

APPENDIX No. 5—Continued.

November 25, 1846.—Camp 106.

Time, p. m.			Double altitudes of <i>a</i> Arietis, in the east.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg.</i>	<i>min.</i>	<i>sec.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>
3	42	58.8	99	22	55	8	53	02.9
3	43	56.0	99	46	25	8	53	04.5
3	44	37.8	100	02	45	8	53	07.4 rej.
3	45	31.8	100	26	20	8	53	05.3
3	46	22.0	100	48	10	8	53	03.7
3	47	10.8	101	03	35	8	53	03.9
3	47	59.0	101	28	65	8	53	03.5
4	48	55.5	101	52	25	8	53	04.6
4	49	39.0	102	11	20	9	53	03.1

Thermometer 54°.

Time, p. m.			Double altitudes of <i>a</i> Lyrae, in the west.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg.</i>	<i>min.</i>	<i>sec.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>
3	54	46.8	68	12	40	8	53	05.1
3	55	48.0	67	49	40	8	53	04.9
3	56	36.5	67	32	15	8	53	06.8
3	57	18.3	67	16	40	8	53	06.8
3	58	08.8	66	57	50	8	53	06.8
3	58	53.8	66	40	25	8	53	05.1
3	59	32.8	66	26	20	8	53	06.3
4	00	20.8	66	08	10	8	53	03.5
4	01	04.0	65	52	30	8	53	06.7

Thermometer 52°.

Mean of 17 observations, 8h. 53m. 04.86s.

APPENDIX No. 5—Continued.

November 23, 1846.—Camp 106.

Time, p. m.			Double altitudes of Sirius, near the meridian.			Latitude.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg.</i>	<i>min.</i>	<i>sec.</i>	<i>Deg.</i>	<i>min.</i>	<i>sec.</i>
11	14	39.8	81	34	55	32	42	06
11	15	36.0	81	35	20	32	42	11
11	16	30.7	81	36	10	32	41	59
11	17	33.6	81	26	20	32	42	05
11	18	36.8	81	36	40	32	42	01
11	19	33.0	81	36	30	32	42	23 rej.
11	21	17.5	81	36	20	32	42	06
11	22	17.0	81	36	20	32	41	57
11	23	06.0	81	35	45	32	42	04
11	23	54.8	81	35	10	32	42	07
11	24	40.0	81	34	45	32	42	05
11	25	41.6	81	34	05	32	42	01
11	27	00.0	81	33	10	32	41	51

Thermometer 46°.

Mean of 12 observations, 32° 42' 03".

APPENDIX No. 5—Continued.

November 25, 1846.—Camp 108—first camp after leaving the Rio Colorado.

DETERMINATION OF TIME.

Time, p. m.			Double altitudes of α Lyrae, in the west.	Chronometer fast.
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>	<i>h. m. s.</i>
3	05	57.5	84 02 20	8 53 63.1 rej.
3	06	40.8	83 44 15	8 53 59.2
3	07	27.9	83 26 35	8 54 01.1
3	08	16.5	83 07 45	8 53 59.5
3	09	10.9	82 46 50	8 53 59.2
3	09	59.8	82 28 35	8 53 60.4
3	10	48.0	82 09 30	8 53 58.7
3	11	34.8	81 51 35	8 53 58.6

Thermometer 46°.

Time, p. m.			Double altitudes of α Arietis, in the east.	Chronometer fast.
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>	<i>h. m. s.</i>
3	16	18.5	91 06 00	8 53 54.4
3	17	14.0	91 31 25	8 53 49.8 rej.
3	17	52.5	91 45 15	8 53 55.6
3	18	31.6	92 02 00	8 53 54.9
3	19	15.0	92 20 55	8 53 53.4
3	19	58.5	92 39 35	8 53 52.8
3	20	39.5	92 56 30	8 53 53.8
3	21	26.8	93 16 20	8 53 54.0

Thermometer 46°.

Mean of 14 observations, 8h. 53m. 56.82s.

APPENDIX No. 5—Continued.

November 25, 1846.—Camp 108.

DETERMINATION OF LATITUDE.

Time, p. m.			Double altitudes of Polaris.	Latitude.
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>	<i>Deg. min. sec.</i>
3	24	40.5	67 52 05	32 40 11
3	25	46.2	67 52 55	32 40 22
3	26	45.0	67 53 10	32 40 16
3	27	31.8	67 53 30	32 40 16
3	28	51.5	67 54 20	32 40 24
3	29	44.0	67 54 40	32 40 22
3	30	26.8	67 55 05	32 40 25
3	31	06.5	67 55 45	32 40 33
3	32	01.0	67 55 45	32 40 24
3	33	25.0	67 56 30	32 40 30

Thermometer 44°.

Mean of 10 observations, 32° 40' 22".

APPENDIX No. 5—Continued.

November 28, 1846.—Camp 111.

DETERMINATION OF LONGITUDE.

Time, p. m.			Distance of Aldebaran from moon's western limb.	Double altitude of moon's lower limb.
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>	<i>Deg. min. sec.</i>
5	27	31.0	49 25 25	129 01 40
5	29	22.8	49 24 45	129 05 50
5	31	16.0	49 23 55	129 08 25
5	33	17.5	49 23 05	129 11 10
5	05	15.8	49 22 35	129 12 20
5	37	22.8	49 21 50	129 13 00
5	39	25.8	49 21 15	129 12 40
5	41	25.8	49 20 25	129 11 10

Thermometer 44°.

Longitude, by mean of observations, 7h. 43m. 06.4s.

APPENDIX No. 5—Continued.

November, 28, 1846.—Camp 111.

DETERMINATION OF LONGITUDE.

Time, p. m.			Distance of Fomalhaut from moon's western limb.	Double altitudes of moon's lower limb.
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>	<i>Deg. min. sec.</i>
5	48	51.0	50 32 50	128 57 30
5	51	03.8	50 33 30	128 50 20
5	53	43.7	50 34 10	128 40 30
5	58	03.5	50 35 35	128 22 15
6	01	58.0	50 36 10	128 00 00
6	05	24.1	50 37 50	127 38 30
6	08	12.5	50 39 00	127 19 20
6	10	19.2	50 39 00	127 03 20
6	15	10.0	50 40 30	126 40 10
6	16	02.7	50 41 20	126 15 30
6	19	19.0	50 42 40	125 45 50

Thermometer 44°.

Longitude by Fomalhaut.....	<i>h.</i>	<i>m.</i>	<i>s.</i>
Longitude by Aldebaran	7	43	43.01
Mean.....	7	43	24.75

APPENDIX No. 5—Continued.

November 28.—Camp 111, Cariso creek, first after passing the Jornada.

DETERMINATION OF TIME.

Time, p. m.			Double altitudes of α Lyrae, in the west.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
2	49	25.5	87	31	40	8	57	58.4
2	50	20.0	87	10	40	8	57	57.2
2	51	10.0	86	51	20	8	57	56.8
2	51	54.5	86	34	45	8	57	37.9
2	52	43.0	86	15	30	8	57	56.4
2	53	23.3	86	00	20	8	57	57.0
2	54	18.2	85	39	35	8	57	57.7
2	55	07.3	85	19	50	8	57	55.2
2	55	51.5	85	03	35	8	57	55.0

Thermometer 48°.

Time, p. m.			Double altitudes of α Arietis, in the east.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
3	02	01.8	88	21	15	8	57	56.7
3	03	06.2	88	47	45	8	57	58.2
3	03	59.8	89	10	05	8	57	58.8
3	04	55.5	89	33	45	8	57	58.2
3	05	55.8	89	59	45	8	57	56.7
3	06	47.8	90	21	10	8	57	57.8
3	07	47.5	90	46	30	8	57	57.3
3	08	32.8	91	05	25	8	57	57.7
3	09	21.5	91	27	35	8	57	53.7 rej.

Thermometer 48°.

Mean of 17 observations, 8h. 57m. 57.26s.

APPENDIX No. 5—Continued.

November 28, 1846.—Camp 111.

DETERMINATION OF LATITUDE.

Time, p. m.			Double altitudes of Polaris.			Latitude.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>Deg. min. sec.</i>		
3	23	15.0	68	19	25	32	52	31
3	24	09.0	68	19	40	32	52	28
3	25	04.5	68	20	00	32	52	25
3	26	06.5	68	19	30	32	51	56 rej.
3	26	50.0	68	21	20	32	52	43
3	27	35.0	68	21	35	32	52	40
3	28	22.5	68	21	40	32	52	33
3	29	34.5	68	21	50	32	52	24
3	30	52.0	68	22	20	32	52	24
3	32	11.8	68	23	20	32	52	37
3	33	20.0	68	23	40	32	52	34
3	34	02.5	68	23	55	32	52	33
3	35	20.0	68	24	25	32	52	39

Thermometer 46°.

Mean of 12 observations, 32° 52' 33".

APPENDIX No. 5—Continued.

November 29, 1846.—Camp 112, "Valle Citon."

DETERMINATION OF TIME.

Time, p. m.	Double altitudes of <i>a</i> Lyræ, in the west.	Chronometer fast.
<i>h.</i> <i>m.</i> <i>s.</i>	<i>Deg. min. sec.</i>	<i>h.</i> <i>m.</i> <i>s.</i>
2 47 23.8	87 10 05	8 58 44.1
2 48 17.0	86 49 10	8 58 42.7
2 49 13.9	86 27 20	8 58 42.6
2 50 03.5	86 08 25	8 58 42.9
2 50 51.5	85 50 15	8 58 43.5
2 51 32.0	85 35 05	8 58 44.2
2 52 24.2	85 14 45	8 58 43.3
2 53 12.4	84 56 10	8 58 42.9

Thermometer 50°.

Time, p. m.	Double altitudes of <i>a</i> Arietis, in the east.	Chronometer fast.
<i>h.</i> <i>m.</i> <i>s.</i>	<i>Deg. min. sec.</i>	<i>h.</i> <i>m.</i> <i>s.</i>
2 58 01.0	87 59 50	8 58 43.7
2 58 50.3	88 21 20	8 58 41.9
2 59 30.0	88 37 35	8 58 42.9
3 00 19.2	88 58 30	8 58 42.4
3 01 20.3	89 23 55	8 58 42.9
3 02 16.5	89 48 35	8 58 40.5
3 03 10.8	90 10 35	8 58 42.4
3 04 12.0	90 36 40	8 58 41.8
3 05 04.2	90 58 35	8 58 41.7

Thermometer 50°.

Mean of 17 observations, 8h. 58m. 42.78s.

APPENDIX No. 5—Continued.

November 30, 1846.—Camp 112

DETERMINATION OF TIME.

Time, p. m.	Double altitudes of <i>a</i> Lyræ, in the west.	Chronometer fast.
<i>h.</i> <i>m.</i> <i>s.</i>	<i>Deg. min. sec.</i>	<i>h.</i> <i>m.</i> <i>s.</i>
2 47 58.8	85 21 15	8 58 31.2
2 48 46.6	85 02 55	8 58 31.2
2 49 38.8	84 42 55	8 58 30.7
2 50 27.5	84 24 15	8 58 30.5
2 51 11.0	84 07 45	8 58 30.7
2 51 55.2	83 50 40	8 58 30.3
2 52 45.0	83 31 20	8 58 29.3
2 53 29.9	83 14 25	8 58 29.9
2 54 21.7	82 55 05	8 58 31.1

Thermometer 48°.

Time, p. m.	Double altitudes of <i>a</i> Arietis, in the east.	Chronometer fast.
<i>h.</i> <i>m.</i> <i>s.</i>	<i>Deg. min. sec.</i>	<i>h.</i> <i>m.</i> <i>s.</i>
3 14 21.0	96 37 20	8 58 28.1
3 16 50.8	97 40 10	8 58 27.6
3 17 25.0	97 54 10	8 58 29.1
3 19 40.6	98 50 50	8 58 29.9
3 22 24.8	99 59 55	8 58 29.5

Thermometer 48°.

Mean of 14 observations, 8h. 58m. 29.69s.

Boisterous and cloudy. The ground at this camp is spongy, and shaken by the lightest tread.

APPENDIX No. 5—Continued.

November 29, 1846.—Camp 112.

DETERMINATION OF LATITUDE.

Time, p. m.			Double altitudes of Polaris.			Latitude.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>Deg. min. sec.</i>		
3	08	45.0	68	26	20	32	58	24
3	09	51.8	68	26	40	32	58	24
3	10	47.5	68	27	30	32	58	32
3	12	02.0	68	27	45	32	58	20
3	13	02.5	68	27	55	32	58	13
3	13	52.5	68	28	15	32	58	10
3	14	33.5	68	28	35	32	58	12
3	15	26.0	68	28	55	32	58	10
3	16	01.0	68	29	10	32	58	09
3	16	40.8	68	29	20	32	58	02
3	17	27.0	68	29	55	32	58	14
3	18	06.2	68	30	00	32	58	8

Thermometer 50°.

Mean of 12 observations, 32° 58' 15"

APPENDIX No. 5—Continued.

December 2, 1846.—Camp 114, "Warner's."

DETERMINATION OF TIME.

Time, p. m.			Double altitudes of α Lyrae, in the west.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
2	45	26.8	83	51	55	8	59	16.0
2	46	22.5	83	31	10	8	59	17.2
2	47	17.9	83	10	05	8	59	17.3
2	47	56.8	82	54	55	8	59	16.4
2	48	44.0	82	37	35	8	59	18.1
2	49	31.7	82	18	30	8	59	15.6
2	50	25.8	81	57	55	8	59	16.4
2	51	13.0	81	40	15	8	59	16.3
2	51	57.8	81	23	50	8	59	17.9

Thermometer 34°.

Time, p. m.			Double altitudes of α Arietis, in the east.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
2	58	40.8	92	59	40	8	59	15.6
2	59	32.3	93	20	50	8	59	16.6
3	00	24.0	93	42	35	8	59	16.4
3	01	19.5	94	06	55	8	59	13.7 rej.
3	02	12.5	94	28	30	8	59	15.2
3	03	31.2	95	00	55	8	59	16.6
3	04	19.3	95	21	05	8	59	16.5
3	05	16.8	95	44	50	8	59	17.2
3	05	58.5	96	03	20	8	59	14.8

Thermometer 36°.

Mean of 17 observations, 8h. 59m. 16.46s.

APPENDIX No. 5—Continued.

December 2, 1846.—Camp 114, "Warner's."

DETERMINATION OF LATITUDE.

Time, p. m.			Double altitudes of Polaris.			Latitude.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>Deg. min. sec.</i>		
3	11	12.8	69	09	55	33	17	21
3	12	11.8	69	09	10	33	16	40
3	13	33.5	69	09	25	33	16	29
3	14	51.5	69	10	55	33	17	00
3	16	28.9	69	11	35	33	17	09
3	17	51.0	69	12	10	33	17	09
3	18	35.8	69	12	10	33	16	47
3	20	31.0	69	12	50	33	16	49
3	21	03.8	69	13	25	33	16	58
3	21	52.0	69	13	40	33	16	58
3	22	23.8	69	13	55	33	16	59
3	23	13.0	69	14	10	33	16	59

Thermometer 64°.

Mean of 12 observations, 33° 16' 57".

<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>Deg. min. sec.</i>		
3	11	12.8	69	09	55	33	17	21
3	12	11.8	69	09	10	33	16	40
3	13	33.5	69	09	25	33	16	29
3	14	51.5	69	10	55	33	17	00
3	16	28.9	69	11	35	33	17	09
3	17	51.0	69	12	10	33	17	09
3	18	35.8	69	12	10	33	16	47
3	20	31.0	69	12	50	33	16	49
3	21	03.8	69	13	25	33	16	58
3	21	52.0	69	13	40	33	16	58
3	22	23.8	69	13	55	33	16	59
3	23	13.0	69	14	10	33	16	59

APPENDIX No. 5—Continued.

December 8, 1846.—Camp 118, San Bernardo.

DETERMINATION OF TIME.

Time, p. m.			Double altitudes of α Lyrae, in the west.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>h. m. s.</i>		
3	19	08.0	62	19	00	8	59	41.2
3	20	28.8	61	49	25	8	59	40.8
3	21	20.2	61	30	20	8	59	40.4
3	22	17.9	61	09	30	8	59	41.6
3	22	59.5	60	53	55	8	59	40.7
3	23	46.2	60	36	35	8	59	40.4
3	24	34.7	60	19	25	8	59	39.3
3	25	28.8	59	59	20	8	59	41.5
3	26	06.8	59	44	60	8	59	40.5

Thermometer 40°.

Time, p. m.			Double altitudes of α Arietis, in the east.			Chronometer fast.		
<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>Deg. min. sec.</i>			<i>h. m. s.</i>		
3	34	46.0	117	46	30	8	59	36.9
3	35	41.8	118	09	15	8	59	37.5
3	36	32.8	118	30	15	8	59	37.6
3	37	13.8	118	47	35	8	59	36.5
3	38	13.8	119	12	35	8	59	35.8
3	38	59.6	119	30	30	8	59	38.1
3	39	40.0	119	47	25	8	59	37.5
3	40	34.7	120	09	30	8	58	38.5

Thermometer 40°.

Mean of 17 observations, 8h. 59m. 38.95s.