38 33.34	6	7.03	2.39	Dunnet Head . . .	261 42 1.64	3	8.58	9.29
Cleisham . . .	60 6 53.40	2	1.02	0.26	Ben Hutig . . .	272 54 56.79	13	8.98	0.69
Monach . . .	75 2 8.95	4	6.45	3.34	Ben Hope . . .	314 1 23.19	7	5.32	0.92
Cnoeghiubhais . .	117 22 59.36	5	12.83	10.20	Ben Clibrig . . .	321 36 40.47	16	9.83	1.13
North Rona . . .	140 6 24.27	1	—	21.36	Foinnebheinn . .	356 25 56.31	5	8.31	3.87

FEAGHMAAN.

12-in. Theodolite.

From 18th to 21st August 1832. Observer: Capt. PORTLOCK, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Bray Head Watch Tower . . .	52° 47' 6.23"	4	Repeated Angles.	60.12	Brandon . . .	190° 14' 40.67"	3	Repeated Angles.	4.67
Bray Head . . .	55 33 48.73	4		8.94	Baurtregaum . . .	228 2 14.02	2½		73.16
Mount Eagle . . .	164 51 24.20	3		22.49	Knocknadober . .	236 16 53.63	3½		243.50
					Knocknagante . .	276 21 26.22	4½		2.05

OBSERVATIONS.

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MALVERN.

3-ft. Theodolite, R.S.

From 28th November 1843 to 27th January 1844. Observers: Corp. COSGROVE and Private STEWART, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Mendip . . .	8° 18' 15.31	2	3.37	2.83	Lord Plymouth's Monument . . .	216 26 32.22	1	—	2.35
May Hill . . .	16 37 20.51	9	3.52	0.32	Bardon . . .	225 12 34.95	2	0.48	0.06
Trellig . . .	32 31 32.67	6	2.81	0.30	Arbury . . .	259 45 8.01	8	2.79	0.19
Cradle . . .	72 45 56.74	7	3.94	0.50	Broadway Tower	284 22 17.73	8	1.80	0.07
Radnor . . .	107 23 40.59	1	—	2.35	Breedon Tower .	284 45 37.31	1	—	2.35
Stow . . .	122 44 35.65	4	1.66	0.20	Cleeve ¹ . . .	311 51 16.28	8	2.48	0.25
Longmount Pole	144 2 9.46	9	5.14	0.54	Whitehorse Hill .	317 37 6.20	7	4.76	0.58
Brown Clee . .	156 47 59.22	9	3.36	0.22					

¹ A correction of -1".04 to be applied to this bearing, to reduce it to the trigonometrical station.

MAMSUIL.

3-ft. Theodolite, R.S.

From 29th July to 31st August 1848. Observer: Corp. WINZER, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Creachbheinn .	17° 34' 57.66	17	9.79	0.66	Ben Wyvis . . .	215 57 42.07	34	8.52	0.25
Ben More in Mull	30 9 24.09	9	4.76	0.50	Corryhabbie . .	265 38 38.35	29	6.83	0.21
Ben More, South					Ben Macdui . . .	284 16 43.37	19	11.64	0.58
Uist . . .	89 52 66.71	21	10.15	0.38	Glashmeal . . .	292 21 18.68	4	4.97	2.07
Storr . . .	112 3 36.22	32	6.45	0.17	Ben Amhlair . .	322 14 8.46	21	7.11	0.26
Cleisham . . .	127 42 37.92	14	6.44	0.37	Ben Lawers . . .	325 48 38.03	24	9.37	0.37
Scournalapich .	200 15 29.23	44	8.38	0.17	Ben Nevis . . .	352 24 15.99	27	10.28	0.46

MENDIP.

3-ft. Theodolite, R.S.

From 6th September to 6th October 1844. Observer: Corp. STEWART, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Pillesdon . . .	23° 59' 8.40	14	5.74	0.31	Symonds Hall . .	198 14 24.33	6	8.79	2.21
Staple Hill . .	51 14 48.51	5	6.13	1.60	Whitehorse Hill .	239 20 40.27	7	4.06	0.42
High Wilhays .	60 38 4.12	6	6.15	1.50	Inkpen . . .	258 23 8.23	10	5.70	0.62
Dunkery . . .	85 32 6.21	12	4.19	0.24	Westbury . . .	260 26 28.88	11	4.19	0.21
Referring-object .	114 54 10.06	95	—	—	Beacon Hill . . .	273 32 18.81	12	8.51	0.72
Cradle . . .	154 4 52.05	11	7.10	0.66	Wingreen . . .	310 9 18.32	15	5.67	0.39
Dundry . . .	161 0 42.69	7	4.76	0.65	Bull Barrow . . .	338 38 30.61	8	4.02	0.39
Malvern . . .	188 8 10.86	14	10.78	0.99	Mintern . . .	355 46 46.64	5	3.96	0.74

RONAS.

3-ft. Theodolite, B.O.

From 4th to 10th August 1821. Observers: Maj.-Gen. COLBY, and Capts. VETCH and DRUMMOND, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Foula	39 35 37.90	9	6.71	0.80	Yell	255 44 21.12	21	7.30	0.31
Saxavord . . .	224 59 30.31	13	7.65	0.69	Noss Head . .	300 47 9.38	4	—	—
Vallafeld . . .	229 21 48.15	1	—	—	Brassa	336 39 5.90	9	3.81	0.24
Fetlar	252 55 19.67	10	6.54	0.70					

RU REA.

3-ft. Theodolite, R.S.

From 22nd May to 26th June 1848. Observer: Corp. WINZER, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Storr	34 21 52.82	31	6.64	0.16	Monach	151 17 46.10	16	7.23	0.50
Cleisham . . .	103 24 1.39	22	4.79	0.21	Cnoc-ghiubhais .	208 33 9.90	7	4.54	0.75
Barvas	137 15 53.37	3	1.93	0.47					

RYDER'S HILL.

3-ft. Theodolite, B.O.

From 26th July to 22nd August 1845. Observer: Serg. DONELAN, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Eddystone Light-house	36 33 46.55	8	5.79	0.84	Pillesdon . . .	245 29 16.65	15	5.49	0.33
Goonhilly Down .	61 23 1.16	20	5.65	0.22	Golden Cape . .	251 22 5.27	9	6.89	0.82
Deadman	64 19 4.83	7	2.17	0.14	Little Haldon .	255 2 16.56	11	7.40	0.66
Lansallos	69 4 41.09	7	4.53	0.57	Black Down . .	257 32 16.59	12	3.32	0.14
Hensbarrow . . .	78 41 28.21	15	8.19	0.44	Swyre Barrow .	264 19 37.28	9	3.69	0.29
Kit Hill Tower .	93 6 59.16	5	4.58	1.49	Vern	265 51 24.26	14	5.15	0.23
Brown Willy . .	100 51 18.82	12	6.82	0.57	Furland	302 35 46.65	5	6.35	1.99
Cadon Barrow .	106 11 43.81	15	7.01	0.42	Referring-object .	310 0 44.97	138	6.16	0.01
High Wilhays .	157 0 20.43	14	6.41	0.49	Barrow Hill . .	335 35 49.97	11	4.68	0.41

PRINCIPAL TRIANGULATION.

SCARABIN.

3-ft. Theodolite, B.O.

From 11th June to 23rd July 1839. Observers: Lieuts. HORNBY, ROBINSON and PIPON, R.E.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Macdui . . .	2° 6' 15.65	2	5.32	7.07	South Ronaldshay	210° 50' 55.07	17	12.01	0.98
Duke of Sutherland's Monument	42 47 51.61	3	4.36	2.11	Ben Cheilt . . .	227 56 36.28	41	14.22	0.57
Ben Wyvis . . .	44 32 34.66	18	10.84	0.97	Mormonth . . .	306 0 53.52	7	4.93	0.86
Ben Clibrig . . .	92 18 27.60	34	14.25	0.56	Cowhythe . . .	316 57 3.70	6	6.22	1.19
Foinnebheinn . .	106 18 46.26	4	4.02	1.41	Manor Lee . . .	319 46 57.21	4	2.54	0.59
Ben Hope . . .	110 15 1.08	6	6.31	1.45	Bin of Cullen . .	325 10 23.42	7	9.90	3.35
Ben Hutig . . .	124 43 58.81	33	10.22	0.25	Knock . . .	325 19 56.99	10	13.07	2.38
Wart Hill Hoy . .	190 48 26.60	16	6.93	0.49	Findlay Seat . .	343 24 9.16	1	—	14.15
Dunnet Head . . .	194 18 25.00	28	11.25	0.48	Corryhabbie . . .	346 17 4.05	10	8.69	1.37

SCOURNALAPICH.

3-ft. Theodolite, B.O.

From 15th July to 25th October 1846. Observer: Serg. DONELAN, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Mamsuil . . .	20° 18' 32.79	12	4.13	0.30	Ben Wyvis . . .	219 40' 27.55	24	6.84	0.30
Ben More, South Uist . . .	85 43 13.33	20	3.38	0.10	Balnaskerrish . .	233 56 37.36	22	6.47	0.27
Cleisham . . .	123 4 25.94	18	6.21	0.28	Balninnis . . .	267 15 13.01	11	7.27	0.90
Monach . . .	146 30 20.95	11	4.70	0.34	Corryhabbie . . .	270 37 21.55	32	6.75	0.15
Glashmeal, Ross .	166 51 15.51	9	5.65	0.52	Ben Macdui . . .	291 1 46.95	31	9.93	0.24
Ben Clibrig . . .	201 31 57.87	11	8.97	0.86	Referring-object .	351 58 39.99	240	—	—
					Ben Nevis . . .	356 54 21.54	34	7.91	0.23

SEVERNDROOG.

3-ft. Theodolite, B.O. and R.S.

From 25th October to 3rd November 1822. Observers: Major-Gen. COLBY, Capt. KATER, and Mr. GARDNER.

From 20th January to 29th March 1848. Observer: Serg. DONELAN, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Leith Hill Tower	43° 7' 6.16	80	12.10	0.08	Greenwich Observatory Dome ¹	106 21 22.94	11	5.40	0.46
Banstead, New . .	49 4 5.68	4	3.86	1.02	St. Paul's Cathedral	115 33 25.03	33	6.18	0.13
Hundred Acres . .	50 48 36.69	4	4.44	1.53	Berkhampstead . .	158 23 44.85	22	5.59	0.24
St. Anne's, Old . .	79 31 51.50	9	6.60	0.89	Chingford . . .	167 16 45.76	94	10.49	0.06
Windsor Castle Tower . . .	92 39 20.67	4	7.17	3.66	Epping Poor-house Cupola . . .	189 20 1.08	19	5.83	0.31
Hanger Hill Tower	104 19 21.66	39	7.85	0.10	Gad's Hill . . .	281 32 14.53	14	6.59	0.44
Westminster Abbey Pole . . .	105 42 10.09	21	6.66	0.33	Wrotham . . .	316 42 58.45	112	10.86	0.06

¹ A correction of — 7' 48".57 to be applied to this bearing, to reduce it to the transit.

OBSERVATIONS.

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SOUTHWOLD CHURCH TOWER.

2-ft. Theodolite.

From 7th to 30th September 1844. Observer: Corp. BAY, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Orford Castle .	21° 14' 33.59"	9	4.82	0.45	Toft's Tower .	159° 38' 41.41"	10	4.89	0.43
Laxfield Tower .	82 19 13.84	11	7.61	0.99	Gorleston Tower	186 22 18.04	10	1.28	0.03

STOKE CHURCH TOWER.

2-ft. Theodolite.

From 19th January to 2nd May 1844. Observer: Corp. BAY, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Danbury Spire .	35° 51' 33.69"	13	5.85	0.39	Otley	231° 42' 24.60"	10	1.00	0.02
Lawshall Tower .	148 11 41.39	13	6.10	0.45	Referring-object .	272 34 49.95	89	—	—
Naughton Tower	198 19 25.77	10	5.02	0.41	Walton Tower .	296 49 49.72	14	3.32	0.12

STOKE HILL.

3-ft. Theodolite, B.O.

From 17th December 1849 to 4th February 1850. Observer: Corp. JENKINS, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Wingreen . . .	5° 41' 47.79"	24	8.33	0.35	Thorney Down .	306° 26' 46.13"	6	5.34	0.84
Westbury . . .	76 57 42.08	48	10.32	0.14	Dean Hill . . .	312 58 2.92	22	6.37	0.21
Milk Hill . . .	231 45 36.38	24	6.51	0.28	Queen's Manor .	313 19 26.04	11	4.36	0.28
Inkpen	257 38 22.93	26	4.49	0.11	Old Sarum Castle	317 43 52.81	13	4.94	0.32
Beacon Hill . .	292 18 42.30	25	8.35	0.21	Four-mile Stone .	319 39 8.95	27	9.95	0.33
Old Lodge . . .	297 37 58.45	12	5.54	0.49					

STORR.

3-ft. Theodolite, R.S.

From 26th September 1847 to 26th February 1848. Observer: Corp. WINZER, R.S.M.

Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.	Objects.	Bearings.	No. of Obs.	Range.	Recip. of Weight.
Ben Heynish . .	21° 20' 18.84"	6	3.85	0.71	Cnoc-ghiubhais .	210° 2' 36.12"	19	14.32	0.91
Ben More, South					Ru Rea	214 0 45.81	19	4.80	0.16
Uist	68 0 2.91	24	9.70	0.37	Ben Clibrig . .	231 37 12.21	17	8.95	0.80
Cleisham . . .	143 52 7.42	33	7.23	0.24	Mamsuil	291 9 52.14	22	7.87	0.36
Monach	175 30 21.81	25	8.88	0.23	Ben Nevis . . .	317 26 17.03	41	11.33	0.29
Ru Stoir	209 24 37.72	13	5.65	0.40	Ben More in Mull	355 3 25.22	17	8.83	0.66

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