KG
11366
v.420

1879phae.proj.1424M

Polaris
Circle Readings.
From Feb. 15 1879 to Dec 4 1879.

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1879phae.proj.1424M

2 Feb 15 1879

Obs. Min L.C.

13 14

~~+88 40~~ 91.2v

h m

12 0

M	R	m	R	M	R	m	R	m	R
10 0 47.9	44.9	38.9	36.6	31.3	27.3	22.1	18.4	13.9	10.6
46.2	42.3	35.9	33.7	29.1	24.8	19.1	15.7	11.4	7.9
50.2	46.6	40.9	37.1	33.1	28.7	24.1	19.4	15.9	12.1
48.1	46.7	38.3	37.0	32.4	28.3	22.8	19.9	14.0	11.3
19 24	205	1540	244	1259	291	881	334	152	419
10 48.10	45.12	38.50	36.10	31.~~27~~ 48	27.27	22.02	18.35	13.80	10.47

13 ?

13 24

# M	R	m	R	M	R	m	R.	m	R.
5 4 34.1	32.2	29.6	30.3	29.5	28.2	26.4	26.3	26.7	28.4
3 20	28.7	28.1	27.2	27.7	25.1	24.7	22.8	24.5	24.8
8 31	31.2	30.1	28.9	29.3	27.7	27.5	26.2	26.6	26.9
33.6	31.4	30.0	30.3	29.9	28.1	26.6	26.8	27.0	26.9
128	35	1178	1167	364	291	252	221	250	270
9 33.20	30.87	29.45	29.17	29.10	27.27	26.30	25.52	26.25	26.75

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1879phae.proj.1424M

1879. Feb. 16

α

2 Meas. Min.

88 40

+88 40

	m	R	m	R	m	R	m	R	m	R.
45 8	17.1	21.3	28.8	28.2	29.8	32.7	36.9	39.0	41.4	44.5
	18.6	23.4	25.4	29.0	31.6	33.6	37.2	40.7	42.1	45.2
	24.4	26.6	29.7	31.8	35.2	37.0	41.0	43.2	46.2	48.2
	23.9	28.3	29.8	33.7	35.9	39.2	41.9	44.7	46.7	50.2
	840	196	287	1227	1325	225	1570	76	167	1881
48	21.00	24.90	27.17	30.67	33.12	35.62	39.25	41.90	44.17	47.02

Three strokes for each min except the 1st.

	m	R	m	R.	m	R.	m	R.	m	R.
45-4	12.3	14.5	16.1	17.3	17.6	17.9	18.9	19.2	19.6	20.2
	11.7	14.2	16.1	16.8	17.1	17.7	17.8	18.9	18.9	19.8
	16.2	17.2	19.2	20.1	20.4	20.9	21.4	21.7	22.1	22.2
	16.6	20.1	21.0	22.8	22.1	23.9	20.3	24.9	24.3	25.7
	168	660	724	770	772	804	814	847	849	879
49	14.20	16.50	18.10	19.25	19.30	20.10	20.35	21.17	21.22	21.97

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1879phae.proj.1424M

4

1879. Feb. 21

Polaris C = 46.758

1 13

+88 40

	m.	R.	M	R	M	R	m	R	M	R
45 3	12,9	16.8	21,6	25.2	26,8	30.4	32,1	36.2	38,1	42.3
	12,9	16.8	21,3	24.8	26,9	30,1	32,4	35.0	37,0	41.2
	15,8	18.4	23,4	26.2	28,4	31.3	34,6	36.8	39,6	43.8
	16,9	20.7	25,1	28.8	30.4	35.0	36.4	40.9	42,2	47.8
	18,5	32,7	11,4	25 0	32,5	2 1,68	15,5	28,9	37,4	15,1
48	14.62	18.17	22.85	26.25	28.12	~~33.67~~ 31.70	33.87	37.22	39.35	43.78

48 4	17,6	17.9	18,9	19.0	19,8	20.0	19,0	20.4	19,8	21.5
	16,3	17.2	17,6	18.2	18,7	18.3	18,8	19,2	18,2	20.6
	18,8	18.2	25,3	19.9	21,7	20.1	24,0	21.2	21,3	22.7
	20,4	22.0	22.7	23.8	23,9	24.3	24.1	24.9	24,1	25.2
	731	753	795	809	841	827	839	857	834	100
49	18.27	18.82	19.87	20.22	21.02	20.67	20.97	21.42	20.85	22.50

1 stroke for 1st 2 wires of R. A.

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1879phae.proj.1424M

1879. Feb. 22

2 Meas. Min. L.C. C = 46.738

13 13

+91 20

		m	R	m	R	m	R	m	R	m	R
6	4	~~47~~	27.1	25.6	25.5	~~23.8~~	22.9	23.4	21.8	21.6	19.6
	~~45~~	26.1	25.0	23.9	23.1	22.0	20.0	20.2	19.2	19.1	17.5
		29.6	27.2	26.9	25.3	24.8	23.0	23.9	22.4	22.4	19.8
		29.2	28.2	26.9	27.2	24.8	23.6	23.9	22.2	22.2	20.2
		336	275	233	211	154	95	114	56	853	771
	9	28.40	26.87	25.82	25.27	23.85	22.37	22.85	21.40	21.32	19.27

		m	R.	m	R	m	R	m	R
✱ 5	4	20.0	20.8	20.5	20.5	20.3	19.3	19.4	19.7
		17.7	17.7	16.9	17.3	16.9	16.9	17.0	16.9
		20.9	21.2	20.9	20.8	21.5	20.2	21.5	20.0
		20.7	21.2	20.9	20.9	20.4	20.2	20.7	20.8
		79.3	80.9	79.2	79.5	79.2	76.6	78.6	77.4
	9	19.82	20.22	19.80	19.87	19.80	19.15	19.65	19.35

Lost 1st ½ were Mg on last 8's

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1879phae.proj.1424M

6
1879 Feb. 23
Polaris C = 46.738
1 13
+88 40

m	s	R	m	R	m	R	m	R	m	R
46	3 15.1	23.3	27.5	29.8	31.9	35.3	37.2	40.5	42.7	44.8
	18.4	26.1	29.2	32.3	34.6	37.7	39.2	41.8	43.9	46.2
	23.8	29.9	33.6	35.3	38.3	40.5	43.8	45.7	49.2	50.3
	22.1	31.8	34.9	37.8	38.6	42.4	44.5	48.8	50.2	52.0
	7.94	11.11	12.52	13.52	234	15.59	16.47	168	18.60	19.33
48	19.85	27.77	31.30	33.80	35.85	38.97	41.17	44.20	46.50	48.32

A 1, 2, 3, 4, 5, 6

m	s	R	m	R	m	R	m	R	m	R
4	5 4.88	10.8	9.9	11.2	12.5	13.4	14.7	15.3	14.9	15.4
	9.6	12.2	11.1	12.6	13.5	14.8	15.7	16.7	15.8	17.3
	14.0	15.9	16.2	16.3	18.8	18.9	20.1	19.7	20.1	20.2
	15.7	18.2	16.1	18.8	19.6	20.7	21.7	22.3	21.7	23.3
	481	171	533	189	239	678	722	740	725	762
49	~~9.02~~ 12.02	14.27	13.32	14.72	15.97	16.95	18.05	18.50	18.12	19.05

A 1, 2, 3, 4, 5, 6, 8, 9

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1879phae.proj.1424M

1879. Feb. 24
Polaris C = 46.850
1 13
+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	29 37.5	40.5	44.2	48.0	47.9	51.8	4 13.6	13.5	15.6	16.1
	32 38.8	41.0	44.4	47.3	48.3	51.2	12.9	14.0	15.6	16.8
	34 40.8	43.2	46.1	49.8	50.9	54.4	16.8	16.1	18.5	18.3
	38 42.1	46.2	48.7	52.8	51.6	57.9	16.8	17.9	18.5	20.2
	1582	109	254	379	1987	153	201	215	282	714
	39.55	42.72	46.35	49.47	49.67	53.82	15.02	15.37	~~15.64~~ 17.05	17.85

	m.	R	m	R	m	R	m	R	m	R
45 4	17.9	19.3	19.9	19.8	20.1	20.6	21.9	22.3	21.8	22.6
	17.1	19.4	19.4	20.5	20.7	20.8	22.7	22.8	21.1	23.0
	20.2	21.0	22.1	21.8	22.5	22.6	25.1	23.2	23.2	24.2
	28.0	23.0	23.1	23.0	22.4	24.4	24.8	25.7	23.9	26.2
	755	827	845	51	57	84	145	140	100	160
	18.87	20.67	21.12	21.27	21.42	22.10	23.62	23.50	22.50	24.00

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1879phae.proj.1424M

8

1879 Feb. 24
Polaris L.C.

13 14
+9 20

	m	R	m	R	m	R	m	R	m	R
-10	0 11.6	10.4	7.4	5.7	1.8	0 58.8	4	32.6	32.2	30.9	30.1
	9.9	7.9	4.3	2.8	59.0	55.9		30.2	29.9	28.3	27.5
	14.3	12.7	8.6	7.1	3.8	60.1		33.4	31.9	30.5	29.0
	10.6	10.8	5.2	6.2	0.4	60.1		31.1	32.3	28.6	30.1
	46.4	41.8	25.5	21.8	24.53	23.49		73	63	11.83	11.67
	11.60	10.45	6.37	5.45	1.32	58.72		31.82	31.57	29.57	29.17

	m	R	m	R	m	R	m	R	m	R
5	4 29.3	27.7	27.2	27.2	26.0	26.3	26.0	25.1	26.1	25.0
	26.8	25.1	24.1	24.0	23.4	23.8	22.6	22.1	23.5	21.0
	30.2	26.8	27.6	26.0	26.3	25.8	26.5	24.8	26.8	24.2
	28.6	26.9	26.2	26.8	25.1	25.9	24.6	23.9	23.7	24.7
	11.46	26.5	25.1	24.0	21.3	21.8	19.7	15.9	20.1	14.9
	28.65	26.62	26.27	26.00	25.32	25.45	24.92	23.97	25.02	~~22.98~~ 23.72

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1879phae.proj.1424M

1879 Feb. 27
Polaris
1h 14 C = 46.819
+88 40

	m	R	m	R	m	R	m	R	m	R	m
45 3	19.1	26.0	30.6	33.9	36.7	38.7	41.2	40.9	46.6	49.6	51.6
	19.2	25.8	31.1	33.7	36.8	38.4	41.1	41.2	46.2	50.0	51.3
	23.6	28.0	33.4	35.5	40.3	41.3	45.1	44.2	49.6	52.2	54.2
	25.2	31.4	35.9	39.2	41.9	44.3	46.9	46.9	51.2	55.5	56.3
	871	1112	110	228	1557	27	143	132	1986	73	134
	21.77	27.80	32.75	35.57	38.92	40.67	43.57	43.30	48.40	51.82	53.35

	m	R	m	R	m	R	m	R	m	R
45 4	17.0	17.5	17.6	17.7	19.1	19.1	19.6	22.7	20.1	22.1
	17.1	18.0	17.1	17.1	19.1	19.5	20.1	22.4	20.8	22.0
	20.2	19.8	20.7	19.9	22.4	21.8	22.4	25.1	24.1	24.2
	22.1	23.4	23.0	23.8	24.6	24.9	23.8	27.6	25.4	27.6
	764	787	784	785	852	853	59	178	104	159
	19.10	19.67	19.60	19.62	21.30	21.32	21.47	24.45	22.60	23.97

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1879phae.proj.1424M

10 1879. Feb. 27
Polaris. L.6.
13 14
+91 20

	m		m	m	m
10	0	08 5 4	50.6	49.5	31.5
		59.3	48.4	47.1	29.8
		2.7	51.2	49.2	31.2
		0.0	49.5	48.5	29.9
		28	1997	343	1224
		0.70	49.92	48.57	30.60

Obs. very ? on account of clouds
Star 0.8 above the wire at 3rd declination
A 9, 6, 5

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1879phae.proj.1424M

1879. March 2

Polaris

1 14 C = 46.819

+88 40

m		R	m	R	m	R	m	R	m	R
45	3	31.4	34.8	37.9	40.6	43.2	46.0	48.5	51.2	4 #150 17.2
		014	34.7	38.1	40.2	43.2	45.1	48.4	50.4	16.3 16.9
		346	36.2	41.2	42.7	46.7	48.2	51.6	53.2	18.9 19.8
		259	40.7	42.9	46.3	49.1	51.4	54.2	56.9	25.0 23.1
		133	1464	1601	98	222	1907	2027	117	705 770
		33.32	36.60	40.02	42.45	45.55	47.67	50.67	52.92	17.62 19.25

m		R	m	R	m	R	m	R	m	R
45	4	16.9	19.8	20.2	20.0	20.4	22.0	21.6	22.2	22.2 22.3
		17.4	19.3	20.0	20.0	20.2	21.6	22.1	22.3	21.9 21.8
		21.2	22.1	22.5	23.0	22.2	23.8	24.2	24.7	24.9 24.1
		22.7	25.0	25.3	26.2	25.8	27.1	26.7	28.4	27.6 27.6
		782	862	83	92	86	145	146	176	166 158
		19.55	21.55	22.07	22.30	22.15	23.62	23.65	24.40	24.15 23.95

A 1, 2, 3, 4, 5, 6 + intermediate wires 8, 9

+ Nine Fellow wires

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1879phae.proj.1424M

12

1879 March 2

Polaris L.6

13 14

+91 20

		m	R	m	R	m	R	m	R	m	R
10	0	10.8	7.4	1.6	58.7	55.1	23.8	21.4	21.3	21.3	20.1
		9.6	6.3	1.3	57.7	54.5	22.3	20.7	19.9	19.9	18.5
		14.6	10.2	4.8	1.4	57.4	25.2	24.4	23.2	23.1	21.8
		14.6	11.9	4.9	3.8	58.5	27.3	25.3	25.2	24.1	24.2
		49.6	35.8	12.6	1.6	25.5	18.6	11.8	9.6	8.4	4.9
		12.40	8.95	3.15	0.40	56.37	24.65	22.95	22.40	22.10	21.22

after R. Ascension

		m	R	m	R	m	R	m	R	m	R
5	4	21.2	19.3	19.6	18.6	19.2	18.6	18.4	17.8	18.6	17.8
		19.9	18.2	18.4	17.3	18.2	17.2	16.5	16.3	16.9	16.2
		23.2	21.9	22.3	20.2	21.6	20.6	20.7	19.2	21.8	20.0
		23.6	23.2	23.0	21.8	21.6	21.8	21.2	21.9	21.8	21.7
		7.9	2.6	3.3	7.9	0.6	7.6	7.8	7.5	8.1	7.7
		21.97	20.65	20.82	19.47	20.15	19.40	19.20	18.80	22.07 19.52	18.92

A 9, 8, 7, 6, 5, 4, 3, 2

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1879phae.proj.1424M

Mar 3.

Polaris C = 46 779

1 14

+88 40

	m	R	m	R	m	R	m	R	m	R
45 = 3	19.9	26.0	28.2	30.8	34.1	38.1	41.5	45.7	49.9	4 15.0
	22.8	27.5	30.4	32.3	36.1	39.2	43.2	46.2	50.1	15.8
	27.3	31.0	34.5	35.4	40.6	43.0	47.4	50.3	53.9	19.6
	28.1	34.6	36.9	38.7	41.9	46.3	50.1	54.0	56.7	23.8
	981	1191	1300	172	1533	1666	1822	1962	96	742
	24.52	29.77	32.50	34.30	38.32	41.65	45.55	49.05	52.40	18.55

	m	R	m	R	m	R	m	R	m	R
45	4 16.5	17.3	19.6	19.2	21.6	19.9	20.9	19.5	22.7	23.9
	17.2	18.2	20.6	20.7	22.5	20.7	23.3	21.2	24.2	24.0
	21.6	21.6	24.1	23.8	24.4	24.2	25.7	24.2	27.1	27.3
	24.1	25.8	27.2	27.9	28.1	28.0	28.5	27.9	30.4	32.4
	797	829	915	916	166	928	174	928	1044	1076
	19.92	20.72	22.87	22.90	24.15	23.20	24.35	23.20	26.10	26.90

Seeing very bad

Lost A 1 + A 1,

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1879phae.proj.1424M

14

1879 March 4

Polaris

1 14

+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	1,6	6.8	10.5	13.6	24.0	25.6	29.7	31.6	34.7	38.2
	3,1	7.2	11.8	15.4	25.4	26.3	30.1	31.7	35.3	39.0
	6.2	10.8	16.0	19.2	29.4	29.2	32.9	35.2	38.6	42.4
	8.1	14.8	17.4	22.3	31.1	33.0	35.9	39.1	41.7	46.2
	190	396	157	705	1099	1141	81	176	1503	1658
	4.75	9.90	13.92	17.62	27.47	28.52	32.02	34.40	37.57	41.45

	m	R	m	R	m	R	m	R	m	R
45 4	15,5	16.9	17.0	18.6	18,7	20.0	18,7	20.7	20,6	20.0
	16,6	17.2	17.3	18.8	19,8	20.0	18,9	20.9	20,3	20.2
	20,8	20.4	20,5	21.8	22.6	23.2	22,8	23.4	24,3	23.3
	23.8	23.9	24.2	26.3	25.8	27.0	25.9	28.0	26.8	27.2
	767	784	790	55	869	102	863	130	120	107
	19.17	19.60	19,75	21.37	21.72	22.55	21.57	23.25	23.00	22.67

A– $\frac{1}{0}$, $\frac{1}{1}$, $\frac{1}{2}$, $\frac{2}{0}$, $\frac{2}{1}$, $\frac{2}{2}$, $\frac{3}{0}$ – $\frac{3}{1}$ – $\frac{3}{2}$ – $\frac{4}{0}$ – $\frac{4}{1}$ – $\frac{4}{2}$ – $\frac{5}{0}$ – $\frac{5}{1}$ – $\frac{5}{2}$ –

A– T

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1879phae.proj.1424M

Mars–
Polaris
1 14 C=46790
+88 40

H	M	R	m	R	m	R	m	R	m	R
45 8	96	13.2	17.3	20.3	21.6	37.0	41.7	43.6	45.9	48.4
	11.4	14.6	18.4	22.2	23.8	38.3	42.4	43.8	47.1	49.5
	18.9	21.5	25.2	27.8	29.2	44.9	49.0	50.2	53.4	55.8
	20.1	24.6	27.2	31.2	32.1	47.8	50.9	54.2	56.1	59.9
	600	739	881	10.15	267	80	1840	1918	25	2136
	15.00	18.47	22.02	25.37	26.67	42.00	46.00	47.95	50.62	53.40

	M	R	m	R	m	R	m	R	m	R
45 4	11.5	15.8	15.4	16.6	17.4	18.2	18.4	18.2	19.1	19.3
	12.7	15.8	16.1	17.7	17.9	18.2	18.8	18.2	20.1	20.0
	19.0	21.9	21.8	23.1	24.4	24.3	25.1	23.8	25.4	25.6
	21.3	25.7	24.9	26.6	26.9	28.1	27.1	28.2	29.1	29.4
	6.48	792	782	840	866	88	894	84	937	943
	16.20	19.80	19.55	21.00	21.65	22.20	22.35	22.10	23.42	23.57

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1879phae.proj.1424M

16 1879. March 5
Polaris L.C.
13 14
+91 20

	m	R	m	R	m		R	m	R	m	R
10 0	14.9	10.1	7.2	4.7	5 4	59.6	32.2	29.3	28.6	26.4	25.4
	13.9	8.8	5.6	3.1		57.4	30.5	27.1	26.2	25.6	23.6
	18.8	12.7	10.2	6.8		01.4	31.9	30.7	28.8	29.2	25.2
	18.6	13.9	9.7	8.9		2.1	33.9	33.7	30.7	29.3	26.8
	26.2	55	32.7	23.5		23.94	85	18	1143	305	210
	16.55	11.37	8.17	5.87		59.85	32.12	30.45	28.57	27.62	25.25

	m	R	m	R	m	R	m	R	m	R
5 4	24.6	24.6	23.2	22.3	21.0	21.3	21.9	21.34	21.9	21.2
	23.2	22.9	22.1	20.3	20.1	20.0	20.4	20.0	20.2	19.7
	26.6	24.9	24.9	23.0	23.6	22.3	23.5	22.2	23.3	21.7
	26.7	27.3	25.9	24.1	23.6	23.8	24.2	24.2	24.0	23.1
	21.1	19.7	16.1	9.7	8.3	7.4	10.0	7.8	9.4	8.57
	25.27	24.92	24.02	22.42	22.07	21.85	22.50	21.95	22.35	21.42

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1879phae.proj.1424M

1879 March 8
Polaris L.C.
13 14
+91 20

		m	R	m	R	m	R	m	R	m	R
10	0	89	6.3	4?.	0.2	5 4 55.9	28.3	25?.	24.9	23.1	23.8
		84	4.8	3.0	59.7	55.4	27.3	24.9	23.0	22.4	22.4
		128	8.8	6.6	3.1	0.1	31.5	27.7	26.4	25.5	24.8
		129	9.8	7.7	4.3	59.2	31.6	27.8	28.1	26.5	26.8
		430	297	215	~~373~~	2306	1187	256	224	175	178
		10.75	7.42	5.37	~~1.87~~	57.65	29.67	26.40	25.60	24.37	24.45

		m	R	m	R	m	R	m	R	m	R
5	4	224	20.9	21?.	20.9	21.1	20.3	199	18.7	193	18.8
		213	19.1	19.5	19.8	19.4	18.2	191	17.2	18.4	17.7
		249	21.7	229	22.2	233	21.1	218	19.0	22.0	20.2
		253	24.3	239	24.8	23.2	23.4	22.9	21.0	22.4	21.8
		139	60	75	77	70	30	837	759	821	785
		23.47	21.50	21.87	21.92	21.73	20.75	20.92	18.97	20.52	19.62

Lost last 3 wires

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1879phae.proj.1424M

18

1879 March 10

Polaris C = 46.791

/ 14

+88 40

		m	R	m	R	m	R	m	R	m	R
45	3	32.9	35.8	39.0	42.3	46.9	4 11.8	15.3	15.4	16.1	17.3
		34.4	37.3	40.2	42.7	48.5	12.2	15.6	15.4	16.4	16.6
		41.1	42.6	46.7	48.4	53.9	17.4	20.4	20.9	21.7	22.0
		42.1	45.5	47.6	51.8	56.1	22.0	24.1	24.9	24.8	26.2
		1505	1612	1735	1852	2054	634	754	766	790	821
		37.62	40.30	43.37	46.30	51.35	15.85	18.85	19.15	19.75	20.52

		m	R	m	R	m	R	m	R	m	R
45	4	16.4	17.0	17.6	18.4	18.5	19.0	19.1	20.2	18.8	19.6
		16.9	16.6	19.2	19.0	20.1	19.2	20.4	20.2	19.2	19.7
		22.3	22.0	23.5	24.1	24.5	24.2	24.8	25.2	24.5	24.9
		25.4	26.1	27.4	28.4	27.8	28.2	28.4	29.8	28.4	30.1
		810	817	880	899	909	906	927	154	909	943
		20.25	20.42	22.00	22.47	22.72	22.65	23.17	23.85	22.72	23.57

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1879phae.proj.1424M

1879 March 11
Polaris C = 46.791
1 14
+88 40

		m	m	m	m	m	m	m	m	m		m
45	3	36.5	39.2	42.4	44.2	47.3	50.6	53.5	56.2	58.1	4	2.6
		37.5	40.3	42.4	45.4	47.6	50.9	53.4	56.9	58.8		2.2
		46.6	48.8	51.9	53.8	55.7	59.4	1.5	4.8	6.6		10.4
		47.3	50.8	53.2	56.4	59.6	2.4	5.2	8.2	9.8		13.8
		16.79	17.91	18.99	19.98	21.02	22.33	23.36	24.61	25.33		29.0
		41.97	44.77	47.48	49.95	52.55	55.82	58.40	61.52	3.32		7.25

		m	m	m	m	m	m	m	m	m	m
45	4	5.6	7.4	9.9	12.1	11.7	13.3	15.0	15.9	15.6	16.4
		6.1	7.2	10.4	12.6	12.2	14.2	14.6	16.1	16.6	16.9
		14.8	16.4	19.2	20.2	20.2	21.9	22.6	23.5	24.4	24.9
		17.9	18.7	22.2	23.6	23.1	25.4	26.2	28.2	27.6	27.8
		44.4	49.7	61.7	61.5	67.2	74.8	78.4	84.0	84.2	86.0
		11.10	12.42	15.42	17.37	16.80	18.70	19.60	21.00	21.05	21.50

9 wires in R.A. Lost A7
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1879phae.proj.1424M

20

1879 March 12

Polaris

1 14

+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	17,5	20.0	23,7	27.1	31.6	33.9	37,4	40.3	42,1	43.0
	19,3	21.0	25,7	28.1	32,7	35.0	38,1	40.2	43,1	45.2
	25,4	26.9	31,4	33.7	39,6	40.9	44,4	47.2	49,2	51.1
	27.2	29.9	34.0	37.0	41.5	43.7	46.6	49.8	51.1	54.3
	894	178	1148	1259	1454	1535	1665	175	1855	1936
	22.35	24.45	28.70	31.47	36.35	38.37	41.62	44.37	46.37	48.40

	m	R	m	R	m	R	m	R	m	R
45 12	14,6	14.8	15,7	16.6	18,3	18.7	19,4	20.2	21,2	21.3
	16,1	16.2	17,2	17.4	20,1	20.2	20,4	20.9	22,1	21.9
	22,5	21.2	22,6	23.0	25,2	25.1	26,2	26.3	28,4	28.3
	24.9	24.9	25.5	26.1	27.9	28.7	29.4	29.9	30.3	31.8
	781	771	810	831	915	927	954	173	1020	1033
	19.52	19.27	20.25	20.77	22.87	23.17	23.85	24.32	25.50	25.82

1_0 1_1 1_2 2_0 2_1 2_2 3_0 3_1 3_2 4_0 4_1 4_2 5_0 5_1 5_2 6_0 6_1 6_2 7_0 7_1 7_2 8_0 8_1 8_2 9_0

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1879phae.proj.1424M

1879. March 13
Polaris L.C.
13 14
+91 20

	m	R	m	R	m	R	m	R	m	R
4 0 0	04	57.8	4 53.5	50.6	46.6	16.0	12.9	14.9	11.4	13.8
	2.4	57.9	53.1	49.6	47.2	16.0	12.9	14.9	12.5	12.8
	9.7	65.3	59.6	55.9	52.9	21.4	20.1	21.1	19.4	19.2
	9.2	66.8	0.3	57.9	54.3	23.1	20.4	23.2	18.3	21.4
	21.7	2478[3]	22.65	21.40	20.90	7.65	6.63	7.41	2.16	6.72
	5.42	1.95[2]	56.62	53.50	50.25	19.12	16.57	18.52	15.40	16.82

	m	R	m	R	m	R	m	R	m	R
5 4	12.4	11.3	11.1	11.4	10.9	10.3	10.0	10.9	10.6	10.0
	11.6	11.1	10.7	10.6	11.4	9.9	10.5	10.1	10.4	9.7
	18.9	17.8	17.7	16.8	18.3	17.3	18.1	17.0	17.6	16.4
	18.0	19.0	18.2	18.2	17.9	18.0	17.2	18.4	17.4	17.8
	20.9	19.2	17.7	17.0	18.5	5.55	15.8	16.4	16.0	5.39
	15.22	14.80	14.42	14.25	14.62	13.87	13.95	14.10	14.00	13.47

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1879phae.proj.1424M

22 Polaris March 18

1 14 C = 46.802

+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	23.4	29.1	32.2	35.2	39.4	42.2	45.3	47.4	49.6	52.6
	24.1	30.0	31.8	35.1	39.4	41.6	45.2	46.9	49.5	52.3
	26.5	31.0	35.7	37.6	42.7	45.1	47.9	49.8	52.4	54.6
	27.9	33.8	36.8	39.6	48.9	47.6	49.7	52.7	53.8	57.2
	21.9	13.9	15.9	27.5	5.4	16.5	28.1	36.8	5.3	16.7
	25.47	30.97	33.97	36.87	41.35	44.12	47.02	49.20	51.32	54.17

	m	R	m	R	m	R	m	R	m	R
45 4	19.9	21.3	21.6	22.7	23.5	24.7	24.8	26.0	26.9	26.2
	19.6	21.2	21.4	22.1	23.6	24.8	25.1	26.2	26.5	25.8
	22.3	24.0	24.7	24.0	25.9	26.2	26.6	27.9	28.9	28.4
	23.8	26.1	25.8	27.6	28.2	30.7	28.9	30.3	31.8	31.1
	5.6	12.6	13.5	16.4	21.2	10.64	25.4	11.04	11.41	11.15
	21.40	23.15	23.37	24.10	25.30	26.60	26.35	27.60	28.52	27.87

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1879phae.proj.1424M

P8 79. March 18
Polaris L. C.
13 14
+91 20

m	R	m	R	m	R	m	R	m	R
16 0 59	2.8	5'4'58"9	55.2	52.5	50.0	20.3	19.6	19.1	18.1
5.9	1.4	58.9	53.1	52.3	48.6	19.2	18.1	17.6	16.2
9.6	5.0	15	55.3	58.9	57.0	22.8	21.1	21.1	19.2
8.6	6.7	1.1	57.2	55.2	52.8	23.6	22.2	21.2	20.2
30.2	15.9	04	20.8	15.9	24	85.9	81.0	79.0	73.7
7.55	3.97	0.10	55.20	53.97	50.60	21.47	20.25	19.75	18.42

m	R	m	R	m	R	m	R	m	R
16.4	17.3	16.6	16.3	15.5	16.2	15.4	14.4	14.0	14.8
15.2	15.8	14.7	15.0	14.6	14.0	14.9	13.0	13.8	13.0
19.8	19.0	19.1	17.5	18.6	17.6	18.9	16.2	16.8	17.1
19.1	19.8	19.9	19.9	17.9	19.2	18.1	17.8	16.6	17.6
30.5	31.9	30.3	28.7	26.6	27.0	29.3	21.4	21.2	22.5
17.62	17.97	16.06	17.17	16.65	16.75	17.32	15.35	15.30	15.62

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1879phae.proj.1424M

24

1879. March 19

Polaris $c = 46.763$

1 14

+88 40

	m	R	m	R	m	R	m
45 3	41.5	44.2	47.1	49.8	51.9	53.2	55.0
	42.4	44.0	47.9	49.3	52.4	53.2	56.2
	46.6	48.4	51.8	52.7	55.4	56.6	58.5
	46.6	50.2	53.4	56.8	57.1	59.8	09
	171	268	02	86	168	228	2306
	44.27	46.70	50.05	52.15	54.20	55.70	57.65

	R	m	R	m	R	m	R
45 4	25.6	24.7	25.7	26.2	27.0	27.6	28.2
	26.6	25.7	258	27.4	27.0	28.5	281
	27.9	27.8	28.7	29.6	29.2	30.1	29.9
	32.0	29.9	33.6	32.9	33.6	33.4	34.2
	321	281	338	361	368	1196	1204
	28.02	27.02	28.45	29.02	39.20	29.90	30.10

$A_{1_0}\ 1_1\ 1_2\ 2_0\ 2_1\ 2_2\ 3_0\ 3_1\ 3_2\ 4_0\ 4_1\ 4_2\ 5_0\ 5_1$ ---- 8_0

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1879phae.proj.1424M

1879. March 19
Polaris L.6
13 14
+91 20

	m	R	m	R	m	R	m	R	m	R
10 0	66	4.7	1.2	4 58.8	55.1	53.1	49.2			
	6.1	3.5	1.1	57.0	53.6	51.0	47.3			
	10.7	6.8	5.2	57.8	56.9	52.9	50.5			
	7.9	7.1	3.6	59.7	56.2	53.9	49.9			
	313	221	111	333	218	109	1969			
	7.82	5.52	2.77	58.32	55.45	52.72	49.22			

	R	m	R	m	R	m	R
5 4	20.7	19.6	19.2	18.7	16.6	16.6	15.2
	18.0	18.6	16.4	17.4	14.1	15.2	13.6
	21.3	22.4	19.3	21.4	16.8	18.6	16.0
	21.7	20.4	20.7	20.0	18.2	17.8	16.5
	817	810	756	775	257	282	213
	20.42	20.25	18.90	19.37	16.42	17.05	15.32

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1879phae.proj.1424M

26

1879, March 20

Polaris

1 14

+88 40

		m	m	m	m	m	m	R	m	
45	3	29.2	36.6	41.1	44.4	47.5	49.7	52.4	54.6	
		31.2	40.3	44.1	47.3	50.2	53.1	53.7	56.4	
		36.8	45.1	49.3	52.3	54.6	57.6	58.8	1.1	
		37.0	44.7	48.9	51.9	54.9	58.2	0.0	1.3	
		1342	67	234	1959	72	2186	2249	2334	
		33.55	41.67	45.85	48.97	51.80	54.65	56.22	58.35	

		R	m	R	m	R	m	R	m
45	4	17.9	19.7	20.4	21.9	23.1	23.6	24.4	24.7
		19.2	20.1	23.1	23.9	24.2	26.0	25.8	27.3
		23.7	26.9	26.3	27.7	27.7	29.2	29.0	31.2
		25.8	27.8	29.3	29.4	31.0	30.6	32.2	32.1
		866	975	191	229	1060	1094	1114	1153
		21.65	24.37	24.77	25.72	26.50	27.35	27.85	28.82

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1879phae.proj.1424M

1879 March 23
Polaris L.C. C = 46.761
+3 14
+91 20

		m	R	m	R	m	R	m
10	0	23	57.3	54 52.9	51.1	47.6	46.2	43.6
		26	57.1	53.3	49.8	49.9	45.7	44.1
		88	2.9	58.7	55.0	53.1	50.8	49.2
		46	4.0	58.9	56.8	53.1	52.4	48.7
	21	3	13	238	2127	2017	1951	256
		5.32	0.32	55.95	53.17	55.47 0.42	48.78	46.40

		m	R	m	R	m	R	m
5	4	15.9	14.9	13.6	12.4	11.7	11.3	11.4
		16.2	14.6	13.1	12.2	11.6	10.6	11.2
		21.6	19.3	19.4	17.2	16.3	15.2	16.3
		22.2	21.2	18.6	18.1	17.3	16.4	16.3
		761	700	247	199	169	135	152
		19.02	17.50	16.17	14.97	14.22	13.37	13.80

Lost last 3 wires

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1879phae.proj.1424M

28

1879 March 24

Polaris C = 46.755

1 14

+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	8.8	13.8	25.1	26.2	34.1	39.9	43.6	46.5	53.7	55.2
	10.4	15.6	26.7	28.1	35.4	41.7	44.0	47.7	55.2	56.6
	15.2	20.2	30.8	30.9	39.6	45.2	48.2	51.8	58.8	0.2
	16.2	22.9	32.9	34.7	41.9	47.8	50.2	54.9	1.4	3.0
	506	725	1155	1199	1510	1546	1860	09	2291	2350
	12.65	18.12	28.87	29.97	37.75	48.15 3.65	46.50	50.22 ?	57.27	58.75

Reg. 2

	m	R	m	R	m	R	m	R	m	R
45 4	18.6	21.2	22.1	23.2	24.4	25.0	26.1	26.9	26.7	27.8
	20.1	22.1	23.8	24.8	25.8	26.2	27.6	28.2	27.9	28.7
	28.8	26.0	27.4	27.9	29.6	29.9	31.2	31.8	30.8	32.0
	26.3	30.0	30.0	31.3	31.9	33.8	33.8	35.9	34.4	36.0
	888	993	1033	1072	1117	1149	1187	1228	1198	1245
	22.20	24.82	25.82	26.80	27.92	28.72	29.67	30.70	29.95	31.12

Trouvé vingt raies

$A_{+1}, 1, 2, 4, 5$

$A\ 1_0 - 1_2\ 2_0\ 2_1\ 2_2\ 3_0\ 3_1$ 1 – – – – – $5_1\ 5_2 - 6_1 - 7_0\ 7_1\ 7_2\ 8_0\ 8_1\ 8_2$

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1879phae.proj.1424M

1879 March 24 (25?)
Polaris C = 46.752
1 14
+88 40

	W	R	m	R	m	R	m	R	m	R
45 3	29.4	29.3	32.3	34.7	38.6	40.2	42.6	46.6	49.2	52.6
	27.3	32.2	34.7	36.9	39.4	42.8	44.1	48.2	50.6	53.2
	33.2	36.2	40.2	41.9	45.5	47.8	49.6	53.3	55.9	58.3
	34.1	40.1	40.4	44.7	47.1	49.9	51.4	57.0	58.1	1.9
	1240	1378	1476	1582	1706	207	1877	2051	2138	2260
	31.00	34.45	36.90	39.55	42.65	45.17	46.92	51.27	53.45	56.50

	W	R	m	R	m	R	m	R	m	R
45 4	16.9	17.9	18.6	20.3	21.6	22.6	22.4	22.9	24.1	24.8
	18.6	18.8	21.1	22.0	23.1	23.4	23.6	24.0	25.3	26.2
	28.8	23.9	25.4	26.0	27.6	28.2	29.1	28.8	29.5	30.2
	26.1	27.3	28.9	29.1	30.7	32.0	31.3	32.2	33.6	34.0
	856	879	920	174	1030	1062	1054	1079	1125	1152
	21.40	21.97	23.00	24.35	25.75	26.55	26.35	26.97	28.12	28.80

Lost

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1879phae.proj.1424M

30 1879 March 30

Polaris Lb. C = 46.758

13 14

+91 20

		M	R	M	R	M	R	M		M	R	m
6	4	56.6	53.3	47.9	47.7	43.2	41.5	38.7	5 4	9.4	8.4	7.3
		57.6	53.5	49.4	47.7	44.2	41.6	39.6		9.5	8.7	8.1
		5.1	59.9	56.4	54.1	51.1	48.6	47.9		17.1	15.7	15.6
		5.0	2.3	55.2	55.9	51.4	49.9	47.2		17.7	16.9	14.9
		43	2290	69	54	1899	216	1734		537	497	459
		1.07	57.25	51.72	51.35	47.47	45.40	43.35		13.42	12.42	11.47

		R	M	R	m	R	m	R	m	R	m
5	4	7.0	6.5	5.9	4.9	5.6	4.3	4.9	3.9	3.7	3.0
		6.6	6.4	5.8	5.6	5.0	4.2	4.1	3.9	3.0	3.6
		13.0	14.0	11.9	12.7	10.6	10.5	10.3	10.2	9.0	10.9
		14.1	14.2	14.2	12.6	13.0	11.3	12.3	11.4	11.0	10.9
		407	411	378	358	342	303	316	294	267	284
		10.17	10.27	9.45	8.95	8.55	7.57	7.90	7.35	6.67	7.10

Long stroke for 1st wire. Lost the last 3 wires

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1879phae.proj.1424M

1879. Apr. 1
Polaris. L.L. C = 46.743
13 14
+91 20

	R	m	R	m	R	m	R	m	R	m
5 4	57.2	54	52.4	49.2	45.4	44.1	41.6	39.3	36.7	36.2	33.1
	57.9		52.2	48.9	45.7	43.4	42.6	39.8	37.9	36.6	34.8
	4.0		58.4	53.9	51.7	48.7	47.9	45.0	43.1	39.9	39.8
	4.8		58.2	55.7	51.4	50.0	48.1	45.9	43.6	42.4	39.6
	39		212	77	1942	1862	202	1700	1613	1551	273
	0.97		55.30	51.92	48.55	46.55	45.05	42.50	40.32	38.77	36.82

	R	m	R	m	R	m	R	m	R	m
5 4	9.5	8.1	8.1	6.2	5.4	5.2	4.7	4.5	3.7	4.5
	8.8	8.5	7.4	6.5	5.3	5.2	4.1	4.9	4.1	4.5
	14.0	13.8	12.2	11.5	9.7	10.4	8.9	9.5	7.3	9.4
	16.2	13.7	14.2	12.4	12.1	11.2	10.8	9.8	9.6	9.8
	485	441	419	366	325	320	285	287	247	282
	12.12	11.02	10.47	9.15	8.12	8.00	7.12	7.17	6.17	7.05

Lost 1st 3 & last 3 wires

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1879phae.proj.1424M

1879. April 2

Polaris

1 14

+88 40

		m	m	m	m	m	m
45	4	24.3	26.1	25.6	24.5	23.2	22.2
		27.2	27.4	28.1	26.3	25.3	24.1
		31.7	32.7	32.3	31.3	29.6	29.2
		35.1	36.8	36.3	34.7	32.9	32.3
		11 83	1230	1223	1168	1110	1077
		29.57	30.75	30.57	29.20	27.75	26.92

A_{-1} 3, 1 stroke 4^s late. A_{-1} 5, 3 strokes

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1879phae.proj.1424M

1879. Apr. 3
Polaris
1 14
+88 40

	m	m	m	m
45 4	20.6	28.5	24.6	26.6
	23.3	26.1	26.1	27.6
	26.2	28.2	29.2	31.4
	29.4	32.4	33.8	35.4
	19.5	11 02	11 37	12 10
	24.87	~~25.05~~ 7.55	28.42	30.25

A 1 Obs very? on account of clouds.
-1

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1879phae.proj.1424M

1879 Apr. 6
Polaris
1 14
+88 40

		m	R	m	R	m	R	m	R	m	R
45	3	50.4	56.8	57.6	59.8	4'23.7	25.6	25.4	27.0	27.7	27.8
		51.6	57.6	58.9	1.1	25.3	26.2	27.1	28.2	28.5	29.2
		56.4	0.8	2.6	3.8	28.4	29.2	30.0	30.7	31.6	31.9
		58.5	5.7	5.6	8.9	33.2	33.6	34.2	36.0	36.1	35.4
		169	09	37	136	1106	1146	1167	1219	1239	1243
		54.22	0.22	0.92	3.40	27.65	28.65	29.17	30.47	30.97	31.07

		m	R	m	R	m	R	m	R	m	R
45	4	27.5	29.6	29.7	30.8	30.1	31.6	31.5	30.8	31.5	30.8
		28.4	30.5	30.4	31.4	31.5	32.3	32.1	31.8	33.2	32.9
		31.5	33.2	33.4	34.0	34.5	34.0	34.5	34.2	35.5	34.9
		356	38.8	37.5	39.3	38.9	39.2	39.4	40.0	40.1	40.6
		1230	1321	1310	155	150	171	175	1368	1403	1392
		30.75	33.02	32.75	33.87	33.75	34.27	34.37	34.20	35.07	34.80

seeing bad

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1879phae.proj.1424M

1879. Apr. 6
Polaris L.C.
13 14
+91 20

	m	R	m	R	m	R	m	R	m	R
10 0 5	9.9	54.1	49.1	46.5	19.1	17.2	5-4 58.4	54.9	6-12	48.2
	1.3	53.1	50.0	46.6	20.3	17.7	58.3	54.3	51.1	47.3
	5.8	58.3	55.2	51.3	25.4	23.1	2.1	57.8	55.4	51.4
	5.9	0.2	56.1	53.3	24.1	24.2	3.9	0.6	56.2	54.4
	25 29	22 57	21 04	19 77	8 89	8 22	27	22 76	139	20 13
	3.22	56.42	52.60	49.42	22.22	20.55	0.67	56.90	53.47	50.32

	m	R	m	R	m	R	m	R	m	R
5- 4	11.1	8.7	8.9	8.9	9.4	7.3	6.7	6.7	6.6	6.2
	11.6	9.2	9.1	9.1	9.8	6.9	6.7	6.7	6.1	5.7
	15.6	12.7	13.8	12.2	14.1	11.0	10.8	10.3	9.4	8.8
	19.1	15.8	15.0	15.1	14.9	12.9	12.9	12.4	11.2	11.9
	15 6	464	468	453	482	381	371	361	333	326
	13.90	11.60	11.70	11.32	12.05	9.52	9.27	9.02	8.32	8.15

Lost last 3 wires

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1879phae.proj.1424M

1879. Apr. 8

Polaris

1 14

+88 40

	m	R	m	R	m	R	m	R	m	R
45-3	43.8	46.2	49.6	4 22.0	25.5	26.7	26.4	27.8	27.4	29.2
	45.3	48.5	51.8	23.7	27.3	28.2	28.4	29.0	29.2	31.0
	50.2	53.5	57.2	28.0	32.4	32.9	32.5	33.1	33.8	35.2
	43.1	56.8	59.2	32.7	35.3	36.6	36.8	38.7	38.6	40.0
	1824	2050	2178	1064	1205	1244	1241	1286	1280	1354
	45.60	51.25	54.45	26.60	30.12	31.10	31.02	32.15	32.00	33.85

	m	R	m	R	m	R	m	R	m	R
45-4	30.1	30.8	31.1	31.2	31.4	32.2	31.9	31.9	30.9	30.1
	32.3	32.8	33.1	32.9	33.2	34.4	33.4	33.2	32.5	32.1
	36.3	36.2	37.1	37.0	37.4	38.0	37.8	37.2	36.5	36.6
	40.7	40.2	41.7	41.5	40.6	43.2	41.7	43.0	40.7	41.3
	1394	1400	1430	1426	1426	1478	1448	1453	1406	1401
	34.85	35.00	35.75	35.65	35.65	36.95	36.20	36.32	35.15	35.02

Lost 1st 5 wires

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1879phae.proj.1424M

1879 Apr. 8
Polaris L.C.
13 14
+91 20

		m	R	m	R	m	R	m	R	m	R
10	0	56.2	51.0	47.1	19.4	13.7	5' 4 56.1	51.3	47.9	46.9	42.7
		57.1	51.6	48.3	20.6	15.2	56.6	52.2	48.2	47.2	43.4
		4.0	58.2	55.9	27.6	22.4	2.0	57.8	54.6	53.7	49.5
		4.6	0.0	55.8	28.5	22.4	4.3	59.2	56.0	53.9	51.2
		19	2208	2071	961	737	2390	205	67	17	1868
		0.47	55.20	51.77	24.02	18.42	59.75	53.12	51.67	50.42	46.70

		m	R	m	R	m	R	m	R	m	R
5	4	9.3	7.9	7.1	5.9	6.5	5.8	5.4	4.6	4.3	4.5
		10.1	8.2	7.7	5.8	7.1	6.1	5.0	4.8	5.2	4.7
		16.6	14.0	14.0	11.9	12.9	11.4	11.9	10.1	10.6	10.2
		17.1	16.0	15.1	13.5	14.6	13.4	13.1	12.1	11.5	12.2
		531	461	439	371	411	367	354	316	316	316
		13.27	11.52	10.97	9.27	10.27	9.17	8.85	7.90	7.90	7.90

Lost last 3 wires

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1879phae.proj.1424M

38

1879 Apr. 9

Polaris

14

+88 40

	m	R	m	R	m	R	m	R	m	R	m
45 3	26.1	32.2	35.0	37.6	43.9	45.4	48.6	51.3			
	28.6	34.3	38.3	39.7	46.0	47.6	50.3	53.1			
	33.4	39.2	43.1	45.2	52.3	53.0	55.6	58.5			
	36.2	42.6	46.1	48.2	53.6	56.6	58.5	29			
	12 43	1483	1625	1707	1958	26	2130	2258			
	31.07	37.07	40.62	42.67	48.95	50.65	53.25	56.45			

	m	R	m	R	m	R	m	R	m	R
46 47	24.8	26.6	28.0	28.8	29.4	29.5	30.1	30.2	29.9	30.1
	26.5	28.2	29.8	30.0	31.2	30.6	31.9	32.2	32.5	31.7
	31.6	33.4	35.7	36.0	36.3	35.9	36.8	37.3	37.2	36.4
	34.9	37.8	38.9	40.0	39.9	41.2	40.6	41.9	40.6	41.3
	1178	1260	1324	1348	1368	1372	1394	1416	1402	1395
	29.45	31.50	33.10	33.70	34.20	34.30	34.85	35.40	35.05	34.87

Rej 1st ✓ 5_2 6_0 A_{-1} 1, 2, 3, 4, 5,

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1879phae.proj.1424M

1879. ~~Apr.~~ 13
Polaris. L.b. C=46797
13 14
+91 20

	m	R	m	R	m	R	m	R	m	R
10	0 54.5	50.9	45.5	42.0	54 51.5	48.0	45.3	43.3	39.7	38.1
	55.9	53.2	47.9	42.6	53.1	49.2	47.0	44.0	40.5	38.9
	57.7	1.9	57.5	53.7	1.6	57.2	55.3	52.3	49.3	47.8
	3.7	1.3	54.2	52.3	0.7	57.1	54.8	52.3	48.1	46.9
	23 98	2273	54	1906	2269	2115	24	1919	779	1717
	59.95	56.82	51.35	47.65	56.72	52.87	50.60	47.97	44.47	42.92

	m	R	m	R	m	R	m	R	m	R
5	4 6.0	5.7	4.7	4.7	4.1	2.8	2.8	2.8	1.8	1.9
	5.8	6.3	5.8	4.8	4.5	3.2	3.8	2.9	2.4	2.7
	16.0	14.3	14.8	12.8	13.4	11.0	12.8	11.2	11.0	10.0
	14.6	14.3	12.9	13.3	12.1	11.8	10.9	11.0	9.9	10.9
	449	406	382	356	341	288	303	279	251	255
	11.22	10.15	9.55	8.90	6.52	7.20	7.57	6.97	6.27	6.37

Lost last 3 wires

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1879phae.proj.1424M

40

1879. Apr. 13.9

Polaris C = 46.758

1 14

+8 40

		R	m	R	m	R	m	R	m	
45	3	13.4	16.3	20.6	23.4	28.2	31.8	34.4	43.5	57.5	4	5.2
		16.4	18.9	23.1	26.1	30.3	34.2	36.8	44.7	59.9		6.9
		23.8	26.1	31.2	32.9	38.7	41.3	45.6	53.3	7.2		14.2
		25.2	28.9	32.2	35.1	38.8	43.9	46.2	55.2	7.9		15.8
		78.8	90.2	107.1	117.5	136.0	151.2	163.0	196.7	25 25		4 21
		19.70	22.55	26.77	29.37	34.00	37.80	40.75	49.17	3.12		10.52

		m	m	m	m	m	m	m	m	m	m	
45	4	6.2	6.4	12.6	14.1	17.6	24.7	25.1	30.7	30.1	29.5	
		8.9	8.7	13.6	16.4	19.4	26.9	27.1	33.5	32.4	31.6	
		16.3	16.4	22.4	23.7	27.4	34.1	33.8	41.9	40.2	39.9	
		17.6	17.1	23.8	25.9	28.4	35.6	36.7	42.6	41.4	42.4	
		49.0	48.6	72.4	80.1	92.8	121.3	122.7	148.7	144.1	143.7	
		12.25	12.15	18.10	20.02	23.20	30.32	30.67	37.17	36.02	35.92	

This δ between series 4 + 5.

A_{-1} 1 – 3 A – 2, 3, 4, 5 – (7?) A_{-1} 1

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1879phae.proj.1424M

1879 Apr. 14
Polaris L.C. c = 46.758

		13		14							
		+81		20							
		m	R	m	R	m	R	m	R	m	R
10	0	54.0	50.7	46.3	43.0	38.4	16.6	11.2	54.1	48.2	46.6
		55.5	51.8	47.8	44.2	39.8	17.4	12.3	54.9	49.3	46.8
		5.7	1.3	58.8	54.3	50.9	28.2	23.0	3.8	59.1	53.9
		3.6	1.3	55.3	53.3	47.6	27.2	20.3	4.6	58.5	56.0
		2388	2251	82	1948	1767	894	668	2374	2151	2053
		59.70	56.27	52.05	48.70	44.17	22.35	16.70	59.35	53.77	51.32

		m	R	m	R	m	R	m	R	m	R
5	4	43.4	40.6	38.6	35.7	6.4	4.8	3.6	3.8	2.9	3.9
		45.0	41.4	40.1	36.6	8.3	5.1	4.6	4.8	4.5	5.0
		54.9	51.0	49.4	46.4	18.5	14.8	14.2	13.9	13.8	14.2
		53.8	51.2	48.1	45.4	18.5	15.1	12.7	13.8	12.4	13.9
		1971	1842	1762	41	517	398	351	363	336	370
		49.27	46.05	44.05	41.02	12.92	9.95	8.77	9.07	8.40	9.25

Lost last 3 wires

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1879phae.proj.1424M

42

1879 Apr. 15

Polaris C = 46.743

1 14

+88 40

	M	R	M	R	M	R	M	R	M	R
45 3	13.0	17.4	21.4	24.6	27.2	29.8	33.1	36.1	41.8	47.8
	15.2	19.8	23.6	26.6	30.1	31.3	35.6	38.2	43.4	48.8
	23.6	27.1	31.6	34.3	37.4	39.8	43.7	46.1	52.1	57.0
	24.1	29.6	33.2	37.2	39.2	41.9	44.4	48.0	52.9	58.1
	8 59	9 39	10 98	12 27	13 39	14 28	15 68	16 84	19 02	21 37
	21.47	23.47	27.45	30.67	33.72	35.70	39.70	42.10	47.55	53.42
	18.99				.47		.20			

	M	M	M	M	M	M	M	M	M	M
45 3	58.5	4 24.3	24.6	25.9	27.2	28.4	28.1	29.7	31.4	31.4
	0.4	26.2	26.9	28.3	29.5	30.4	30.1	32.9	33.8	33.4
	8.3	33.8	34.1	35.6	36.8	37.5	37.5	40.1	40.8	41.2
	9.9	34.9	35.2	37.7	38.1	39.6	39.5	41.8	43.0	43.2
	171	11 92	12 08	12 75	13 16	13 59	13 52	14 45	14 90	14 92
	4.27	29.80	30.20	31.87	32.90	33.97	33.80	36.12	37.25	37.30

Lost A, 1 one stroke 4^s late

Lost 4, $-\frac{1}{2}$ $\frac{4}{2}$

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1879phae.proj.1424M

1879 Apr. 19
Polaris L.C. C = 46.747
13 14
+91 20

	m	R	m	R	m	R	m	R	m	R
10 0	51.1	48.6	43.1	16.6	5 4 55.3	49.9	46.3	43.3	42.2	39.0
	57.6	49.4	43.3	17.5	55.5	50.2	46.4	43.8	42.1	39.1
	58.5	55.7	50.5	23.6	0.9	55.4	53.0	48.7	47.8	44.8
	57.9	56.6	50.2	24.3	1.1	57.1	53.1	50.2	47.4	46.0
	19.1	21.03	18.71	8.20	23.28	21.26	19.88	18.60	19.5	8.9
	54.78	52.57	46.78	20.50	58.20	53.15	49.70	46.50	44.88	42.22

	m	R	m	R	m	R	m	R	m	R
5 4	6.8	6.3	4.9	3.9	3.5	3.2	2.7	1.8	2.3	1.7
	7.8	6.2	5.0	4.2	3.7	4.0	3.2	1.7	2.2	1.9
	18.2	11.3	10.4	8.6	9.1	7.7	8.4	6.1	7.4	6.4
	13.2	13.3	11.8	11.8	10.2	10.2	9.7	8.4	8.9	8.8
	4.10	3.71	3.21	2.85	2.65	2.51	2.40	1.80	2.08	1.88
	10.25	9.28	8.02	7.12	6.62	6.27	6.00	4.50	5.20	4.70

Rejected

Lost last 3 wires Rej 6th ||

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1879phae.proj.1424M

Aph. 19 1879 @ = 46°74'

Polaris
1h 14m
88° 40'

	m	R	m	R	m	R	m	R	m	R
A5 3	18.0	22.8	25.7	29.8	34.6	36.3	39.9	42.1	47.5	51.0
	19.9	25.2	28.3	31.8	37.2	38.2	42.6	44.0	48.7	52.8
	25.8	29.6	33.7	36.7	42.9	44.2	48.9	49.9	54.2	57.3
	27.2	33.5	35.6	39.7	44.9	46.7	50.2	53.1	56.6	0.7
	909	1111	1233	1380	1596	1654	1816	1891	2070	2218
	2272	27.78	30.82	34.50	39.90	41.35	45.40	47.28	51.75	55.45

	m	R	m	R	m	R	m	R	m	R
45 4	0.9	27.3	28.7	29.2	30.4	33.2	33.6	33.3	33.9	33.9
	2.4	28.6	30.6	30.8	32.5	34.9	34.7	34.6	35.9	35.9
	6.6	33.1	35.3	35.6	37.2	39.4	39.5	39.0	40.2	40.3
	10.1	36.0	37.9	38.8	40.7	43.2	43.2	42.8	44.0	44.0
	200	1250	1325	1344	1408	1507	1510	1497	1540	1541
	5.00	31.25	33.12	33.60	35.20	37.67	37.75	37.42	38.50	38.52

5

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+1 −1

Long strokes for A, 2

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1879phae.proj.1424M

1879 Apr. 20
Polaris L. C. C = 46747
.13 14
+91 20

	M	R	m	R	m	R	m	R	m	R
10 0	5 2.0	48.4	42.5	37.1	5 4 51.4	46.8	43.8	40.9	37.1	34.8
	52.7	49.9	44.1	38.8	52.5	47.1	44.4	42.2	37.8	36.3
	2.7	58.8	54.4	48.2	0.1	55.2	52.9	50.2	47.6	43.9
	1.2	58.5	52.3	47.7	1.2	55.9	52.9	50.4	46.2	44.8
	22 86	21 56	19 33	17 18	22 52	50	19 40	18 37	87	15 98
	57.15	53.90	48.32	42.95	56.30	51.~~50~~ .25	48.50	45.92	42.17	39.95

	m	R	m	R	m	R	m	R	m	R
5 4	4.1	3.8	2.4	2.4	1.2	0.3	0.5	3 59.7	0.0	58.9
	5.7	4.7	3.3	3.0	2.3	1.9	1.2	0.3	1.0	0.2
	14.6	12.9	12.5	11.1	11.2	9.2	9.6	8.4	8.8	7.7
	14.5	13.1	11.8	12.2	10.6	9.9	9.8	9.2	8.7	8.3
	39.1	34.5	30.0	28.7	25.3	21.3	21.1	17.6	18.5	15.7
	9.78	8.62	7.50	7.17	6.32	5.32	5.27	4.40	4.62	3.78

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1879phae.proj.1424M

46

1879 Apr. 20

Polaris C=46.747

/ 14

+ +88 40

	m	R	m	R	m	R	m	R	m	R
45 3	16.9	21.7	25.9	27.9	31.8	34.0	37.0	41.0	43.5	46.4
	21.1	24.3	28.8	31.3	35.7	36.9	40.6	43.9	45.9	48.2
	30.5	33.0	36.8	39.3	44.3	46.2	49.0	52.2	54.7	56.4
	28.9	34.8	38.1	41.1	43.7	47.2	49.9	54.2	55.7	58.6
	974	1138	1296	1396	1555	1643	1770	1913	1998	96
	24.35	28.45	32.40	34.90	38.87	41.07	44.25	47.82	49.95	52.40

	m	R	m	R	m	R	m	R	m	R
45 4	24.6	26.9	27.3	28.7	29.5	30.3	30.6	32.1	32.5	33.3
	27.1	29.7	30.1	31.6	31.8	31.9	33.7	34.8	35.0	35.2
	34.7	36.3	38.9	38.6	40.4	40.3	41.8	42.2	42.6	43.0
	35.9	39.8	39.9	40.7	41.8	42.6	43.1	44.3	43.7	44.7
	1223	1327	1356	1396	1435	1451	1492	1534	1538	1562
	30.57	33.17	33.90	34.90	35.87	36.27	37.30	38.35	38.45	39.05

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1879phae.proj.1424M

22?

1879. Apr. 21
Polaris c = 46747
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+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	22.?	24.8	27.8	31.8	35.0	38.1	40.5	44.6	48.2	51.6
	24.6	27.1	30.8	33.8	37.5	39.8	43.5	45.9	50.4	53.3
	35.2	36.9	40.7	43.1	47.5	49.7	52.3	56.0	0.1	2.7
	34.9	39.0	40.8	44.3	47.2	51.3	52.8	58.0	1.2	4.8
	11 69	78	14 01	1530	16 72	1789	18 71	45	21 97	2324
	29.22	31.95	35.02	38.25	41.80	44.72	46.77	51.12	54.92	58.10

	R	m	R	m	R	m	R	m	R	m
45 3	55.9	4 1.0	27.6	28.3	29.9	30.4	32.3	31.6	33.5	33.4
	57.8	2.5	29.7	30.8	32.3	32.3	34.3	33.5	34.4	35.1
	6.4	11.8	37.9	40.6	40.3	42.3	43.2	43.4	44.8	45.3
	8.8	13.2	40.8	41.7	43.2	43.3	45.0	44.5	45.6	45.6
	89	285	1360	1414	1457	1483	1548	1530	1578	1594
	2.22	7.12	34.00	35.35	36.42	37.07	38.70	38.25	39.45	39.85

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1879phae.proj.1424M

1879 Apr. 22

Polaris L.C. C = 46.747

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+91 20

	m	R	m	R	m	R	m	R	m	R
10	0 51.2	47.3	42.7	38.9	33.6	29.9	25.5	21.2	17.1	14.3
	52.6	48.7	43.6	40.0	35.2	31.8	26.1	22.3	18.3	15.2
	53.6	1.5	57.1	53.4	48.7	44.8	40.2	34.7	31.4	28.0
	1.9	59.3	53.4	50.6	44.4	41.3	34.5	33.2	27.1	25.6
	23 13	2168	1963	1829	19	1478	1263	1114	939	831
	57.82	54.20	49.07	45.72	40.47	36.95	31.57	27.85	23.47	20.77

	m	R	m	R	m	R	m	R	m	R
5	4 51.4	48.2	43.8	41.6	36.7	35.7	33.1	4.2	3.4	2.7
	52.1	48.6	44.0	41.9	36.7	36.2	33.2	3.8	3.7	2.3
	3.9	59.8	56.4	54.4	50.2	48.8	46.5	17.2	16.9	14.5
	1.9	59.0	53.1	52.2	46.9	46.4	43.1	15.8	15.0	13.0
	2293	2158	1973	1901	1705	71	1559	410	390	325
	57.32	53.95	49.32	47.52	42.62	41.77	38.97	10.25	9.75	8.12

Lost last 3 wires

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1879phae.proj.1424M

1879, Apr. 23
Polaris. L.C. = 46747
13 14
+91 20

		m	R	m	R	m	R	m	R	m	R
10	0	46.5	43.8	38.5	34.8	30.8	27.0	22.6	18.7	14.4	10.2
		47.3	44.3	39.6	36.3	31.2	28.8	24.3	19.9	15.6	11.8
		0.3	56.1	52.1	48.4	44.7	40.8	37.0	31.8	27.9	23.8
		54.9	53.3	48.2	44.1	39.4	37.3	31.9	29.0	23.8	20.8
		20 90	1975	1784	1636	1456	1339	1158	994	817	666
		52.25	49.37	44.60	40.90	36.40	33.47	28.95	24.85	20.42	16.65

		m	R	m	R	m	R	m	R	m	R
5	4	52.1	48.0	46.2	43.0	40.3	37.7	34.9	5.1	4.7	3.3
		52.4	48.0	40.7	43.6	41.2	38.2	36.0	5.6	4.7	4.1
		3.4	59.8	57.7	54.9	52.9	49.7	47.8	16.6	16.3	15.5
		1.3	57.5	54.4	52.8	49.5	47.3	43.9	15.1	13.7	12.9
		2292	2133	40	1943	1839	1729	1626	424	394	358
		57.30	53.32	51.00	48.57	45.97	43.22	40.65	10.60	9.85	8.95

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1879phae.proj.1424M

50

1879. Apr. 23

Polaris

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+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	1 8 2	20.4	23.3	27.8	30.8	33.2	38.6	42.3	44.8	47.0
	21.8	23.1	26.9	30.8	34.1	36.8	41.4	44.8	47.5	49.2
	29.7	30.9	35.0	39.8	43.3	45.7	50.3	53.7	56.5	57.8
	29.4	32.0	35.4	40.2	42.8	45.5	49.9	54.6	56.4	58.5
	99 1	1064	1206	1386	1510	1612	1802	1954	52	21 25
	24.78	26.60	30.15	34.65	37.75	40.30	45.05	48.85	51.30	53.12

	m	R	m	R	m	R	m	R	m	R
46 3	58.1	59.8	4 4.4	28.6	31.1	31.9	33.6	36.2	34.7	36.2
	0.9	3.1	7.4	30.7	33.6	34.6	36.1	38.1	36.4	38.2
	8.8	11.9	16.4	38.8	42.1	43.1	45.0	47.1	45.6	47.1
	9.8	12.2	15.9	39.8	42.2	43.3	45.0	47.7	44.5	47.8
	25 76	27 70	441	1379	1490	1529	1597	1691	1612	1693
	4.40	~~9.25~~ 6.75	11.02	34.47	37.25	38.22	39.92	42.27	40.30	42.32

Seeing bad. Trouble with clouds

A 1 1 1 2 2 2 3 3 3 4 4 4 5 5 5 6 6 6 7 7 7 8 8 8 9
0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0

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1879phae.proj.1424M

Au 1879. Apr. 26
Polaris
1 14
+88 40

		R	R	R	R	R	R	R	R	R	R
45	3	34.8	39.8	45.0	48.6	53.6	55.4	2.3	5.2	4 29.2	31.3
		37.1	41.0	46.8	50.2	55.3	57.9	4.1	8.0	31.3	33.0
		46.2	49.8	55.7	59.2	3.7	5.6	12.9	16.3	40.2	42.1
		49.4	51.1	57.2	1.0	5.5	8.1	14.0	17.8	41.2	43.2
		16 55	18 16	20 14 7	21 90	23 81	70	333	5 41 73	14 19	14 96
		41.37	45.40	51.72 .17	54.75	59.52	1.75	8.32	9.32 11.82	35.47	37.40

		R	R	R	R	R	R	R	R	R	R
45	4	33.6	34.7	36.1	36.2	36.4	35.8	85.7	35.1	33.4	
		35.9	36.6	38.2	38.0	38.7	37.7	87.4	87.7	36.0	
		44.3	45.8	47.0	46.9	47.2	46.3	46.3	46.3	44.7	
		45.2	46.7	48.5	48.4	48.2	48.0	48.1	48.1	45.7	
		15 90	16 38	16 98	16 95	17 05	16 78	16 75	16 72	15 98	
		39.75	40.95	42.45	42.37	42.62	41.95	41.87	41.80	39.95	

Seeing very bad indeed

Lost A 4, 4₂ 5₀ 5₁ 8₀ 8₁

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1879phae.proj.1424M

52

1879 Apr 30

Polaris

14

+88 40

	m	R	m	R	m	R	m	R	m	R
45 3	15.8	19.8	25.6	27.8	31.3	36.1	39.9	41.5	52.3	4 26.2
	17.8	21.7	27.9	28.8	33.8	38.2	41.4	43.7	53.4	27.9
	32.0	30.6	42.3	43.9	47.8	51.7	55.1	56.8	7.2	41.7
	31.2	36.7	40.7	44.3	46.9	52.8	53.2	57.5	7.3	42.7
	98.1	108.8	136.5	144.8	159.8	178.8	191.6	199.5	02	138.5
	~~24.52~~ 24.27	27.20	34.12	36.20	39.95	44.70	47.90	49.87	0.05	34.62

	m	R	m	R	m	R	m	R	m	R	M
45 4	27.6	29.5	29.8	32.1	32.8	34.5	32.9	33.7	34.2	32.6	
	30.1	31.4	32.1	33.6	34.3	35.4	35.0	35.4	35.8	34.3	
	44.4	45.6	46.1	47.9	48.2	49.2	48.9	50.1	49.9	48.7	
	43.2	45.2	46.6	46.8	48.8	48.7	49.6	48.5	50.7	47.7	
	145.3	151.7	154.6	160.4	164.1	167.8	166.4	167.7	170.6	163.3	
	36.32	37.92	38.65	40.10	41.02	41.95	41.60	41.92	42.65	40.82	

A +1 1, 2, 3 ~~A 2 2 2 3 3 3 4 4 4 5 5 5 6 6 6 7 7 7~~ ~~0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2~~

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1879phae.proj.1424M

1879 May 1
Polaris L.C.
13 14
+91 20

		m	R	m	R	m	R	m	R	m	R	m	R
10	0	13.8	10.2	5'4 45'1	44.3	40.6	38.9	35.9	32.9	29.6	3	59.3
		15.4	11.6	48.4	45.1	41.8	40.0	37.9	34.6	31.7		0.1
		29.5	26.2	14	58.7	55.4	53.4	51.4	48.0	45.7		14.0
		24.4	23.8	58.5	57.0	57.6	50.9	47.7	45.2	41.7		12.0
		83.1	7 18	21 54	20 51	18 94	18 32	17 29	16 07	14 87		26 54
		20.77	17.95	53.85	51.27	47.35	45.80	43.22	40.17	37.17		6.35

		m	R	m	R	m	R	m	R	m	R
5	3	58.9	56.9	57.4	57.3	56.6	55.8	56.5	55.7	56.1	55.8
		0.4	57.6	58.4	57.7	57.2	57.0	57.7	56.5	57.2	57.0
		14.2	10.7	11.3	10.9	10.6	9.1	10.4	8.9	10.4	8.8
		10.6	9.2	8.9	13.1	8.1	8.4	7.4	7.9	7.1	7.9
		26 41	25 44	25 60	25 90	25 25	25 03	25 24	24 90	25 08	95
		6.02	3.60	4.00	4.75	3.12	2.57	3.10	2.25	2.70	2.37

Lost last 3 wires

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1879phae.proj.1424M

54

1879 May 1

Polaris

1 14

+88 40

m	m	m	m	m	m	m	m	m	m
45 3	56 4	4 0.2	43	10.6	14.1	26.4	37.5	35.6	38.9	37.8
	58.1	28	6.9	11.9	15.4	28.6	40.4	39.2	40.7	40.2
	9.6	14.4	18.2	23.1	27.3	39.6	50.9	52.1	51.9	51.5
	10.7	14.9	18.9	25 3	28.6	40.4	51.6	50.5	53.0	52.3
	2 5 48	32 3	48 3	70 9	85 4	13 50	18 04	17 54	18 45	18 18
	~~1.20~~ 3.70	8.07	12.07	17.72	21.35	33.75	45.10	43.85	46.12	45.45

m	m	m	m
41 4	36.6	34.8	34.1	32.7
	39.6	36.7	36.6	35.2
	50.8	48.5	48.4	46.6
	50.9	48.7	48.6	49.2
	17 79	16 87	16 77	16 17
	44.47	42.17	41.92	40.42

Seeing extremely bad

A 5 A 1, 2, 7

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1879phae.proj.1424M

1879. May 5
Polaris L.C.
13 14
+91 20

	m	R	m	R	m	R	m		m	R	m
10 0	44.9	39.5	35.3	31.5	26.5	17.8	2.8	5 4	46.2	40.9	37.2
	45.2	40.0	35.4	32.0	26.8	8.3	3.5		45.6	40.2	37.1
	4.1	57.3	53.7	49.9	45.6	26.2	21.6		2.8	58.2	54.2
	0.2	54.8	49.3	47.2	40.5	23.6	17.6		0.8	55.4	51.1
	2144	1916	1737	1606	1394	659	455		2154	1947	1796
	53.60	47.90	43.42	40.15	34.85	16.47	11.37		53.85	48.67	44.90

	R	m	R	m	R	m	R	m	R	m
5 4	34.2	31.8	29.7	27.2	58.9	56.3	56.4	55.6	54.9	54.0
	34.2	31.6	30.3	27.1	57.8	55.8	56.1	55.1	53.4	53.2
	50.7	48.7	46.0	44.3	15.1	12.9	12.8	12.1	10.2	9.5
	49.7	45.4	44.9	40.7	13.8	10.3	10.9	9.6	8.3	7.2
	1688	1575	1509	1393	2656	2553	2563	2524	2468	2439
	42.20	39.37	37.72	34.82	6.40	3.82	4.07	3.10	1.70	0.97

Lost last 3 wires.
Perhaps omitted stroke for this 8, near 1st wire

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1879phae.proj.1424M

56

1879 May 6

Polaris L.C.

3 14

+91 20

m	R	m	R	m	R	m	R	m	R
10 0 44.8	40.8	34.7	31.3	10.8	7.9	3.7	0.7	5 44.4	42.6
46.3	42.0	36.5	32.8	12.4	8.2	5.0	1.2	47.9	42.6
3.9	59.9	54.8	51.2	30.2	26.8	23.3	20.0	5.2	58.9
59.8	56.6	49.6	47.2	25.6	23.2	19.7	16.1	1.6	46.8
21.8	19.3	17.6	16.5	7.9	6.1	5.2	3.8	22.1	19.9
53.45	49.82	43.90	40.62	19.75	16.52	12.80	9.50	55.52	47.72
.70									

m	R	m	R	m	R	m	R	m	R
5 4 38.0	36.9	33.6	29.8	28.1	3 59.0	57.7	57.8	57.0	55.2
38.5	37.2	33.8	30.4	28.9	59.8	59.1	58.2	57.9	55.1
55.9	54.0	51.1	47.2	46.3	17.2	15.1	15.1	14.8	11.7
52.2	51.4	46.8	45.0	42.5	14.6	11.3	12.2	11.1	9.9
18.46	17.95	16.53	15.24	14.58	27.06	26.32	26.33	26.08	25.19
46.15	44.87	41.32	38.10	36.45	7.65	5.80	5.82	5.20	2.97

Lost last 3 wires

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1879phae.proj.1424M

1879 May 6
Polaris
1 14
+88 40

		m	R	m	R	m	R	m	R	m	m
45	3	17.9	22.9	27.8	29.6	84.2	36.3	39.2	42.7	46.6	50.7
		20.6	26.2	30.6	32.9	87.3	38.4	42.3	44.9	49.6	53.4
		35.0	39.0	44.6	46.9	52.9	52.7	56.4	58.7	2.7	7.1
		34.6	41.1	44.4	47.0	51.2	53.9	56.2	59.8	2.9	7.3
		10 81	12 92	14 74	15 64	17 36	18 13	19 41	20 61	22 18	23 85
		27.02	32.30	36.85	39.10	43.40	45.32	48.52	51.52	55.45	59.62

		m	m	m	R	m	R	m	m	m	m
45	3	53.4	58.1	4 3.2	75.6	6.8	30.6	31.7	34.7	34.6	35.6
		58.2	0.8	6.7	8.7	10.7	33.3	35.2	37.4	38.1	39.1
		10.7	15.2	20.5	22.0	24.1	46.6	47.7	51.3	51.4	52.8
		11.8	14.5	20.6	22.3	24.1	47.7	48.9	51.6	52.1	53.1
		25 41	26 86	5 10	5 86	6 57	18 82	16 45	17 50	17 62	16 06
		3.52	7.15	12.75	14.65	16.42	39.55	41.12	43.75	44.05	45.15

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1879phae.proj.1424M

58

1879 May 7

Polaris 2.6 C = 46.760

23 14

+91 20

		m	R	m	R	m	R	m	m	R	m
10	0	44.3	40.2	36.5	32.2	11.6	9.2	52	5 4 48.8	43.2	38.1
		46.2	42.1	38.1	33.9	13.9	10.4	7.1	50.4	44.3	39.6
		1.9	57.9	54.5	50.2	29.6	26.5	23.4	5.5	59.5	55.2
		58.4	55.2	50.1	47.5	25.7	24.1	18.6	3.0	56.3	52.1
		2108	1954	1792	1638	808	702	543	2277	2033	1850
		52.70	48.85	44.80	40.95	20.20	17.55	13.57	56.92	50.82	46.25

		m	R	m	R	m	R	m	R	m	R
5	4	33.4	31.2	0.1	3 59.8	59.1	58.6	57.5	56.9	56.9	55.6
		35.0	32.8	1.9	1.2	0.1	59.4	58.2	57.2	58.2	57.0
		50.6	47.1	17.2	15.8	15.2	14.5	14.4	12.6	(13.6)	10.9
		47.1	45.2	13.9	13.8	11.7	12.2	11.2	10.9	10.4	10.0
		1661	1563	331	2706	2661	2647	2623	2576	2591	2535
		41.52	39.07	8.27	7.65	6.52	6.17	5.57	4.40	4.77	3.37

Lost last 3 wires

A_{-1} 4, 3, 2, 1 A 9, 8_2, 8_1, 8_0, 7_2, 7_1, 7_0, 6_2, 6_1, 6_0, 5_2, 5_1, 5_0, 4_2, 4_1, 4_0, 3_2, 3_1, 3_0, 2_2, 2_1, 2_0

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1879phae.proj.1424M

1879 May 7
Polaris C=46.760
1 14
+88 40

	m	R	m	R	m	R	m	R	m	R
45	25.8	28.9	33.2	35.1	39.0	46.5	52.3	57.2	4 0.4	2.5
	28.9	31.0	35.4	38.0	40.6	48.4	54.1	59.2	2.2	4.3
	44.2	45.7	49.5	52.1	55.1	2.2	8.1	12.3	16.4	18.3
	42.1	45.7	49.5	51.9	54.9	4.4	9.2	14.8	16.3	19.2
	14 10	15 13	16 76	17 71	18 96	22 15	24 37	26 35	35 3	44 3
	35.25	37.82	41.90	44.27	47.40	55.37	0.92	5.87	8.82	11.07

	m	R	m	m	R	m	R	m
45 4	5.9	8.2	34.6	40.2	39.7	41.1	40.7	
	8.2	10.3	36.1	42.1	41.8	42.4	41.8	
	22.2	24.2	50.5	56.8	54.7	56.9	55.9	
	22.4	26.0	51.8	57.5	56.3	57.9	56.0	
	5 87	6 87	17 30	19 66	19 25	19 83	19 64	
	14.67	17.17	43.25	49.15	48.12	49.57	49.10	

Lost A 4° ~~4~~ to A 8° 9°

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1879phae.proj.1424M

1879 May 8

Polaris L.B. C=46.727

13 14

+91 20

	m	R	m	R	m	R		m	R	m	R
10 0	47.8	44.9	37.6	17.9	10.9	7.8	5 4	49.6	43.2	40.2	39.2
	49.1	45.6	39.1	19.8	12.9	8.9		50.7	44.1	41.2	39.9
	5.4	1.1	55.6	35.1	29.1	25.1		6.1	58.2	56.1	52.8
	2.3	0.1	51.9	33.9	25.9	23.4		3.8	57.9	53.9	53.7
	2246	2117	1842	1067	788	652		2302	2034	1914	1876
	56.15	52.92	46.05	26.67	19.70	16.30		57.55	50.85	47.85	46.90

	m	R	m	m	m	m	m	m	m	m
5 4	35.7	33.8	29.6	4.2	2.9	2.1	1.4	0.5	0.1	58.1
	36.4	34.3	31.1	4.9	3.5	2.9	1.9	2.2	0.1	0.4
	52.2	49.4	47.5	20.4	19.4	18.0	16.8	17.2	16.5	15.1
	49.6	47.8	45.0	18.6	17.4	15.9	15.5	15.1	14.2	13.6
	1739	1653	1532	481	432	389	356	350	312	2672
	43.47	41.32	38.30	12.02	10.80	9.72	8.90	8.75	7.80	6.80

A9 to A4 inclusive A_{+1}^{5} 4 3 (2?) 1

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1879phae.proj.1424M

May 8 1879

Polaris

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		M	R	M	R	M	R	M	R	M	R
45	3	20.7	25.8	29.0	31.8	35.8	37.8	40.9	44.4	48.1	50.9
		24.0	29.0	31.4	35.4	38.1	40.8	43.2	46.2	49.4	52.2
		36.6	41.2	45.3	48.2	57.8	53.2	56.8	59.2	2.7	~~3.8~~
		37.7	43.4	45.7	49.7	52.5	54.9	57.5	1.3	5.5	8.0
		11.90	13.94	15.14	16.51	17.82	18.67	19.84	21.11	22.87	23.69
		29.75	34.85	37.85	41.27	44.55	46.68	49.60	52.77	56.07	59.22

.5 .42

		M	R	M	R	M	R	M	R	M	R
45	3	52.9	56.4	58.4	4 1.8	3.4	5.7	8.6	32.2	34.3	33.3
		55.7	59.2	1.3	3.8	4.8	8.1	10.7	34.0	36.4	35.9
		8.4	1.4	15.5	17.2	18.2	21.1	24.1	47.8	50.3	48.2
		9.8	14.2	16.0	18.9	19.1	22.9	24.9	49.2	50.9	50.8
		24.68	25.12	27.15	41.7	45.5	57.8	68.3	16.32	17.19	16.82
		1.70	2.80	3.87	10.42	11.37	14.45	17.07	40.80	42.97	42.05

Reduced

Rej. 8 after A=1

A1 to A5 lacking 4, A-1 1, 2, 3, 4, 5

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1879phae.proj.1424M

62

1879. May 10

Polaris Lib.

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	m	R	m	R	m	R	m	R	m	m
10 0	47.8	44.8	12.9	9.7	1.0	1.0	5 4	57.4	51.8	47.4	42.8
	49.2	46.1	13.8	11.2	1.9	2.3		59.1	53.2	47.5	43.3
	6.0	2.0	30.9	27.7	23.9	18.8		15.0	9.4	3.2	59.0
	2.4	0.0	28.3	25.9	19.6	16.8		12.2	5.9	1.0	56.8
	22 54	21 29	8 59	7 45	3 54	3 89		26 47	03	21 91	20 19
	56.35	53.22	21.47	18.62	13.85	9.72		6.17	0.07	54.77	50.47

	m	m	m	m	m	m	m	m	m	m
5 4	37.8	35.2	27.8	4.5	4.0	1.8	1.1	06 3	59.3	59.8
	38.9	36.3	30.1	5.4	4.8	2.6	2.1	1.3	00.2	1.3
	54.8	51.6	46.9	20.9	21.0	18.7	18.0	16.9	16.4	17.3
	52.2	49.0	42.9	17.9	18.2	16.5	14.7	14.4	13.2	13.2
	18 37	17 21	14 77	4 87	4 80	3 96	3 59	3 32	26 91	27 16
	45.92	43.02	36.92	12.17	12.00	9.90	8.97	8.30	17.27	7.90

A_{-1} $A 9_0$ to 4_0 $A 1_{2\,1\,1\,0}$

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1879phae.proj.1424M

1879 May 10
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	K	L	R	L	R	R	R	R	M
45 3	379	444	488	543	579	4 24	69	96	318
	408	462	509	563	598	432	84	112	333
	530	592	39	91	124	17.5	213	250	471
	562	23	60	109	147	187	223	270	470
	1879	2121	2296	2506	2648	428	592	734	1592
	46.97	53.02	57.40	2.65	6.20	10.70	14.80	18.35	39.80

m	m	m	m	m	m	m	m	m	m	m
35.2	339	335	358	396	411	405	404	421	402	404
369	404	357	870	412	419	418	421	433	423	423
504	503	507	508	549	555	558	555	572	558	560
526		507	511	559	558	561	561	576	573	566
17.30		1694	1747	1916	1945	1942	1941	2002	1956	1953
4075		42.35	43.67	47.90	48.63	48.55	48.52	50.05	48.90	48.82
43.25					.58					

A 1 to 5 A −1 1,2,3,4,5 Lost 1st stroke of A −1 4

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1879phae.proj.1424M

1879 May 11

Polaris

14

+88 40

C = 46727

		m	m	m	m	m	m	m	m	m	m
45	3	41.4	48.9	54.7	58.9	59.9	4 6.1	10.3	15.4	17.0.	21.2
		23.2	31.4	35.7	40.2	40.9	46.2	51.2	56.2	58.5	3.3
		36.4	44.8	49.2	54.1	55.1	59.4	4.4	9.9	11.8	16.8
		36.2	44.3	49.3	54.9	55.8	5.0	5.9	9.9	12.2	16.5
		1372	1694	1889	2081	2117	2317	2518	2714	2795	578
		34.30	42.35	47.22	52.02	52.92	57.92	2.95	7.85	9.87	14.45

		m	m	m	m	m	m	m	m	m	m
45	4	26.6	27.7	54.1	53.5	52.8	37.2	56.9	56.2	57.3	61.4
		8.0	8.7	35.1	35.0	34.7	50.4	37.9	38.1	39.2	42.2
		20.4	22.1	48.0	46.2	47.9	51.1	51.6	51.3	52.5	55.3
		22.2	22.1	48.9	48.1	47.7		51.6	52.7	53.0	55.7
		772	806	1911	1858	1831	1945	1980	1983	2040	2146
		19.30	20.15	47.77	46.45	45.77	48.62	49.50	49.57	51.00	53.65

18 16 4

6.52 .20

This S just for A, 1.4 A_1 to 5_0 inclusive, $8_0, 8_1, 8_2$ & Lost 9_0, false stroke follows A_{-1} back to bottom +1

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1879phae.proj.1424M

1879 May 12
Polaris L.C. C=46.727
13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
10	1 8.4	3.7	57.6	33.9	30.9	10.4	7.6	4.2	0.3	57.9
	47.9	42.9	37.4	13.1	10.5	49.2	46.2	42.2	40.1	37.2
	6.6	1.4	56.5	31.6	29.0	8.6	5.9	1.3	56.4	54.9
	2.7	57.7	52.6	28.1	24.9	5.4	2.1	58.4	54.6	51.6
	24 56	22 57	20 41	10 67	9 53	29 36	24 18	22 61	21 34	20 16
	1.50 .40	56.42	51.02	26.67	23.82	3.40	0.45	56.52	53.35	50.40

		m	m	m
5	4	53.2	51.9	48.3
		33.7	30.7	28.1
		51.1	48.2	45.9
		47.6	45.1	41.7
		1856	1759	1640
		46.40	43.97	41.00

A 9 to 4 inclusive

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1879phae.proj.1424M

66 1879 May 13
Polaris L.C. C=46.727
13 14
+9 1 20

		m	m	m	m	m	m	m	m	m	m
10	1	5.7	0.7	6 57.4	31.6	26.3	3.9	2.1	5 4	56.0	46.9	19.9
		45.1	40.1	37.3	11.3	5.8	43.1	40.6		35.1	27.1	1.1
		4.3	59.8	56.9	30.4	25.1	3.6	1.2		54.4	45.9	19.8
		59.2	54.9	51.8	25.3	20.6	59.2	56.7		50.3	40.9	15.6
		2343	2155	2034	986	778	2297	2206		1958	1608	564
		58.57	53.87	50.85	24.65	19.45	57.42	55.15		48.95	40.20	14.10

		m	m	m	m	m	m	m	m	m	m
5	4	19.1	17.1	16.6	15.5	14.9	14.8	13.4	13.4	13.1	12.6
		59.4	57.5	56.4	55.2	54.8	53.9	53.3	53.2	52.4	52.4
		18.7	16.2	15.3	14.5	13.7	12.7	12.2	11.4	10.6	11.3
		13.8	11.9	10.9	9.9	9.3	8.3	7.6	7.6	7.1	7.0
		2910	2824	2792	2751	2727	2697	2665	2656	2632	2633
		12.75	10.67	9.80	8.77	8.17	7.42	6.62	6.40	5.80	5.82

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A9 to A3 inclusive

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1879phae.proj.1424M

1879 May 14
Polaris U.C. C=46,775
13 14
+91 20

m	R	m	R	m	R	m	R	m	m
[0 1 0,1 0'	55.6	81.7	27.2	5,3 ~~425~~	1.8	5 4' 58.4"	52.2	48.4	3 25.7
38.1	34.8	10.1	5.4	42.5	39.0	36.6	30.1	27.3	5.4
58.1	53.6	30.5	26.2	4.1	0.2	55.8	49.8	47.1	24.5
53.0	50.2	24.6	21.6	59.0	56.2	52.0	46.0	41.7	19.8
2093	1942	969	804	2309	2172	2028	1781	1645	754
~~4186~~ 52.32	48.55	24.22	20.10	57.72	54.30	50.70	44.52	41.12	18.85

m	R	m	R	m	R	m	R	m	R
5 [3 18.7	17.8	17.0	15.4	14.2	13.6	13.4	13.5	13.7	12.9
58.9	56.2	55.4	53.1	52.6	51.3	52.2	51.6	52.1	50.8
18.4	15.5	15.2	13.2	12.3	11.2	11.9	10.2	10.8	9.7
13.6	12.2	10.6	9.3	7.6	7.8	6.9	7.3	7.1	7.0
2896	2817	2782	2710	2667	2639	2644	2626	2637	2504
12,40	10.42	9.55	7.75	6.67	5.97	6.10	5.65	5.92	2,60

A_{-1} 2, 3, 4, 5 A_{9_0} to A_{3_0} inclusive $A_{+1\,2\,3\,4\,5}$

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1879phae.proj.1424M

68

1879. May 14

Polaris

1 14

788 40

	m	m	m	m	m	m	m		m.	m.	m
45 3	48.3	56.6	16.7	18.1	22.6	28.2	31.6	4	54.3	57.5	57.8
	28.9	35.9	56.4	58.2	2.2	6.6	10.3		33.9	36.4	37.0
	45.9	53.7	14.9	18.8	20.1	24.6	28.2		51.1	54.0	54.2
	45.1	53.0	12.5	14.9	19.1	23.8	26.9		50.7	53.2	53.2
	1682	1992	2805	2900	640	832	970		1900	2011	2022
	42.05	49.80	10.12	12.75 .50	16.00	20.80	24.25		47.50	50.27	50.55

	m	m	m, "	m	m	m	m	m	m	m
45 4	58.5	59.6	0.0 0.6	0.2"	0.1	2.1	59.4	0.1	59.5	59.8
	37.6	38.8	40.0	38.8	38.8	39.8	38.4	39.2	38.1	38.4
	58.2	56.1	58.6	58.2	57.5	58.7	57.7	58.1	56.9	57.9
	54.6	55.9	56.6	56.1	56.0	57.3	55.4	56.2	55.2	55.4
	2059	2104	2158	2133	2124	2179	2119	2136	2097	2115
	51.47	52.60	53.95	53.32	53.10	54.47	52.97	53.40	52.42	52.87

Lost A_2,

A_{+1} 1, 3, 4, 5, A_0 to 5, A_{-1}

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1879phae.proj.1424M

1879 May 29
Polaris L.C.

13 14
+91 20

	m	R	m	,	R	m	R	m	R	m
18	15.7	9.8	4.3	0	25.4	21.0	16.9	13.6	10.5	6.5	3.9
	14.8	9.3	3.7		24.2	19.1	15.2	11.3	8.0	4.0	2.2
	18.6	13.1	7.4		29.1	24.0	20.4	16.8	13.2	9.6	5.6
	18.6	12.2	6.2		28.7	23.3	19.6	16.3	12.6	9.2	6.0
	27.7	44.4	21.6		27.4	8.74	7.21	18.0	4.46	2.93	1.77
	16.92	11.10	5.40		26.85	21.85	18.02	14.50	11.15	7.32	4.42

	R	m	R	m	R	m	R	m	R	m
10	10.3	5 4 56.8	24.8	25.6	25.7	23.8	22.9	23.4	22.7	22.7
	59.6	54.9	23.8	22.8	22.0	20.9	20.0	19.8	19.8	19.4
	2.4	59.5	29.2	28.9	27.6	26.0	25.3	25.4	24.7	25.3
	3.0	58.7	28.3	26.5	28.1	25.7	25.5	25.0	25.1	24.4
	5.3	29.9	28.1	23.8	23.4	16.4	13.7	9.36	9.23	9.18
7		1.32	57.47	27.02	25.95	25.85	24.10	23.42	23.40	23.07	22.95

Lost last 3 wires

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1879phae.proj:1424M

1879 May 29

Paris

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+88 40

	M	R	m	R	m	R	m	R	m	m
45	4	14.8	19.7	25.9	29.6	33.7	34.4	37.7	40.2	45.9	47.4
		14.5	19.0	26.2	28.2	33.2	35.0	37.5	40.2	46.3	47.1
		16.6	20.6	28.1	30.6	35.4	36.6	40.1	41.9	47.4	48.6
		18.1	22.8	29.7	33.2	37.3	39.3	42.3	44.9	49.0	50.2
		240	801	299	1216	196	253	1576	72	286	1933
		16.00	20.22	27.47	30.40	34.90	36.32	39.40	41.80	47.15	48.32

	M	R	m	R	m	R	m	R	m	R
50	0	9.4	10.1	13.0	12.7	13.8	14.3	16.6	16.3	16.6	17.1
		10.2	10.8	13.5	12.9	13.5	14.2	16.6	16.0	16.3	16.8
		11.2	12.0	15.1	14.7	14.9	16.3	17.6	18.2	18.0	18.7
		12.7	14.0	16.6	17.4	17.9	18.6	20.4	20.5	20.4	20.9
		435	69	182	177	201	234	722	710	713	735
		10.87	11.72	14.55	14.42	15.02	15.85	18.05	17.75	17.82	18.37

$A\ 1_0\ 5,\ A_{-1}\ 1,3,4,$

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1879phae.proj.1424M

1879 May 31
Polaris L.C. C-46.750
13 14
+91 20

	M	M	M.	M	R	M	R	M	R	M
10	1.	11.4	6.4	2.6	0 57.5	41.8	96.1	31.8	22.4	19.4	14.2
		9.9	4.8	0.1	55.9	37.6	83.1	28.6	19.6	16.2	11.1
		18.7	13.6	9.1	3.4	47.3	41.5	37.2	27.6	24.3	19.2
		15.1	9.7	5.7	1.0	44.6	38.9	34.8	25.5	21.9	16.0
		551	345	175	23 78	1713	1496	1324	953	818	205
		13.78	8.62	4.37	59.45	42.82	37.40	33.10	23.82	20.45	15.12

	M	R	M	M	m	m	m	m	m	m
10	0.	44	1.2	5	56.8	54.6	29.6	27.5	25.6	24.0	23.2	22.4
		0.9	57.5	5	53.6	51.0	25.6	23.1	21.4	20.4	18.9	18.4
		8.4	4.5	1	5	58.6	33.3	31.3	29.7	27.8	26.6	25.8
		61	3.1	58	5.	58.7	30.2	28.4	26.7	25.1	24.4	23.6
		198	63	23	10 14	199	11.87	11 03	234	173	931	902
		4.95	1.57	57	.60	54.97	29.67	27.57	25.85	24.32	23.27	22.55

A9 & 5, +A+1

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1879phae.proj.1424M

72

1879. May 31

Polaris C = 46.750

1 14

+88 40

	m	R. m	R	m	m	m	m	m	R. m
45 4	2.6	7.7	12.2	15.2	17.7	21.6	28.8	32.9	36.7	39.8
	0.7	6.8	10.2	13.5	16.4	19.1	25.7	29.9	23.7	36.8
	7.1	10.9	15.8	18.3	21.6	24.9	31.4	36.1	39.7	42.0
	6.6	10.2	13.9	18.5	19.6	24.3	31.7	35.2	38.6	42.6
	170	356	121	255	753	809	1176	1341	287	1612
	4.25	8.90	13.02	16.37	18.82	22.47	29.40	33.52	37.17	40.30

	m	m
45 4	42.5	44.2
	40.2	43.7
	46.1	47.6
	44.8	46.6
	140	221
	43.50	45.52

A +1 1, 3, 5 R 1, to 5,

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1879phae.proj.1424M

1879 June 1
Polaris L.C.
13 14
+91 20

	m	R	R	m	m	R	m	R	m	R
10 1	10 1	5.2	3.8	0 53.6	4' 24.2	23.0	21.9	21.6	21.6	21.0
	8.4	3.5	2.9	52.6	22.1	18.7	17.9	17.0	16.6	16.3
	14.8	8.9	6.9	57.3	26.5	25.8	25.1	28.9	24.1	23.2
	12.3	7.2	6.3	55.3	25.1	24.2	22.6	22.5	20.9	21.8
	4 5 6	248	199	188	179	117	75	50	32	23
	11.40	6.20	4.97	54.70	24.47	22.92	21.87	21.25	20.80	20.57

	m	R	m	R	m	R	m
5-4	20.9	20.2	19.6	19.9	20.5	20.0	18.2
	16.6	16.8	14.8	15.3	15.9	15.2	13.5
	23.6	22.4	21.6	21.9	22.4	21.8	20.3
	20.5	20.7	19.5	20.8	20.2	20.8	18.2
	16	01	755	779	790	778	702
	20.40	20.02	18.87	19.47	19.75	19.45	17.55

Lost last 3 wires

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1879phae.proj.1424M

74

1879 June 1

Polaris C = 46.750

1 14

+88 40

	m	R	m	R	m	m	m	R	m	m
45 4	5.71	8.1	13.0	16.7	19.3	21.9	26.1	28.9	33.7	37.4
	1.1	4.4	9.9	(12.5)	15.8	17.2	22.3	24.8	29.1	33.4
	7.4	10.6	15.2	18.2	21.1	23.9	28.7	31.2	34.8	39.1
	7.3	11.3	15.0	18.8	20.9	23.7	28.1	31.3	34.9	39.6
	21 2	34.4	41.1	2[illegible]2	77.1	67.	25 2	116 2	132 8	39 5
	5.30	8.60	10.27	1[illegible] 6.55	19.27	21.67	26.30	29.05	33.20	37.37

	R	m
45 4	42.2	43.9
	37.9	40.1
	43.6	45.6
	45.2	45.3
	16 89	149
	42.22	43.72

A +1 1, 2, 3, 4, 5 A 1, 0 to 3, 0

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1879phae.proj.1424M

1879 June 4
Polaris L.C. C=46.789
13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
10 1	17.3	12.2	42.30	9.3	2.8	5 4 59.9	31.1	30.1	28.6	27.7
	14.7	9.3	38.7	4.1	0.1	58.3	28.3	27.2	26.4	25.1
	13.6	8.5	39.2	3.4	59.1	56.7	27.4	26.9	25.2	24.3
	18.8	13.9	44.1	6.6	5.3	2.0	32.9	32.4	30.6	28.7
	24.4	43.9	16.40	21.4	18.3	23.69	11.97	~~24.6~~ 11.66	11.08	25.8
	16.10	10.97	41.00	5.35	~~2.32~~ 1.82	59.22	29.92	29.15	27.70	26.45

	m	m	m	m	m	m	m	m	m	m
5 4	27.8	25.3	25.4	24.3	24.9	24.5	23.6	24.0	22.7	23.2
	25.3	22.4	22.3	21.0	21.1	22.1	20.6	21.2	20.4	20.6
	24.6	21.5	21.6	20.5	21.2	21.5	20.1	20.1	18.7	19.8
	29.5	26.9	26.7	25.9	26.3	26.5	25.2	25.1	24.1	24.6
	27.4	16.1	16.0	12.2	13.5	14.6	9.5	10.4	5.9	8.2
	26.85	24.02	24.00	23.05	23.37	23.65	22.37	22.60	21.47	22.05

From (A1. to A7. inclusive?) A9. to 3.

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1879phae.proj.1424M

76

Stg. Brne 4

Polaris C=46.789

1 14

+88 40

	m	m	m	R	m	m	R	m	m	m	m	
45	4	6.4	15.6	18.2	20.8	24.8	28.9	30.8	36.6	41.1	45.0	50.0	11.8
		5.4	16.1	17.3	20.8	24.4	29.1	30.9	36.4	42.1	45.1		11.1
		3.6	11.2	15.1	16.4	22.2	25.8	27.8	33.3	39.1	42.5		8.9
		10.8	19.7	22.1	24.7	28.1	32.1	34.3	39.1	45.0	47.7		15.4
		2.2	2.10	7.27	27	19.5	11.59	38	254	73	203		4.72
			15.10	18.17	20.67	24.87	28.97	30.95	36.85	41.82	45.07		11.80
			5.75										

	m	R	m	m	m	R	m	R	m	R	
50	0	15.2	16.6	16.5	17.2	16.6	17.8	15.9	18.6	19.4	18.8	
		14.1	15.8	16.1	15.9	16.7	16.7	17.8	17.1	18.8	17.8	
		12.2	13.1	13.3	14.8	13.9	14.8	15.1	15.1	16.0	15.1	
		19.1	20.6	19.7	21.4	20.9	22.2	22.9	23.2	23.7	22.4	
		20.6	66.1	24.6	69.3	68.1	71.5	74.7	74.0	77.9	74.1	
		15.15	16.52	16.15	17.32	17.02	17.87	18.67	18.50	19.47	18.52	

A +1 1, 2, 3, 5 A 7, 8, 8, 8, 9, 0 A −1 2 3 4 5

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1879phae.proj.1424M

1879 June 5
Polaris L-C. C = 46.736
13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
10 o	9.6	6.6	3.9	1.7	4' 58.4	26.9	25.6	25.9	23.6	23.9
	8.2	4.6	3.2	0.8	58.2	25.4	24.2	23.8	22.9	22.4
	8.6	4.1	2.5	0.1	56.8	25.3	23.8	23.4	21.9	21.9
	12.2	8.4	6.7	3.5	59.6	28.5	26.8	26.9	25.0	24.2
	38.6	23.7	16.3	6.1	33.0	26.1	26.4	20.3	13.4	12.4
	9.65	5.92	4.07	1.52	58.25	26.52	25.10	25.07	23.35	23.10

	m	m	m-m	m	m	m	m	m
54	23.2	22.8	22.1	21.8	21.8	22.2	22.0	21.4	21.8
	21.1	21.1	20.3	20.1	19.9	20.0	19.2	19.6	20.0
	20.4	20.2	20.1	19.7	19.6	19.8	19.02	19.2	19.5
	23.4	23.7	23.0	22.3	23.1	22.6	21.9	21.8	22.1
	81	78	55	36	44	46	23	20	34
	22.02	21.95	21.37	20.90	21.10	21.15	20.57	20.50	20.85

A1o to 7o inclusive A 2 3 5

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1879phae.proj.1424M

78

1879, June 7

Polaris C = 46.723

1 14

+88 40

	m	R	m	R	m	R	m	R	m	m
45 (31)	22.6	24.9	28.7	32.8	36.9	40.2	44.9	47.8	51.6	54.6
	21.2	24.2	28.0	31.3	36.2	39.6	44.5	47.8	51.1	53.9
	17.1	18.2	22.4	27.0	32.1	33.8	39.9	42.3	47.1	48.4
	22.9	25.2	29.8	34.0	38.0	42.7	45.8	50.2	51.9	55.4
	38	925	294	51	232	1563	151	281	17	123
	20.95	23.12	27.35	31.27	35.80	39.07	43.78	47.02	50.42	53.07

	m	R	m	m	m	R	m	R	m	R
50 0	19.9	20.3	20.4	21.5	22.6	23.2	23.6	23.5	24.1	23.8
	18.3	18.0	19.1	19.7	21.0	22.1	21.5	22.1	22.2	21.9
	14.0	13.6	14.9	15.1	16.2	17.1	16.8	17.6	17.6	17.3
	24.3	24.1	24.9	23.4	23.8	25.2	24.7	25.1	25.7	25.0
	725	730	763	797	36	76	66	83	896	80
	18.12	18.25	19.07	19.92	20.90	21.90	21.65	22.07	22.40	22.00

Δt_{+1} + $\Delta t_{\odot}$ to 6$_{\odot}$ (Tour A $\overset{\wedge}{-1}$ $\overset{\wedge}{2}$ the tallies are 5 sec late

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1879phae.proj.1424M

June 8 1879

Polaris L.C. C = 46.723

13 14

+91 20

		m	m	m	m	m	m	m	m	m	m
10	0	21.1	15.3	11.2	438	40.5	12.2	6.6	4.6	1.9	5 4 58.8
		20.7	14.9	11.1	43.1	39.3	11.4	5.5	3.4	1.3	58.9
		18.1	12.4	8.0	39.9	35.9	7.5	2.9	0.6	58.5	56.2
		22.8	16.6	12.5	45.2	41.0	13.1	7.9	6.2	2.9	0.8
		27	19.2	3.4	12.0	156.7	44.2	22.9	14.8	4.6	23 47
		20.67	14.80	10.85	43.00	39.17	11.05	5.72	3.70	1.15	58.67

		m	m	m	m	m	m	m	m	m	m
5	4	31.2	30.3	28.6	29.2	28.2	28.2	27.5	26.8	26.3	25.6
		30.6	29.7	27.4	27.4	27.1	26.9	26.2	25.9	25.3	24.8
		26.6	25.9	24.4	24.9	23.5	24.2	23.2	22.6	21.8	20.9
		30.3	29.7	27.8	28.7	27.6	27.8	26.6	26.1	25.8	25.0
		1187	1156	282	302	264	271	235	214	192	163
		29.67	28.90	27.05	27.55	26.60	26.77	25.87	25.35	24.80	24.07

Rattle and perhaps flutter

(A. 5 to 7 ?) A. 3 to 3.

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1879phae.proj.1424M

80

879. June 8

Polaris C=46.7 ~~38~~

1 14

+88 40

45-4	24.6	37.9	39.7	42.9	46.5	48.1	54.5	50 01	41.1	17.3	18.5
	24.7	39.1	41.1	44.2	47.0	49.5	55.1		15.2	18.2	18.0
	18.9	32.8	38.9	39.5	40.2	42.7	48.8		8.1	11.8	12.1
	25.9	39.7	41.1	44.1	46.5	50.4	57.0		17.8	20.6	21.3
	9.41	29.5	15.58	8.7	20.2	19.07	15.4		55.2	6.79	6.99
	23.52	37.37	38.95	42.17	45.05	47.67	53.85		13.80	16.97	17.47

to 0	19.9	20.9	22.1	22.7	22.0	22.5	22.8	23.5	24.6	24.1
	17.4	20.0	20.3	22.0	21.1	21.3	22.1	22.5	22.7	22.1
	13.7	14.4	16.0	17.4	15.2	16.0	18.0	17.0	18.2	16.9
	22.3	22.9	23.9	24.8	24.3	24.5	25.4	25.9	26.1	25.8
	7.33	7.82	23	69	26	43	83	89	9.16	89
	18.32	19.55	20.57	21.72	20.65	21.07	22.07	22.22	22.90	22.22

A_0 to 5$_0$ & to 9$_0$ A_{-1} 1 2 3 4 5

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1879phae.proj.1424M

1879 June 12
Polaris C-46?25
1 14
+88 40

	m	m	m	m	m	m	m	m	m	m
45 4	2.4	5.3	14.2	17.4	19.1	22.1	24.5	29.0	31.6	36.9
	3.5	5.9	16.2	18.9	20.4	22.4	25.3	30.2	34.4	38.4
	59.2	26	11.5	14.3	16.0	18.9	21.2	25.9	29.6	33.8
	5.1	8.2	16.9	20.1	22.4	24.1	26.8	32.7	34.9	40.6
	10.2	22.0	18.8	7.07	7.79	7.5	1.78	11.78	13.05	14.97
	2.55	5.50	4.70	17.67	19.47	21.87	24.45	29.45	32.62	37.42

A_{11} 1 2 0 A_{2_0} 2_1 2_2 3_0 3_1 3_2 4_0 4_1 4_2 4 5_0

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1879phae.proj.1424M

82

1879 June 16

Polaris C = 46.708

14

+88 40

	m	m	m	m	m	m	m	m	m	m
45 4	96	118	148	188	202	231	252	282	319	365
	88	124	158	206	212	247	262	299	334	382
	28	58	86	138	144	184	204	231	269	309
	91	144	166	202	213	247	272	303	336	381
	283	444	558	734	771	909	186	1115	58	237
	546	11.10	13.95	18.35	19.27	22.72	24.65	27.87	31.45	~~32.72~~ 35.92
	7.07									

45 4	409	453	506
	420	453	521
	351	396	455
	416	458	609
	1596	1760	1991
	~~29.90~~ 39.90	44.00	49.78

A 12345 A_1 6666

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1879phae.proj.1424M

1879. June 17
Polaris L.C. C=46708
13 14
+91 20

10	0	17.6	5-4	34.9	298 307
		17.4		340	296 292
		12.6		297	250 248
		17.5		324	281 286
		21.5		1310	1125 1133
		16.5		32.75	28.12 28.32
		.27			

A 8 7 0 3 0 2 1 2 0 1/2 1 1 0 A-14

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1879phae.proj.1424M

84

1879 June 17 C Sel – d1 – 46.705

Polaris

1 14

+88 40

	m	m	m	m	m	m	m	m	m
45 4	23.5	28.7	33.4	37.2	42.6	45.2	48.6	52.9	54.0
	24.6	28.4	33.4	37.1	43.0	45.5	49.5	53.4	54.5
	18.5	22.9	28.0	31.9	37.1	39.8	43.6	46.5	48.4
	24.3	28.5	33.5	38.1	43.1	41.5	49.1	51.9	54.6
	909	285	83	243	58	1720	308	47	2115
	22.72	27.12	32.07	36.07	41.45	43.00	47.70	51.17	52.87

Aquilae A. 1879

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1879phae.proj.1424M

June 18 1879

Polaris L-C $\ell = 46.705$

13 14

+91 20

	m	m	m	m	m	m	m	,,	m	m	m
10 0	16.5	11.9	8.0	5.1	2.6	1.1	5 4	35.3	34.8	33.9	33.3
	17.1	12.4	9.5	6.2	3.8	1.4		35.9	35.2	34.3	33.3
	12.2	6.4	3.6	0.9	57.8	56.4		30.4	29.9	28.6	28.1
	15.9	11.2	6.2	3.9	0.9	59.1		32.9	32.0	31.3	31.1
	2.5	#9	27.3	16.1	5.1	2380		14.5	13.9	8.1	5.8
	15.37	10.47	6.82	4.02	1.27	59.50		33.62	32.97	32.03	31.45

	m	m	m	m	m	m	m	m	m	m	m
5 4	32.4	31.2	29.2	28.9	27.7	28.0	27.6	26.6	26.2	26.6	
	32.2	32.1	29.7	29.1	28.4	28.1	28.1	26.9	26.6	27.2	
	27.3	25.9	23.9	22.9	22.7	22.8	22.2	21.2	21.1	21.7	
	29.9	28.8	26.4	26.3	25.4	25.4	25.7	24.3	23.9	24.3	
	12.18	11.80	10.92	272	242	243	230	190	178	198	
	30.45	29.50	27.27 .30	26.80	26.05	26.07	25.75	24.75	24.45	24.95	

Two A +1 2 perhaps omitted

A −1 3 2 1 A 9 0 to 3 0 mclns A +1 3 2 1

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1879phae.proj.1424M

86

1879 June 18

Polaris

1 14

+88 40

	m	m	m	m	m	m	m	m	m
45	4 14.8	21.6	26.1	35.3	39.5	43.5	47.6	52.0	53.5
	19.9	24.1	28.1	39.2	41.4	45.8	49.5	52.1	54.9
	9.2	15.5	20.1	31.4	34.3	38.1	41.2	44.4	47.8
	14.6	22.8	~~29.2~~	37.6	39.5	43.7	47.6	50.4	53.2
	565	835	215	255	15 47	17 11	254	1969	94
	14.12	20.87	25.37	36.38	38.67	42.78	46.47	49.22	52.35

Sun A 2 / A 1 2 31 A6 to A5½ inclusive

~~L A~~ Lost A4

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1879phae.proj.1424M

June 19 1879

Polaris 2-6,

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10	0	49.1	44.7	41.8	37.9	34.2	31.0	28.0	23.7	21.6	17.3
		50.5	46.3	40.8	86.4	34.0	30.7	28.1	23.5	21.4	18.0
		44.8	40.4	37.8	33.5	30.1	27.1	24.1	19.2	16.5	12.8
		48.9	43.6	40.3	36.9	33.4	30.2	27.7	22.3	20.4	16.9
		19 33	150	04	247	117	1190	279	87	799	250
		48.32	43.75	40.10	36.17	32.92	29.75	26.97	22.17	19.97	16.25

	m	m	m	m	m	m	m
10	0	14.8	11.4	9.6	6.4	4.4	54 59.8
		14.5	11.6	9.2	5.7	4.0	59.5
		9.9	5.2	4.2	1.3	59.0	55.3
		13.5	10.9	8.9	6.3	~~59.1~~	58.8
		52.7	39.1	31.9	18.7	3.2 25.0 7	33.7
		13.17	9.78	7.97	4.67	2.67	58.42

A_1 12345 A_{90} ω 30

~~A to A~~

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1879phae.proj.1424M

88 June 19 1879

Polaris C=46702

14

488 40

	m	m	m	m	m	m	m	m	m	m
45 4	10,9	16,4	20.5	23,7	26,5	30.0	34.0	38,8	43,3	45,6
	13,2	18.1	22,4	25.4	28,5	32.1	36.0	40.5	46,0	47,4
	4,2	9.9	13,2	16.8	20,0	23,4	27,8	32,6	37,2	38,7
	10,8	16,3	20,7	23,2	26,8	30,5	33,8	38,8	44,2	45,8
	391	607	768	91	218	1160	1316	1507	1707	1775
	9.78	15.17	19.20	22.27	25.45	29.00	32.90	37.67	42.67	44.37

	m	m	m
45 4	48,0	51,5	55.2
	50,1	54,2	56.6
	44,4	44,9	49.4
	48,1	52,5	56.8
	1876	31	2180
	46.90	50.78	54.50

False breaks on A_1

$\downarrow_{+1}$ 1 2 3 4 5 + A_1 to 6_0^2 ~~False~~

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1879phae.proj.1424M

June 20 1879

Polaris L.C. c = 46.702

13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
70	20.8	16.2	10.9	6.7	47.6	44.1	40.2	12.9	8.4	6.5
	28.8	16.8	11.4	6.6	47.2	43.0	39.2	13.1	8.9	7.1
	19.9	13.4	8.9	3.6	44.3	40.5	36.1	10.0	4.3	3.0
	20.0	13.6	8.8	4.6	45.9	41.8	37.7	12.1	7.9	5.2
	~~16.35~~	200	400	219	252	94	1532	81	295	218
	20.87	15.00	10.00	5.47	46.30	42.35	38.30	12.02	7.38	5.45

		m	m	m
10	0	3.4	1.9	0.5
		4.2	2.1	0.0
		0.5	58.2	56.1
		2.4	0.8	58.7
		10.5	30	2356
		2.62	0.75	58.90

A -1.345 Ag to 3.

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1879phae.proj.1424M

1879 June 21
Polaris. C=46.702
1 14
+88 40

m	m	m	m	m	m	m	m	m	m
45 4 15.0	19.6	22.2	25.2	29.9	31.5	35.5	40.3	43.8	50.8
17.5	20.9	23.2	26.0	30.2	32.4	36.2	41.1	44.8	52.1
11.0	15.0	17.9	21.1	25.5	26.9	31.2	35.2	39.1	46.6
16.1	20.0	23.1	25.5	30.0	31.9	36.0	40.3	44.8	51.5
19.6	7.55	64	178	1156	27	189	1569	125	110
14.90	18.87	21.60	24.45	28.90	30.67	34.72	39.22	43.12	52.75

m	m	m	m	m	m	m	m	m	m
53.2	50 42 15.6	16.6	18.5	18.9	20.1	20.5	22.1	22.1	21.9
54.2	17.1	17.8	19.3	19.6	20.9	21.3	22.9	23.1	22.9
48.4	11.8	12.3	10.9	14.3	15.2	16.1	17.7	17.3	18.2
53.7	16.7	17.9	19.2	19.8	21.4	21.4	23.1	23.1	22.8
20.95	212	246	309	326	776	797	58	56	48
52.38	15.30	16.15	17.72	18.15	19.90	19.92	21.45	21.40	21.20

+1 2 3 4 5 A 1 to 5 A -1 -2 3 4 5
Low 3rd stars only A +2

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1879phae.proj.1424M

Rhu 2 2 17 9

Polaris C = 46.719

1 14

+88 40

	M	M	M	M	M	M	M	M	M (sum)	M
45 – 4	16.4	22.2	26.2	29.1	30.7	34.5	37.4	44.7	47.0	53.8
	18.1	22.4	25.7	30.1	31.4	35.3	39.8	46.1	47.1	54.1
	12.9	18.4	21.6	25.2	27.1	30.9	35.1	39.4	42.8	49.8
	17.8	22.0	24.8	28.4	30.1	34.3	39.2	36.5	40.9	47.2
									178	49
									44.45	51.22

A +1 A 1.0 to 5.0

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1879phae.proj.1424M

679. June 23
Polaris Lb. C = 46719
13 14
+91 20

10	0	19.7	15.7	13.9	11.4	8.4	7.1	4.1	54	58.7	26.1	24.0
		27.2	18.2	15.9	14.1	10.9	5.8	3.3		58.9	22.1	25.0
		19.1	15.9	12.9	11.3	8.7	4.9	3.5		58.5	25.8	23.5
		19.3	16.4	13.6	10.0	8.4	6.1	3.6		58.1	25.5	23.5
		86.3	26.2	16.3	7.8	36.4	23.9	14.5		22	19.5	16.0
		20.07	16.55	14.07	11.95	9.10	5.98	3.62		58.55	24.87	24.00

5	4	23.6	22.9	22.1	22.2	21.5	20.9	20.4	20.7	20.9	20.9
		25.7	24.2	23.1	22.8	22.1	22.1	21.2	21.1	21.2	21.4
		23.1	22.1	21.1	21.6	20.5	20.2	20.0	19.8	19.5	20.1
		23.1	22.1	21.1	21.2	20.6	20.1	20.0	19.6	20.1	19.9
			15.5	11.3	7.4	7.8	4.7	3.3	1.6	1.2	1.7	2.2
			23.87	22.82	21.85	21.95	21.17	20.82	20.40	20.30	20.42	20.55

$\Delta_{-12 \cdot 23}$ Δ_{40} $\omega_{20.0}$ Δ_{+1} 3 25

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1879phae.proj.1424M

1879. June 23
Polaris ~~2.6.~~ C = 46.719
1 14
~~+91 20~~
~~88 46~~ m m m m m m m m m m

45	~~4~~	12.7	18.1	21.1	25.1	29.7	31.5	35.1	38.6	41.8	43.1
		12.9	19.0	22.9	26.1	30.1	32.1	36.1	39.6	42.2	44.1
		9.9	16.0	19.5	23.2	29.1	29.1	33.2	36.7	39.9	41.8
		13.4	19.1	21.8	26.0	29.8	32.1	35.1	38.9	42.0	44.1
		84	322	53	204	367	~~148~~	195	338	59	131
		12.10	18.05	21.32	25.10	29.17	31.20	34.87	38.45	41.47	43.27

~~7~~ m	m	m	m	m	m	m	m	m	m
46.4	52.1	6.9	11.1	15.1	16.9	19.8	20.2	20.9	21.0
47.2	53.2	8.1	12.9	16.1	17.3	20.1	21.1	21.8	21.2
44.6	49.9	48	8.8	12.9	14.2	16.6	17.9	17.9	18.1
47.9	53.0	7.5	11.9	16.1	18.1	20.2	21.1	22.1	22.1
26.1	82	27 3	47	202	265	767	803	27	24
46.52	52.05	6.82	11.17	15.05	16.62	19.17	20.07	20.67	20.60

N 4,123 A 1 to 0

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1879phae.proj.1424M

1879 June 24
Polaris L.C. C=46719
13 14
+91 20

m	m	m	m	m	m	m	m	m	m	m
10 0	26.1	21.1	17.1	13.0	9.0	6.1	2.6	5 41 21	27.6	26.7
	27.7	22.1	18.9	14.0	10.0	7.0	3.1	30 1	28.9	27.6
	28.9	23.5	19.9	12.9	8.8	4.8	1.4	28.2	26.4	25.6
	26.1	20.1	16.9	12.7	8.7	5.5	1.8	27.8	26.1	25.9
	258	38	298	126	360	234	89	1142	290	258
	26.45	20.95	17.45	13.15	9.00	5.78 .185	2.22	28.05 .55	27.25	26.45

m	m	m	m	m	m	m	m	m	m
25.0	25.0	24.8	24.1	23.1	21.9	21.9	22.1	21.8	22.4
26.1	26.3	25.1	24.2	24.1	22.3	22.9	22.3	23.0	23.1
24.1	24.1	22.9	22.7	22.1	20.5	20.7	21.1	20.9	20.4
24.3	24.1	23.2	22.8	21.8	21.1	20.9	20.9	20.9	21.0
195	195	160	138	111	58	64	64	66	69
24.87	24.87	24.00	23.45	22.78	21.45	21.60	21.60	21.65	21.72

$A_{-1\,2\,3\,4\,5}$ $H_{6\,2}$ $A_{+1\,1\,2\,3\,4\,5}$

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1879phae.proj.1424M

1879 June 24
Polaris. C = 46.719
1 14
+88 40

50	0	13.8	17.9	18.7	18.1	18.6	19.9	21.1	20.1	20.9	21.0
		14.9	15.1	19.2	18.9	19.1	21.2	22.2	21.8	22.8	22.1
		11.8	14.9	16.0	15.0	15.9	18.0	18.8	18.1	18.9	17.2
		15.1	18.9	19.8	19.5	19.7	20.9	22.8	22.1	22.8	22.3
		157	308	337	315	333	790	849	821	884	836
		13.92	17.70	18.42	17.87	18.32	19.75	21.22	20.52	21.35	20.90

50	0	21.0	19.9	20.5	20.1	20.1	20.0	18.2	18.1	17.1	16.4
		22.7	21.1	22.0	21.1	21.1	21.1	19.2	19.1	18.9	18.0
		18.1	16.9	17.9	17.1	17.2	16.8	15.2	15.6	14.9	13.9
		22.1	21.1	22.7	21.2	21.1	21.1	19.9	19.2	18.2	17.1
		839	790	31	795	795	790	325	820	291	254
		20.97	19.75	20.78	19.87	19.87	19.75	18.12	18.00	17.27	16.35

$A_{50} = 9$, $A_{-1} = 2345$

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1879phae.proj.1424M

1879 June 25
Polaris 16. C = 46719

13	14										
+91	20	m	m	m	m	m	m	m	m	m	m
5	4	30.1	28.1	27.0	26.4	24.7	22.1	22.1	21.9	22.2	21.9
		30.9	28.9	27.8	27.1	26.1	23.1	23.6	22.9	23.2	22.6
		29.9	28.1	26.5	25.7	24.8	21.9	21.9	21.5	22.2	20.9
		29.1	27.8	26.8	26.1	25.7	21.8	21.9	21.8	22.1	21.9
		1X²00	329	281	253	211	89	95	81	97	73
		~~27.50~~ 30.00	28.22	27.02	26.32	25.27	22.22	22.37	22.02	22.42	21.82

m	m	m	m	m
21.8	21.5	21.5	21.5	21.1
22.1	21.5	21.9	21.9	21.2
20.8	20.8	20.5	19.9	20.5
21.2	21.3	20.9	20.9	20.9
59	51	48	42	37
21.47	21.27	21.20	21.05	20.92

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1879phae.proj.1424M

1879 June 25
Polaris C=46.719
1 14 ♯
+88 40

	K	R	m	m	m	m		m	m
45-4	21,6	30,6	35,9	42,1	46,7	52	0 16,1	18,6	19,1
	22,2	30,5	36,6	43,1	47,8		16,7	18,1	19,0
	19,8	28,0	34,8	40,8	45,9		13,5	14,9	17,1
	23,8	31,8	37,1	43,2	48,1		17,1	19,2	21,1
	74	09	244	96	285		234	302	363
	21.85	30.22	36.10	42.40	47.12		15.85	17.55	19.07

A +1 12 9 -5 A 0 1 1 2 1 2 3 2 5 0 5 1 5 2 6 0 6 1 7 0 7 2 8 0 8 1 8 2 4 -1 3

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1879phae.proj.1424M

98

1879 June 26

Polaris L.C. C=46719

13 14

+91 20

10	0	32.9	28.2	24.9	22.8	19.1	9.1	5.5	2.1	0.0	54	57.6
		83.0	27.8	24.0	22.6	19.2	8.4	4.2	2.1	0.1		57.1
		32.2	27.4	23.9	21.8	18.5	7.4	3.5	1.4	59.4		56.4
		33.2	28.3	25.7	23.1	19.6	9.3	5.1	2.1	0.3		57.6
		113	317	179	103	364	342	183	77	2398		287
		32.82	27.92	24.47	22.57	19.10	8.55	4.57	1.92	59.95		57.17

5	4	54.9	25.5	24.4	23.9	23.4	22.6	21.9	21.4	21.4	21.0
		54.9	25.1	24.1	23.2	22.1	22.1	21.2	21.1	20.9	20.1
		53.9	24.8	22.9	22.0	21.8	20.9	20.0	19.9	20.0	18.9
		54.1	25.1	28.2	23.5	22.8	21.9	21.1	21.2	21.0	20.1
		178	205	146	126	101	75	42	36	33	01
		54.45	25.12	23.65	23.15	22.52	21.87	21.05	20.90	20.82	20.02

Curl of spiral #4 Roj. M. Schwarz

A-1 5 3-1 Ag 0 to 2 0 1/4821

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1879phae.proj.1424M

1879 June 26
Polaris C=46.719
1 14
+88 40

	m	m	m	m	m	m	m	m	m	m
45 4	10.0	13.3	16.6	19.9	22.8	24.9	29.1	32.1	34.8	36.7
	10.1	14.2	17.2	20.1	22.9	25.1	29.5	31.9	35.1	37.8
	9.3	11.1	14.9	18.0	20.1	23.6	27.0	30.0	32.9	34.9
	10.8	14.1	17.1	20.3	23.1	25.5	30.1	32.9	35.1	37.7
	382	127	258	783	89	191	357	69	179	271
	9.55	13.17	16.45	19.57	22.22	24.78	28.92	31.72	34.47	36.78

	m	m	m	m	m		m	m	m	m	m
45 4	39.3	42.2	46.0	47.5	49.1	50 0	13.1	16.9	17.1	19.1	20.1
	40.0	43.1	46.1	48.0	50.1		13.4	17.0	17.1	18.2	19.9
	37.4	41.1	43.8	45.9	46.9		10.3	13.9	14.9	16.0	16.9
	39.9	43.2	46.3	48.3	50.1		12.9	17.1	18.0	19.1	20.8
	366	96	222	279	1962		97	249	271	324	777
	39.15	42.40	45.55	47.42	49.05		12.42	16.22	16.78	18.10	19.42
				7.42							

{The means of the circle readings in this book
(have been checked to the end of this date June 26)
A 1° to 5° J.F.M. obs. commencing at 6, last A 6° + A -1 3. J.F.M. Obs last 5d

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1879phae.proj.1424M

100 June 30 1879

Polaris L.b. C=46.719

13 14

+91 30

10	0	19.9	14.8	10.8	9.1	5.8	4.2	3.0	5 4	57.9	30.1	29.0
		21.9	16.7	11.9	9.8	6.1	4.4	3.9		58.1	30.0	28.9
		18.1	12.8	8.9	6.1	3.9	2.2	0.8		55.9	27.8	26.8
		20.1	15.2	11.3	9.8	6.2	5.1	3.2		57.6	30.1	29.1
		790	174	429	348	220	162	109		295	1180	338
		19.75	14.35	10.72	8.70	5.50	4.05	2.72		57.37	29.50	28.45

5	4	27.5	26.1	25.7	23.6	23.1	22.9	22.3	22.8	22.3	22.8
		27.1	26.0	25.3	23.9	23.0	23.1	22.0	22.6	22.8	23.0
		25.0	23.9	22.9	21.0	20.1	20.1	19.9	20.1	19.9	20.1
		26.9	26.0	25.1	23.3	22.9	22.9	22.1	22.1	22.3	22.2
		265	220	184	118	91	90	63	76	73	81
		26.62	25.50	24.60	22.95	22.27	22.25	21.57	21.90	21.82	22.02

Lost 5_0 to 3_2

Got A_{-1} 5432,1A9 to 2_0 A_{+1} 543

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1879phae.proj.1424M

June 30 1879

Bolain C = 46.719

1. 14

+88 40

	R	R	R	m	m	m	m	m	m	m
45	4	12.3	22.6	27.3	33.0	37.1	39.8	41.9	44.4	46.9	50.1
		13.6	23.2	28.1	34.2	37.8	40.1	43.1	45.2	47.7	50.8
		6.5	16.7	22.0	28.3	32.9	35.1	37.1	40.1	42.4	45.5
		13.7	24.1	29.0	34.0	38.6	40.8	43.4	46.1	48.2	57.9
		461	66	264	95	264	1558	55	158	252	1983
		11.52	21.65	26.60	32.37	36.60	38.95	41.37	43.95	46.30	49.58

m	m	m		m	m	m	m	m	m	m
57.7	54.1	50	0 16.9	18.7	18.9	19.3	19.8	21.1	22.2	22.7
52.9	54.1		1 15.2	18.1	18.2	19.1	19.9	21.0	22.4	22.9
44.1	49.1		11.9	13.0	13.8	14.1	14.8	16.2	17.2	17.0
52.9	55.2		17.7	20.0	19.8	21.1	21.6	22.6	24.0	23.9
46	125		23.7	698	307	736	761	09	58	65
51.15	53.12		15.85 92	17.45	17.67	18.40	19.02	20.22	21.45	21.62

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1879phae.proj.1424M

1879 July 1

Polaris L.C. C = 46.699

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10 U	35.5	29.1	26.0	25.8	20.1	16.2	12.2	10.0	8.1	4.1
	36.1	30.1	26.2	Rej	20.9	16.9	12.2	10.1	8.9	4.3
	33.2	26.9	23.5		17.0	13.1	9.1	5.5	4.2	1.0
	36.2	30.1	26.9		20.9	16.9	12.4	10.5	8.9	4.9
	21.0	11.62	22.6		7.89	23.1	5.9	36.1	30.1	14.3
	35.25	29.05	25.65		19.72	15.78	11.47	9.12	7.52	3.57

Returned to Survey

		m		m	m	m	m	m	m	m	m
10	U	13	5 4	56.3	32.9	31.9	30.3	29.7	29.1	27.3	27.0	25.9
		2.0		56.9	32.9	32.1	30.1	29.3	29.0	27.1	27.0	25.9
		57.8		54.0	29.9	28.5	27.1	26.5	25.0	23.9	24.1	22.9
		2.0		55.9	32.9	32.1	30.1	29.7	28.1	27.1	27.5	25.8
		31		231	86	46	1176	352	312	254	256	205
		0.78		55.78	32.15	31.15	29.40	28.80	~~28.24~~ 7.80	26.35	26.40	25.12

Δ_{-1} 54321 A 8$_0$ to 2$_0$ · Δ_{+1} 54321 Δ_{+1} 5 18h 4^s Late

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1879phae.proj.1424M

1879 Only 1
Polaris c = 46.699

1 14
+88 40

45 4	84.9	40.9	43.1	47.2	50.2	52.9	60 0	16.6	18.7	19.0	20.3
	85.9	41.8	43.9	48.1	51.1	53.9		15.7	18.1	19.0	20.7
	30.5	36.1	38.6	42.1	45.1	47.1		9.1	12.3	13.1	14.7
	37.0	42.0	44.9	48.2	52.1	53.6		16.8	19.9	31.1	22.1
	183	08	105	256	1985	75		4.5 82	290	822	778
	34.57	40.20	42.62	46.40	49.62	51.87		12.05 4.55	17.25	24.55	19.45

22.6	22.5	22.1	22.2	22.7	23.9	23.8	22.9	22.9	21.6
22.1	23.0	23.1	22.2	23.1	25.1	24.4	23.2	23.5	22.6
16.1	16.8	17.2	16.3	17.2	16.9	18.1	17.1	17.9	15.9
23.9	24.1	24.2	24.1	25.1	26.5	26.0	25.0	24.8	24.1
47	64	66	48	81	144	123	82	91	42
21.17	21.60	21.65	21.20	22.02	23.60	23.07	22.05	22.27	21.05

$\frac{1}{11}\,2345^{-}$ A A_{-1} 12345^{-} 18 tri fact 3_{-1} 3 3 $\overset{\text{to}}{\wedge}$ Pole

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1879phae.proj.1424M

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1879 July 2

Polaris L.C c = 46.699

13 14

+91 20

		m	m	m	m	m	m	m	m	m	m
10	0	30.9	25.9	22.5	17.8	14.1	10.8	7.1	4.9	2.1	54 589
		33.1	28.1	25.1	20.5	16.3	13.1	9.1	6.7	4.0	1.1
		32.8	27.8	23.9	19.0	14.9	11.4	7.9	4.9	2.1	588
		31.9	27.1	23.8	17.9	15.0	11.6	7.7	5.2	3.1	58.9
		87	289	153	752	203	69	318	217	113	2377
		2m 32.18	27.22	23.82	18.80	15.07	11.72	7.95	5.42	2.82	59.42

		m	m	m	m	m	m	m	m	m	m
5	4	27.3	25.9	24.0	24.1	23.2	22.5	22.2	22.1	21.5	21.4
		29.1	27.1	25.2	25.5	24.9	23.8	23.6	23.1	22.1	22.8
		26.9	25.1	23.9	23.4	22.9	21.5	21.8	20.9	20.0	20.5
		27.1	26.0	23.9	23.4	23.0	21.9	21.6	21.1	20.7	20.9
		304	241	170	164	140	97	92	72	43	56
		27.60	26.02	24.25	24.10	23.50	22.42	22.30	21.80	21.07	21.40

Δ_{-1} Δ_{+1}

Δs_2 to 20

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1879phae.proj.1424M

1879 July 2
Polaris C=46.699
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	m	m	m	m	m	m	m	m	m	m
45 4	12.8	17.1	19.4	23.0	26.4	29.9	34.9	38.7	42.9	46.7
	14.0	18.0	20.2	23.6	27.1	30.9	35.1	38.9	43.0	46.9
	10.0	14.1	16.9	19.8	23.1	27.1	31.9	35.2	39.0	43.1
	14.3	18.2	20.6	24.1	27.3	31.2	35.9	40.9	44.1	47.2
	111	274	771	905	239	1191	178	1537	90	239
	12.78	16.85	19.27	22.62	25.98	29.78	34.45	38.42	42.25	45.98

	m	m	m	m	m	m	m	m	m	m
60 0	14.1	15.1	17.1	18.5	19.0	20.0	20.1	20.3	21.0	21.1
	15.1	15.0	16.2	18.1	19.1	19.9	20.1	21.0	21.4	22.0
	10.2	11.9	13.1	14.9	15.4	15.9	16.4	17.1	17.8	17.3
	15.8	16.1	18.9	20.0	20.7	20.8	22.0	22.1	22.7	22.8
	152	181	253	715	742	766	786	805	829	832
	13.80	14.52	16.32	17.87	18.55	19.15	19.65	20.12	20.72	20.80

A_{+1} A A_{-1}

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1879phae.proj.1424M

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1879 only 3

Polaris C=46.690

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45 4	21.8	26.1	30.1	33.1	37.9	43.0	41.1	52.0	56.1	—
	16.9	20.8	25.2	28.1	33.1	38.1	42.9	47.2	51.2	56.1
	13.9	17.9	22.1	24.9	29.8	34.5	40.1	43.3	48.5	54.9
	4.2	8.6	13.3	15.9	21.2	26.1	31.1	35.2	39.9	45.7
	5 68	7 34	9 8 07	10 20	12 20	14 17	16 22	17 77	19 42	
	14.20	18.35	~~20.17~~ 2.68	25.50	30.50	35.42	40.55	44.42	48.55	

27.9	29.9	31.0	31.7	33.0	33.1	34.1	34.1	34.3	34.6	34.2
22.1	23.9	24.9	25.1	27.2	27.0	27.3	28.5	28.0	28.1	28.5
19.9	20.8	22.1	22.9	24.8	24.6	25.3	25.0	25.2	25.6	26.0
10.9	12.8	13.2	14.0	15.3	16.1	16.4	16.9	17.5	17.9	17.2
8 08	8 74	9 12	9 37	10 03	10 08	10 31	10 45	10 50	10 62	10 59
20.20	21.85	22.80	23.42	25.07	25.20	25.78	26.12	26.25	26.55	26.47

A 34 A 4 W 0 A 2345

77

Reg. d'pr. A 5

A 5 0 4 1 4 0 3 2 3 1 3 0 2 2 2 1 A

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1879phae.proj.1424M

1879 July 5

Polaris L.C. C = 46.690

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		m	m	m	m			m	m	m	m	m	m
10	0	32.9	25.1	19.3	15.9	5	4	47.9	46.6	44.0	42.8	44.0	41.9
		26.1	18.2	12.4	8.1			42.3	41.0	38.1	37.1	38.1	35.9
		17.8	10.9	6.1	2.2			33.1	31.0	27.9	27.1	28.3	25.9
		12.1	4.6	58.9	55.9			30.9	28.9	26.1	24.9	25.9	24.1
		884	588	2767	2621			1542	1475	1361	1319	1363	1278
		22.10	14.70	9.17	5.52			38.55	36.87	34.02	32.97	34.07	31.95

		m	m	m	m	m	m
5	4	39.9	40.9	39.9	40.4	39.0	38.9
		33.4	34.5	34.0	34.9	33.9	32.9
		24.9	25.1	24.3	24.1	23.0	23.1
		22.1	22.6	21.1	22.1	20.9	20.3
		1203	1231	1193	1215	1168	1152
		30.07	30.78	29.82	32.87	29.20	28.80
					0.38		

W.A.R. found wires out of focus after observation

Lost A $\frac{8}{2}$ + $\frac{3}{1}$ J.F.M. obs.

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1879phae.proj.1424M

1879 July 6
Polaris L.C. C=46.690
13 14
+91 20

m	m	m	m	m	m	m	m	m	m	m
10, 10	10 0	50.0	47.2	46.2	19.0	17.2	15.9	15.0	13.9	12.9	12.8
16.2		58.6	56.2	55.0	28.0	25.5	24.1	24.1	22.4	21.0	20.9
16.1		54.8	52.4	51.2	26.1	23.1	21.5	20.9	19.8	18.1	18.1
19.9		59.9	58.6	56.9	31.1	29.0	27.1	26.3	25.7	24.6	24.1
Diff.		23.3	14.7	9.3	10.42	9.48	8.86	8.63	8.12	7.66	7.59
		55.82	53.67	52.32	26.05	23.70	22.15	21.57	20.30	19.15	18.97

m	m	m	m	m	m	m	m	m	m
10.9	11.9	11.8	11.3	10.9	11.0	11.1	11.0	10.0	10.3
20.1	20.1	19.9	19.2	18.9	19.1	19.5	19.1	19.1	18.9
17.2	16.9	17.1	16.2	15.9	16.0	16.9	15.9	15.9	15.4
23.8	23.0	23.3	22.9	22.1	22.9	23.0	22.3	22.6	22.1
73.0	71.9	72.1	69.6	67.8	69.0	69.5	68.3	67.6	66.7
18.25	17.97	18.02	17.40	16.95	17.25	17.37	17.07	16.90	16.67

Δ 9.0 to 2.0 Δ_{+1}

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1879phae.proj.1424M

July 8 1879

Polaris R.C. E 46.69/0

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+91 20

10 0	50	49.9	46.2	45.1	42.5	23.9	21.4	19.9	18.8
	7.8	58.1	65.7	64.0	57.1	32.5	29.9	27.9	27.2
	1.9	52.3	50.1	48.4	45.8	27.3	23.9	22.4	22.1
	7.9	0.1	57.5	56.1	53.8	30.0	31.2	30.2	29.9
		21 94	95	2036	1927	1187	1064	1004	980
		54.85	52.37	50.90	48.17	29.67	26.60	25.10	24.50

17.7	15.3	16.0	14.9	13.0	12.1	11.8	11.1	11.5	11.9	11.2
25.9	24.1	24.1	23.2	21.2	21.1	20.7	20.0	19.8	20.1	19.7
20.1	18.9	18.9	17.9	15.4	15.2	15.2	14.1	14.1	13.9	14.2
28.1	27.2	26.1	24.9	23.9	23.1	22.9	21.9	21.9	22.1	21.8
9.18	8.55	8.51	8.09	7.35	7.15	7.06	6.71	6.73	6.80	6.69
22.95	21.37	21.27	20.22	18.37	17.87	17.65	16.78	16.82	17.00	16.72

Rig 1st-V

α_{-1} 32 1 (1 sh fm α_{-1}) α_{40} to 3. α_{+1} 54 32 (4)

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1879phae.proj.1424M

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1879 July 8

Polaris c=46.690

1 14

+88 40

500	32.7	35.4	38.0	1.5	1.9	3.1	3.1	4.9	5.9	6.1
	41.9	45.6	48.1	11.9	11.3	13.5	13.1	14.9	15.2	16.0
	34.9	38.9	40.6	4.2	4.5	6.1	6.9	7.5	8.5	9.1
	43.1	46.8	48.2	12.5	12.8	13.9	14.1	15.1	16.2	16.9
	15.26	16.67	17.39	Mean	3.05	3.66	3.62	4.24	4.58	4.81
	38.15	41.67	43.47	3.01 7.52	7.62	9.15	9.05	10.60	11.45	12.02

6.2	7.1	7.1	7.5	7.9	8.0	8.0	8.1	8.5	7.6
16.3	17.1	17.1	17.9	17.9	17.6	17.9	17.8	18.0	17.8
9.8	9.9	10.1	10.9	10.9	10.9	10.9	11.3	11.1	11.0
17.8	18.0	18.1	18.4	18.9	19.0	18.5	18.1	19.2	18.2
501	521	524	547	556	555	553	553	568	546
12.52	13.02	13.10	13.67	13.90	13.87	13.82	13.82	14.20	13.65

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July 1879

Polaris L-b. C = 46.690

	13	14								
	+91	20								
10	3.1	0.2	58.1	54.2	49.9	47.0	45.0	43.1	14.9	13.8
	13.9	10.1	7.9	5.1	00	57.1	54.1	52.2	24.7	23.1
	9.9	6.0	4.8	1.0	56.1	53.1	50.9	48.2	21.0	19.1
	12.1	9.3	6.6	3.1	58.9	56.3	53.8	51.1	23.3	22.9
	390	261	174	34	2249	2140	43	1946	89	789
	9.75	6.52	4.35	0.85	56.22	53.50	51.07	48.65	20.97	19.72

6	12.9	12.8	11.7	11.0	11.1	10.9	10.2	9.9	9.9	9.9
	23.0	22.0	21.1	20.1	19.7	20.0	18.9	18.9	18.9	18.9
	18.9	17.5	16.8	16.0	15.9	15.7	14.9	14.9	14.8	14.8
	22.1	21.1	20.3	20.9	19.8	18.3	17.9	18.2	18.1	17.9
	769	734	699	680	265	649	599	619	617	615
	19.22	18.35	17.48	17.00	16.62	16.22	15.47	15.47	15.42	15.37

Aug 5 20

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1879phae.proj.1424M

112 July 1879

1879. ~~Aug~~ 10

Polaris Lib. C=46.690

13 14

+91 20

m	m	m	m	m	m	m	m	m	m
10 05 49	50.6	99.1	46.8	44.1	16.1	14.0	12.8	11.9	11.1
47.1	3.9	1.1	59.1	56.4	27.1	25.1	23.1	22.9	22.4
2.9	59.1	56.9	54.9	51.9	28.1	21.1	19.1	18.1	18.0
5.1	2.9	0.8	58.1	55.2	27.9	24.9	23.2	22.2	21.2
100	2367	2279	2189	76	942	851	782	750	727
2.50	59.17	56.97	54.72	51.90	23.55	21.27	19.55	18.75	18.17

m	m	m	m	m	m	m	m	m	m
10.5	10.1	8.9	8.3	4.7	8.6	8.0	7.4	8.1	7.1
21.1	21.1	20.1	19.2	19.1	19.8	18.9	19.0	19.0	18.0
16.9	16.9	15.9	14.9	15.1	15.0	14.9	14.0	14.1	13.5
21.2	21.0	19.8	19.0	18.8	19.0	18.8	17.4	17.9	17.8
697	791	687	614	617	624	606	578	591	564
17.42	19.77	15.92	15.35	15.42	15.60	15.15	14.45	14.78	14.10
		6.17							

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1879phae.proj.1424M

July
Aug 10/1879
Polaris C = 46690
1 14
+88 40

m	ш	ш	ш	ш	ш	ш	m	ш	ш
50 0 22.9	25.5	28.2	30.9	32.8	35.1	36.2	37.9	5'9.9	1 1.5
31.1	35.7	38.1	40.2	42.1	44.8	45.5	47.4	11.0	11.4
28.0	30.4	33.0	35.2	37.1	39.5	41.0	42.9	4.9	6.0
32.1	35.9	39.0	41.0	42.9	46.2	47.9	48.5	1.9	11.9
11 40	72	13 83	1473	1549	16 56	17 06	1767	2667	308
28.50	31.80	34.57	36.82	38.72	41.40	42.65	44.17	6.67	7.70

ш	ш	ш ш	ш	ш	ш ш	ш ш	ш	ш
3.1	2.9	5.0	4.5	5.3	6.1	5.9	5.7	7.0	6.5
13.0	13.0	15.1	14.9	15.6	16.0	16.2	16.1	16.9	17.1
7.5	7.4	9.3	8.9	10.1	10.9	10.7	10.9	11.6	12.0
13.1	13.1	15.1	15.1	15.9	16.3	16.6	16.5	17.5	17.9
367	364	445	434	469	493	494	492	530	535
9.17	9.10	11.12	10.85	11.72	12.32	12.35	12.30	13.25	13.37

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X

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1879 Aug 14

Polaris L.C. C=46.964

13 14

+91 20

	m	m	m	m	m	m
10	14.1	0	55.4	57.1	47.2	42.9	38.5
	56.1		46.7	42.4	38.5	33.4	30.1
	16.7		9.1	4.4	0.8	56.1	51.9
	11.8		1.5	57.9	52.1	49.1	45.1
	27.07		23.27	21.58	20.06	18.15	16.56
	4.67		58.17	53.95	50.15	45.37	41.40

$A_{-1}^{5,4,3,2,1} - A_{2,1}^{8,8,8,7,7,7,6,6,6} - {}_{1\,0}^{5\,5}\,{}_{2\,1\,0}^{4\,4\,4}\,{}_{2\,1\,0}^{3\,3\,3}\,{}_{2\,1\,0}^{2\,2\,2}$

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1879phae.proj.1424M

1879 Aug 19
Polaris L.C. c=46.959
13 14
+91 20

	54.4								
13.9	10.8								
9.1	6.4	3.2	2.1						

10 0	14.9	13.0	11.4	9.9	9.5	9.0	8.3	7.6	5.9	6.1
	10.0	7.1	5.2	4.8	4.5	3.7	3.1	2.1	1.1	1.0
	15.3	23.9	21.6	20.5	20.4	18.9	18.9	17.9	17.0	6.5
21 0		19.2	17.2	16.2	15.9	15.7	15.3	13.9	12.9	13.0
	613	632	554	514	506	462	456	415	369	266
	15.32	15.80	13.85	12.85	12.65	11.55	11.40	10.37	9.22	6.65

A 1, to 2.

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1879phae.proj.1424M

116

1879 Aug. 19

Polaris C = 46.959

1 14

+88 40

45 4	42.1	46.9	49.9	52.9	54.4	57.8	50° 0' 2.9	6.5	9.9	11.9
	39.7	43.11	46.1	48.9	51.8	56.6	58.9	3.1	5.8	8.1
	52.7	58.2	59.9	2.9	5.2	9.1	6.8	17.1	20.1	21.9
	48.2	55.1	57.1	59.5	2.0	6.9	10.2	15.1	17.2	19.1
	18 27	20 33	21 30	22 42	23 34	25 24	26 08	4 18	5 30	6 10
	45.67	50.82	53.25	56.05	58.35	3.10	5.20	10.45	13.25	15.25

50 0	13.6	15.5	17.1	19.9	44.2	45.8	46.2	48.0	48.1	49.7
	10.1	11.9	13.8	16.5	41.4	42.1	42.9	43.5	44.9	45.4
	23.7	25.9	28.0	30.1	55.5	56.7	57.1	58.1	58.9	59.7
	21.1	23.1	24.9	27.1	52.0	53.9	54.8	55.8	56.1	57.8
	6 85	7 64	8 38	9 36	19 31	19 85	20 10	20 54	20 80	21 26
	17.12	19.10	20.95	23.40	48.27	49.62	50.25	51.35	52.00	53.15

A to 50° - 7 to 9 A -1.

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1879phae.proj.1424W

Aug 21/79
Polaris 2.6 C=46.959
13 14
+91 20

10	0	50.9	47.9	45.1	42.9	41.7	0	11.1	9.4	9.1	8.1	7.1
		50.8	47.0	44.4	42.0	40.2		11.0	8.1	7.5	6.8	6.1
		4.8	1.1	58.6	56.3	54.4		24.5	22.9	21.3	20.4	19.4
		56.7	53.8	50.4	48.2	46.8		17.7	15.9	14.3	13.9	13.1
		2231	2095	1985	1894	1834		643	563	522	494	460
		55.78	52.37	49.62	47.35	45.85		16.07	14.07	13.05	12.35	11.50

	6.0	4.9	4.8	4.0	3.2	3.1	2.8	1.6	2.5	1.3
	4.9	4.1	3.1	3.3	2.0	2.1	0.7	0.1	0.7	0.0
	18.1	17.1	17.2	17.0	16.1	16.7	15.0	14.9	14.6	13.5
	11.1	10.2	10.0	10.1	9.1	9.1	8.1	6.8	7.3	7.2
	401	363	351	344	304	310	266	234	251	220
	10.02	9.07	8.78	8.60	7.60	7.75	6.65	5.85	6.28	5.50

A 9 to 6 A -1

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1879phae.proj.1424M

118

1879 Aug. 22

Polaris L6 C=46.950

3 14

+91 20

10	0	12.1	8.6	6.7	5.4	5.1	3.9	4.2	2.7	3.3	1.6
		7.7	3.5	1.5	0.1	5.98	5.89	5.81	5.74	5.72	5.61
		27.8	20.9	23.9	20.0	20.6	18.9	19.5	17.3	17.9	16.6
		18.6	14.9	14.9	11.9	11.7	10.2	10.0	8.1	9.2	7.6
		~~5.6~~ 5.62	5.12	4.70	3.74	2.72	2.19	2.23	2.55	2.76	2.21
		16.55	12.80	11.75	9.35	9.30	7.97	8.07	6.37	6.90	5.52

5	4	5.89	0.2	0.1	5.81	5.90
		5.41	5.58	5.51	5.31	5.42
		13.4	14.8	14.8	13.1	14.2
		4.9	6.9	6.2	5.4	5.5
		2623	2577	2562	2497	2529
		5.57	4.42	4.05	2.42	3.22

All Ms less from A4.

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Mr Rhys A-1

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1879phae.proj.1424M

1879 Aug. 24
Polaris c=46.950
1 14
+88 40

45 4	40.3	47.9	50.1	51.6	57.6	50.0	2.8	7.9	10.7	13.9	16.8
	37.2	43.9	46.0	48.2	54.0	59.9	3.9	6.7	10.1	12.2	
	52.8	0.1	1.9	3.9	8.3	14.3	19.8	22.2	25.8	28.4	
	50.1	56.8	58.1	1.1	6.4	11.3	17.1	19.9	23.3	28.8	
	18.04	20.87	21.61	22.48	24.65	26.74	4.87	5.95	7.31	8.32	
	45.10	52.17	54.02	56.20	1.62	6.85	12.17	14.87	18.27	20.80	

50 0	41.9	41.6	42.8	44.8	45.9	45.9	47.1	48.2	48.8	51.2
	37.8	37.9	38.9	41.1	41.6	41.0	43.5	44.1	45.0	46.9
	52.7	53.1	54.1	55.9	57.1	57.9	59.9	59.8	0.1	2.3
	51.1	51.1	52.8	54.2	50.1	55.2	57.2	57.9	58.6	0.2
	18.35	18.37	18.86	19.60	19.97	20.00	20.77	21.00	21.25	22.06
	45.87	45.92	47.15	49.00	49.92	50.00	51.92	52.50	53.12	55.15

The means of the circle readings have been checked to the end of Aug. 24 in this book.

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1879phae.proj:1424M

120

1879. Sept. 5

Polaris. L6 C=46.966

13 14

+91 20

m	m	m	m	m	m	m	m	m	m
10 1	14.1	11.1	9.1	6.3	3.8	0.5	58.5	55.3	53.6	51.1
	18.1	14.9	12.4	9.9	7.1	4.1	2.6	58.9	54.1	54.2
	27.3	23.9	21.9	19.1	16.6	13.1	11.2	8.0	5.9	3.9
	24.9	21.2	20.0	16.7	14.1	10.9	9.1	6.0	4.5	2.1
	844	711	634	520	416	286	2614	82	11	2311
	21.10	17.78	15.85	13.00	10.40	7.15	5.35	2.05	0.27	57.78

m	m	m	m	m	m	m	m	m	m
10 0	13.8	13.9	14.1	12.0	11.1	10.1	9.9	8.1	8.1	9.1
	52.0	19.2	19.1	17.1	15.9	15.1	15.0	12.1	12.8	14.2
	1.4	27.6	27.9	25.3	24.7	23.8	23.2	20.7	20.4	22.1
	59.8	26.2	25.9	24.0	23.1	21.8	21.9	19.5	19.2	20.5
	2220	869	870	784	748	708	700	604	605	659
	55.50	21.72	21.75	19.60	18.70	17.70	17.50	15.10	15.12	16.47

Flavum A to 3

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1879phae.proj.1424M

1879 Sept. 6
Polaris L.L. c = 46966
13 14
+91 20

		m	m	m	m	m	m	m	m	m	m
18	1	39.0	32.1	27.1	23.9	18.9	15.0	12.3	9.9	6.8	2.9
		46.2	39.1	33.9	30.1	25.6	22.1	18.7	16.2	15.1	9.3
		52.2	45.9	39.9	37.1	32.3	28.4	25.1	22.2	19.2	15.4
		50.0	43.4	38.6	34.9	29.7	26.1	23.7	21.0	17.3	13.9
		1874	1605	1395	1260	1065	916	798	693	584	415
		46.85	40.12	34.87	31.50	26.62	22.90	19.95	17.32	14.60	11.37

		m	m	m	m	m	m	m	m	m	m
10	0	58.7	57.2	53.1	52.6	20.6	17.9	16.9	15.9	14.9	11.9
		5.9	3.7	59.2	58.9	26.3	23.1	22.3	21.6	20.6	17.9
		11.9	9.9	5.7	5.1	32.9	30.1	28.9	28.1	26.9	23.9
		10.1	8.8	4.8	4.2	31.2	29.0	28.0	27.9	26.1	22.8
		2666	196	28	08	1110	1001	962	935	885	765
		6.65	4.90	0.70	0.20	27.75	25.02	24.05	23.37	22.12	19.12

Seeing bad.
J. M. obs. Lost last 2 strokes of 6.

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1879phae.proj.1424M

1879 Sept. 6

Polaris C=46,966

14

+88 40

	m	m	m	m	m	m	m
45 4 24,9	32,5	37,9	40,1	44,7	48,0	52,6	
32,1	38,9	44,8	46,4	50,9	54,0	58,1	
36,3	43,7	49,4	51,2	55,2	59,1	2,1	
36,4	44,2	49,9	52,4	56,0	59,6	3,2	
97	1593	1820	1901	68	2209	2340	
32,42	39,82	45,50	47,52	51,70	55,22	58,50	

$A_{1,1}$ A_{1_0} 1_2 2_2 3_0

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1879phae.proj.1424M

1879 Sept. 8
Polaris L.C. c=46.966
13 14
+91 20

100	22.4	19.0	18.2	17.3	15.0	14.9	14.0	12.2#	10.9	11.2
	25.7	22.3	20.8	20.2	18.4	18.8	17.4	16.0	14.9	15.4
	33.1	30.0	29.0	27.9	26.1	25.9	25.4	23.1	22.2	22.9
	33.8	30.5	29.1	28.6	26.1	26.6	25.2	23.4	22.2	22.3
	1150	1018	971	940	856	862	817	747	702	718
	28.75	25.45	24.27	23.50	21.40	21.55	20.42	18.67	17.55	17.95

100	11.4	10.1	9.1	9.1	9.0	7.7	8.5
	14.9	13.9	12.2	12.4	12.4	10.9	12.1
	22.1	21.1	19.9	19.8	19.9	18.4	19.8
	22.9	21.3	20.1	20.1	20.3	19.3	20.0
	713	664	613	614	616	563	604
	17.82	16.60	15.32	15.35	15.40	14.07	15.10

New zero for sheet

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0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0

From 6, to 0

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1879phae.proj.1424M

124

1879 Sept. 8

Polaris C = 46.966

/ 14

+88 40

m	m	m	m	m	m	m	m	m	m
50 0 39.2	41.0	41.1	43.1	44.1	44.9	45.6	46.4	47.7	46.5
44.1	46.0	47.1	48.9	49.3	50.1	51.1	52.1	51.7	51.2
49.1	51.0	51.5	53.8	54.2	54.9	55.8	57.9	57.0	57.0
51.9	53.1	53.7	55.9	56.7	57.3	57.9	00	00	59.9
1843	1911	1934	2017	2043	2072	2104	2168	2164	2146
46.07	47.78	48.35	50.42	51.07	51.80	52.60	54.20	54.10	53.65

m	m	m	m	m	m	m	m	m	m
486	49.0	50.1	48.9	50.0	49.1	50.1	49.8	49.1	48.1
539	54.9	55.1	54.2	56.2	54.1	55.0	54.2	54.0	53.3
584	59.1	59.9	59.2	01.1	59.4	00	59.8	58.9	58.1
1.3	1.3	2.5	1.4	2.5	2.4	2.7	2.1	1.7	0.8
2222	2244	2276	2237	2288	2253	2278	2259	2237	2203
55.55	56.10	56.90	55.92	57.20	56.32	56.95	56.47	55.92	55.07

A3, +c.

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1879phae.proj.1424M

Sept. 10 1879

Polaris L.b. c = 46.926

13 14

+91 20

m	m	m	m	m	m	m	m	m	m
10 - 4.7	1.9	0.0	0 59.1	53.8	54.1	52.1	23.9	23.1	21.1
10.1	6.8	5.4	3.9	1.0	59.1	57.1	28.3	27.1	25.1
15.7	12.3	10.9	9.9	6.9	5.1	2.9	35.1	34.1	32.4
13.2	10.9	9.1	8.2	5.1	3.4	1.1	32.9	31.3	29.9
43.7	31.9	25.4	21.1	8.8	1.7	2332	1202	1156	1085
10.92	7.97	6.35	5.27	2.20	0.42	58.30	30.05	28.90	27.12

m	m	m	m	m	m	m	m	m	m
19.9	19.8	19.0	18.2	17.8	13.8	13.4	13.2	13.1	12.8
24.2	23.2	23.3	22.8	22.1	18.1	17.8	17.9	17.9	17.2
30.8	31.1	29.9	28.9	28.4	24.3	24.6	23.2	23.6	23.1
28.8	28.9	27.4	27.2	26.9	22.7	22.6	22.1	21.9	21.5
1037	1030	999	971	955	789	797	764	765	746
25.92	25.75	24.97	24.27	23.87	19.72	19.92	19.10	19.12	18.65

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Obs. 5-4 3

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1879phae.proj.1424M

Sept 1-12 1879

Polaris L.C. C=46.926

13 14

+91 20

m	m	m	m	m	m	m	m	m	m
10 0 32.7	31.0	30.1	28.2	26.8	25.3	24.1	23.1	22.9	22.1
37.9	36.0	34.1	32.4	31.4	30.0	28.1	24.2	27.9	26.1
42.8	40.9	39.6	37.9	36.9	35.1	33.8	32.7	32.1	31.3
40.0	39.6	38.0	36.3	34.6	33.5	32.1	30.9	31.0	30.0
15 34	14 75	218	148	97	39	11 81	11 39	11 39	10 95
38.35	36.87	35.45	33.70	32.42	30.97	29.52	28.47	28.47	27.37

m	m	m	m	m	m	m	m	m	m
20.1	19.9	18.2	17.8	16.4	16.1	17.1	15.4	15.1	15.6
24.2	24.0	22.5	21.9	21.1	20.9	21.1	20.1	20.0	19.9
29.7	28.9	28.6	26.6	26.1	25.9	26.4	25.8	24.1	25.2
28.1	27.9	25.9	25.6	24.9	24.4	24.9	23.9	23.9	24.1
221	207	152	919	85	873	95	52	31	48
25.52	25.17	23.80	22.97	22.12	21.82	22.37	21.30	22.78	21.20

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1879phae.proj.1424M

Sept-14 1879

Polaris C-46926

1 14

+88 40

45-4	54.1	58.9	4.1	6.2	11.0	13.4	37.9	39.8	40.5	42.4
	59.1	3.6	9.1	11.7	16.1	18.2	43.1	45.1	45.1	47.1
	1.9	6.8	10.9	15.0	18.4	20.9	45.3	47.3	48.8	50.8
	4.0	8.9	14.0	17.1	21.1	23.9	49.3	51.0	51.7	52.9
	23.91	18.4	38.1	50.0	66.9	76.4	175.6	183.2	186.1	193.2
	59.78	4.60	9.52	12.50	16.72	19.10	43.90	45.80	46.52	48.30

42.9	43.1	45.1	45.4	44.7	46.9	46.9	47.9	48.3	48.9
47.1	47.9	49.2	49.8	48.9	51.1	51.2	52.3	53.1	54.1
50.2	50.2	52.2	52.5	51.3	53.7	54.1	55.1	55.2	56.3
53.1	53.9	55.0	56.9	54.4	57.1	57.7	58.1	58.8	59.1
193.3	195.1	201.5	203.6	199.3	218.8	219.9	223.4	225.4	227.4
48.32	48.78	50.37	50.90	49.82	52.20	52.48	53.35	53.85	54.60

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1879phae.proj.1424M

1879 Sept. 15

Polaris C=46926

13 14

+91 20

m	m	m	m	m	m	m	m	m
10 0 25,9	23,1	#21,9	24,1	20,0	20,9	18,0	17,1	17,2
32,1	29,0	26,7	25,3	24,1	25,7	22,1	21,1	21,1
37,5	34,4	32,8	31,5	30,9	31,8	28,1	28,8	20,9
35,3	Aff.	31,4	29,9	29,0	29,9	27,1	26,0	25,6
10 8		11 28	10 78	10 40	27,7	15 13	9 20	11 8
32,70		28,20	26,95	26,00	26,92	23,82	23,00	22,95

m	#	m	m	m	m	m	m	m	m
16,7		16,3	15,1	13,3	14,9	13,6	13,2	13,0	12,6
19,8		18,4	19,0	18,1	18,1	17,2	17,1	17,0	16,1
26,1		24,9	25,1	23,5	24,1	23,3	23,3	22,0	22,1
24,4		23,1	23,0	22,1	23,1	21,9	22,2	21,1	20,3
86 0		80,7	82,2	77,0	80,2	76,0	75,8	73,1	71,1
21,50		20,17	20,55	19,25	20,05	19,00	18,95	18,27	17,78

(#) new new first - 5 after 3 rather 2

after new new of sheet

A 8,0 7,2 7,0 6,2 5,1 5,0 1,0 A +1,3 2

~~A 8,0 to 3,0~~

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1879phae.proj.1424M

1879 Sept. 17
Polaris L.C. C=46.926
13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
10	1	16.3	13.9	12.6	11.1	8.1	6.1	3.9	2.3	0.1	0 59.2
		21.1	18.4	16.4	14.9	12.1	9.9	8.1	6.1	4.1	3.1
		26.2	24.1	22.1	19.8	17.2	15.2	13.2	11.4	9.1	8.2
		24.9	21.9	20.4	18.6	15.1	14.1	11.1	9.8	7.9	7.0
		8.5	7.86	7.15	2.44	5.25	4.53	3.63	2.99	2.12	1.75
		22.12	19.65	17.87	16.10	13.12	11.32	9.07	7.47	5.30	4.37

	m	m	m	m	m
10	0	57.1	54.1	21.7	21.5	20.9
		0.9	58.2	24.1	24.0	23.2
		6.5	4.1	38.3	37.0	36.1
		4.5	2.9	34.1	33.2	31.9
		9.0	23.93	118.2	115.7	112.1
		2.25	59.82	29.55	28.92	28.02

Ag 8.4

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1879phae.proj.1424M

Sept 14 1879

Polaris L.C. C = 46.895

13 14

+91 20

10	1	37.7	26.1	22.9	17.1	14.1	10.9	7.0	3.3	1.1	59.5
		38.1	32.8	29.1	24.1	20.9	17.2	13.9	10.1	7.6	6.1
		40.1	35.0	31.9	26.1	22.5	19.4	14.9	12.2	9.8	8.0
		38.9	33.2	30.1	24.9	21.5	18.7	14.1	11.2	8.9	7.1
		14 88	71	1140	922	790	262	99	368	214	207
		37.20	31.78	28.50	23.05	19.75	16.55	12.48	9.20	6.85	5.17

10	0	57.5	53.0	27.9	25.6	24.9	22.1	21.9	21.9	19.8	19.9
		4.1	1.9	33.4	31.9	31.1	28.1	28.1	28.3	25.9	26.1
		5.9	3.2	35.4	33.9	33.0	30.5	30.8	29.9	28.2	28.2
		5.2	3.2	34.9	33.2	32.1	30.0	29.8	29.2	27.4	27.1
		25 27	33	13 21	46	11	11 07	11 06	293	1018	1013
		3.17	0.82	33.02	31.15	30.27	27.67	27.65	27.32	25.45	25.32

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1879phae.proj.1424M

~~Polo~~ 1879. Sept. 19
Polaris L.C. c=46.895

13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
10	13.8	9.0	6.9	5.0	2.6	5.95	5.9	5.10	2.81	2.72
	21.2	15.5	13.1	11.9	9.1	7.1	4.1	2.9	3.54	3.39
	20.1	17.6	15.9	14.0	10.9	8.9	6.1	4.6	3.73	3.59
	23.1	17.9	15.7	14.0	11.1	8.9	6.9	4.0	3.71	3.55
	12	600	510	449	337	2645	130	66	1379	1325
	20.30	15.00	12.75	11.22	8.42	6.10	3.25	1.65	34.97	33.12

	m	m	m	m	m	m	m	m	m	m
10	25.9	25.1	24.0	23.0	22.1	20.9	20.1	19.1	17.6	16.9
	31.9	31.2	30.1	29.9	28.9	27.0	26.3	25.9	24.9	23.9
	34.8	34.1	82.5	81.9	31.0	29.9	28.9	28.1	26.9	26.5
	34.2	33.9	32.2	31.8	30.9	29.1	28.9	28.1	26.9	25.1
	68	43	1188	1166	1129	269	242	1012	963	924
	31.70	31.07	29.70	29.15	28.22	26.72	26.05	25.30	24.07	23.10

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1879phae.proj.1424M

132

1879 Sept 1-23

Polaris c=46.861

/ 14

+88 40

	m	m	m	m	m	m	m	m	m	m
45 4	58.8	2.1	6.4	9.0	12.9	39.4	37.1	38.9	39.1	40.5
	5.9	9.2	13.1	15.9	19.1	43.9	43.5	45.1	45.1	44.2
	5.9	8.2	13.9	15.9	19.6	44.1	43.9	46.0	45.9	44.1
	4.1	11.9	15.3	18.3	12.1	46.3	46.3	48.2	48.1	49.5
	1.7.7	3.1.4	8.7	5.9.1	2.3.7	1.7.1.7	1.7.0.8	1.7.8.2	1.7.8.2	2.3.3
	4.42	7.85	12.17	14.78	15.92	42.92	42.70	44.55	44.55	45.82

	m	m	m	m	m	m	m	m	m	m
50 0	41.4	42.2	42.2	43.7	43.9	44.2	45.0	45.1	45.3	45.2
	47.3	48.1	48.4	49.9	49.8	50.9	51.3	51.1	51.9	51.5
	48.2	49.0	49.4	50.1	50.4	51.4	51.8	52.1	52.2	52.1
	50.9	51.9	51.9	52.9	52.9	53.6	54.1	55.0	54.7	54.9
	1878	1910	1923	1966	1973	04	22	33	41	37
	46.95	47.75	48.05	49.15	49.32	50.10	50.55	50.82	51.02	50.92

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1879. Sept. 25
Polaris L-C. C=46.883
13 14
+91 29

m	m	m	m	m	m	m	m	m	m
101	190	160	122	109	89	78	51	39	81	349
	241	213	141	157	132	119	100	89	79	463
	231	200	169	150	129	114	91	79	69	367
	249	215	181	161	141	136	118	97	81	391
	911	788	243	177	91	47	360	304	270	1570
	22.78	19.70	16.07	14.42	12.27	11.17	9.00	7.60	6.75	39.25

m	m	m	m	m	m	m	m	m	m
100	338	326	315	301	289	289	281	263	262	257
	441	424	411	399	385	384	379	349	351	331
	358	350	339	333	321	321	312	300	300	286
	371	367	361	349	331	341	331	320	319	303
	308	267	226	182	126	138	103	32	32	1173
	37.70	34.67	35.65	34.55	33.15	33.45	32.57	30.80	30.80	29.32

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1879phae.proj.1424M

134

1879 Sept. 26

Polaris L.C. C = 46.883

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10 1	35.9	33.9	31.1	27.9	24.9	23.4	20.1	15.9	12.1	10.3
	40.8	37.9	35.0	31.9	29.1	25.0	24.0	20.0	15.9	14.9
	40.9	37.1	35.0	32.0	28.9	27.1	23.5	20.1	15.4	13.9
	41.9	38.1	36.8	33.0	30.1	28.9	25.0	20.9	16.9	15.1
	154.5	270	179	48	119.30	274	126	769	203	142
	39.85	36.75	34.47	31.20	23.25 (8.25)	26.85	23.15	19.22	15.07	13.55

	m	m	m	m	m	m	m	m	m	m
10 1	6.1	4.2	2.1	0	35.9	34.2	34.8	33.1	31.1	32.1	31.1
	10.1	8.9	6.4		39.6	38.1	38.8	36.1	35.0	35.7	35.0
	9.7	7.9	6.1		39.9	38.8	38.7	36.3	34.8	35.8	35.1
	11.5	10.0	8.9		42.1	40.1	40.1	38.1	37.0	37.6	37.6
	374	310	229		151.4	151.2	152.4	236	179	212	188
	9.35	7.75	5.72		39.35	37.80	38.10	35.90	34.47	35.30	34.70

Seeing pretty bad

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1879 Sept. 28
Polaris L-C c=46.841

13	14					
+91	20					
m	m	m	m	m	m	m
55.1	49.9	46.9	45.1	43.6	38.9	34.1
59.5	54.1	51.6	50.0	47.4	42.9	38.1
58.5	53.4	50.9	49.1	47.5	42.4	38.9
59.9	54.9	52.0	50.1	48.9	44.0	38.5
33.1	12.3	14	19.43	27.7	8.5	30.6
58.27	53.07	50.35	48.57	46.92	42.12	37.65

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1879phae.proj.1424M

136

1879 Sept. 29

Polaris c=46.869

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	m	h	m	m	m	m	m	m	m	m	m
45-4	58.2	50	6	4.2	7.1	10.1	35.9	37.3	37.9	38.1	39.9	40.1
	2.9			9.2	12.1	14.9	40.6	41.8	42.2	42.9	44.8	44.6
	4.1			9.1	12.9	16.0	42.0	43.0	43.8	44.1	45.9	45.9
	6.8			11.9	15.9	18.2	44.9	46.1	46.9	47.0	48.9	48.9
	12.0			34.4	8.0	19.2	3.4	8.2	10.8	12.1	7.95	19.7
	3.00			8.60	12.00	14.80	40.85	42.05	42.70	43.02	44.87	44.92

	m	m	m	m	m	m	m	m	m	m
(50)										
45-0	41.9	41.9	42.1	42.4	44.1	44.1	44.1	45.1	45.1	44.9
	46.1	46.1	47.1	47.9	48.3	49.1	48.8	49.3	49.2	49.0
	47.5	47.9	48.4	49.1	49.9	50.2	50.0	50.6	50.9	49.9
	50.3	50.1	51.5	52.1	52.1	53.1	52.9	53.6	54.1	52.9
	258	260	291	318	374	365	358	386	393	367
	46.45	46.50	47.27	47.95	48.60	49.12	48.95	49.65	49.82	49.17

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1879phae.proj.1424M

1879 Sept 30
Polaris L.C. C = 46.869
13 14
+9. 20

	m	m	m	m	m	m	m	m	m	m
10 1	25.0	18.1	15.9	14.1	10.7	9.1	6.0	4.7	2.1	0.0
	31.1	24.1	21.7	19.9	15.9	14.8	11.1	9.5	7.0	5.0
	34.9	28.0	25.0	23.1	19.1	17.3	14.4	13.0	10.1	8.5
	31.9	25.0	22.9	20.9	17.1	16.2	12.9	11.9	8.1	6.7
	29	152	155	780	228	574	44	391	273	202
2	30.72	23.80	21.37	19.50	15.70	14.35	11.10	9.78	6.82	5.05

	m	m	m	m	m	m	m	m	m	m
10 0	33.6	30.9	30.0	28.9	26.9	25.2	24.1	24.6	23.0	22.3
	38.9	36.1	34.9	33.8	31.4	30.2	30.1	29.1	27.9	26.9
	42.1	39.9	38.9	37.9	36.0	34.2	34.0	33.1	32.2	31.1
	40.2	38.3	37.1	35.1	33.3	32.2	32.1	31.1	30.1	28.8
	1548	252	209	157	76	18	03	1179	1132	1091
	38.70	36.30	35.22	33.92	31.90	30.45	30.07	29.47	28.30	27.27

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1879phae.proj.1424M

1879. Oct. 1

Polaris L.C. c = 46.869

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+91 20

10	0	29.8	26.9	25.6	25.4	24.9	23.6	28.2	22.2	21.5	21.9
		36.4	33.2	32.1	31.9	31.2	30.1	29.9	29.0	28.0	24.9
		41.4	39.2	37.7	37.4	36.2	35.1	35.0	33.9	33.2	34.0
		37.0	35.0	34.2	34.0	32.9	30.9	30.9	30.1	29.9	30.1
		14 46	14 3	98	12 87	52	11 97	11 90	11 52	11 26	11 49
		36.15	33.57	32.45	32.17	31.30	29.92	29.75	28.80	28.15	28.72

10	0	20.4	20.1	20.2	19.1	18.1	19.0	18.1	17.9	17.6	16.9
		27.1	26.8	27.1	25.9	25.1	26.0	24.2	24.2	23.9	23.1
		32.5	32.0	32.1	30.9	29.9	30.9	29.5	29.2	29.1	27.9
		28.1	28.0	28.1	27.1	26.7	27.5	26.1	25.9	25.1	25.1
		10 81	10 69	10 75	10 30	7 98	10 34	9 79	9 72	9 57	9 30
		27.02									
		~~32.02~~	26.72	26.87	25.75	19.95	25.85	24.47	24.30	23.92	23.25

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Oct 2 1879

Polaris L.b. c = 46.869

	13	14									
+91	20.	m	m	m	m	m	m	m	m	m	m	m
10	1	6,9	4,8	3,1	1,9	0	58.2	32,3	31,1	29,0	28,9	27,2
		15,0	12,9	10,9	8,9		5.9	38,9	37,9	35,1	35,9	34,1
		19,6	17,2	15,8	13,9		11.0	43,9	42,6	40,9	40,8	39,1
		16,1	14,2	12,9	11,3		7.8	41,1	40,1	37,9	37,9	36,6
								1562				
		576	92	27	360	2	29		1517	1429	1435	1370
		14.40	12.30	10,67	9,00	~~3.02~~ 5.72		39,05	37,92	35,72	35,87	34,25

b

	m	m	m	m	m	m	m	m	m	m
10	0	26,1	26,5	26,1	25,0	23,8	23,6	21,9	22,1	21,4	20,9
		33,1	33,1	32,9	31,8	30,8	30,0	28,6	29,1	28,4	27,1
		38,6	38,1	37,9	36,9	35,8	35,3	34,0	34,0	33,8	32,8
		36,1	35,9	35,1	33,9	32,8	32,8	30,6	30,9	29,9	29,7
		1339	1336	1320	1276	32	17	1151	1161	1135	1105
		33,47	33,40	33,00	31,90	30,80		30,42	28,78	29,02	28,37	27,62

False strokes + cattle before ?

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Polaris L.C. c = 46.869

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	m	m	m	m	m	m	m	m	m	m
10	0	29.2	27.9	27.2	26.1	26.1	24.8	23.1	22.5	22.1
		35.6	34.1	32.9	32.1	31.8	30.1	29.0	28.2	28.1
		40.3	39.1	37.7	37.1	37.0	35.5	34.1	32.9	33.1
		37.2	36.1	35.1	36.0	35.1	33.1	31.9	30.9	31.0
		1423	1372	1329	1303	1300	1235	1181	1145	1143
		35.57	34.30	33.22	32.57	32.50	30.87	29.52	28.62	28.57

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1879phae.proj.1424M

1879 Oct. 4
Polaris L.C. c=46.869

		13	14								
		+91	20								
		m	m	m	m	m	m	m	m	m	m
10	1	17.9	10.9	8.6	5.9	3.6	0 33.2	30.5	28.1	27.1	25.9
		25.4	18.9	16.5	13.7	11.2	40.1	37.3	35.9	34.8	32.9
		28.9	20.2	17.9	15.2	13.1	42.9	39.9	38.3	37.1	36.0
		25.9	19.9	17.1	14.6	12.8	41.1	38.4	37.1	35.9	34.9
		98	1 699	601	494	07	1573	261	1394	1349	97
		24.52	17.48	15.02	12.35	10.17	39.32	36.52	34.85	33.72	32.42

		m	m	m	m	m	m	m	m	m	m
10	0	26.1	24.0	23.9	22.9	21.9	21.8	21.9	21.6	19.5	23.1
		33.1	31.2	30.8	30.0	29.1	29.1	29.0	29.1	26.9	30.1
		35.9	34.0	33.1	32.5	30.1	31.3	31.9	31.1	29.1	32.9
		35.0	32.1	32.1	31.1	30.9	30.9	30.9	30.4	28.2	31.1
		101	13	1199	1165	1120	1131	1137	1122	237	1172
		32.52	30.39	29.98	29.12	28.00	28.27	28.42	28.05	25.92	29.30

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1879phae.proj.1424M

142
1879 Oct. 5
Polaris L.b. c = 46.869
13 14
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	m	m	m	m	m	m	m	m	m	m
10 1	38.3	32.8	29.9	25.9	23.0	19.4	16.2	14.1	8.7	6.9
	47.11	41.0	38.1	34.1	31.2	27.9	24.1	22.1	16.9	14.2
	50.5	44.1	41.1	37.0	34.5	30.4	27.3	24.9	19.1	17.1
	47.9	41.5	38.3	35.3	31.8	28.2	25.4	22.1	17.1	15.0
	1838	1594	1474	123	05	1062	927	32	618	532
	45.95	39.85	36.85	33.07	30.12	26.55	23.17	20.82	15.45	13.30

	m	m	m	m	m	m	m	m	m	m
10 1	4.1	0.2	33.9	32.5	31.9	29.9	28.9	28.1	28.1	26.9
	12.9	7.9	41.1	40.6	39.1	37.1	36.1	35.6	35.6	33.4
	14.5	10.9	44.0	42.9	41.9	40.1	38.5	38.6	38.3	36.7
	12.8	8.7	41.0	40.1	39.1	37.9	36.1	36.1	36.1	34.2
	4.3	2.2	00	15.61	15.20	14.50	13.96	13.86	13.81	13.12
	11.07	6.82	40.00	39.02	38.00	36.25	34.90	34.65	34.52	32.80

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1979phae.proj.1424M

Oct-6-7
Polaris 2.6 c=46.875
13 14
+91 20

m	m	m	m	m	m	m	m	m	m
10 1 4	44.0	35.1	33.7	32.6	24.6	27.0	23.9	21.1	16.9	7.0
	52.3	43.0	41.9	40.0	35.9	34.1	30.4	28.3	23.9	14.3
	53.6	44.6	42.6	41.0	37.2	35.1	32.4	29.8	24.8	14.9
	52.9	44.1	43.0	41.9	37.4	25.8	32.1	30.0	19.9	15.9
	28	68	12	1555	1391	1321	1188	1093	855	521
	50.70	41.70	40.30	38.87	34.78	33.00	29.70	27.32	21.38	13.12

m	m	m	m	m	m	m	m	m	m
H 5.1	2.9	35.7	33.9	33.0	31.2	29.9	29.6	27.9	27.4
13.1	10.1	41.4	40.1	39.8	38.0	36.6	36.0	34.2	34.8
14.1	11.1	42.9	41.9	41.3	39.2	37.9	37.4	35.6	35.9
14.2	11.1	42.9	41.9	40.9	39.1	38.1	37.8	35.2	36.0
65	352	29	1578	1550	275	1425	208	129	141
11.62	8.80	40.72	39.45	38.75	36.88	35.62	35.20	33.22	33.52

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1879phae.proj.1424M

144 Oct. 7-8

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13 14 L.b C= 46.875
+ 9 1 20

	m	m	m	m	m	m	m	m	m	m
10 0	34.1	33.0	31.1	30.1	28.1	28.9	28.1	27.9	26.9	25.9
	40.7	39.2	37.9	37.0	35.1	35.4	34.5	33.3	32.0	32.2
	45.6	44.9	42.9	42.3	39.9	40.8	39.9	39.0	37.3	37.1
	42.0	41.0	38.6	38.3	36.3	37.0	36.4	36.1	33.8	33.5
	24	1581	1505	1477	194	1424	1392	1363	1300	87
	40.60	39.52	37.62	36.92	34.85	35.60	34.80	34.07	32.50	32.17

	m	m	m	m	m	m	m	m	m	m
10 0	23.9	23.1	22.9	23.2	22.9	22.2	22.1	22.1	20.9	21.1
	30.2	29.1	29.7	29.7	28.1	28.9	28.2	28.4	26.9	27.1
	35.8	34.2	34.9	34.2	33.9	33.8	33.1	33.1	31.1	32.1
	32.1	30.9	31.4	30.9	30.3	30.0	30.0	29.2	28.1	28.1
	20	1173	1189	40	1152	1149	1134	1128	1070	1094
	30.50	29.32	29.72	31.00	28.80	28.72	28.35	28.20	26.75	27.35

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1879 Oct. 12 13

~~13~~ Polaris L. b. c = 46.875

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m

		m	m	m	m	m	m	m	m	m	m
10	0	35.1	36.7	36.1	35.0	34.0	32.2	32.5	30.8	30.3	29.9
		39.2	40.4	40.0	39.0	38.1	36.2	36.1	35.1	34.2	33.3
		41.9	43.0	42.0	41.1	40.1	38.9	39.1	37.2	37.1	35.7
		42.8	44.6	43.3	42.9	42.0	40.1	40.1	38.2	38.1	36.6
		1590	47	14	1580	1542	1474	1478	213	197	155
		39.75	41.17	40.35	39.50	38.55	36.85	36.95	35.32	34.92	33.88

m	m	m	m	m	m	m	m	m	
29.7	29.9	28.9	26.7	26.6	27.7	26.1	27.1	26.1	
33.1	33.1	32.7	30.2	30.1	31.4	29.9	30.8	29.9	
35.5	36.1	35.0	32.9	32.9	34.0	32.1	33.4	32.2	
37.1	37.1	36.1	34.1	34.1	35.2	33.9	35.0	34.0	
157	162	132.7	39	37	83	20	63	22	
33.92	34.05	33.17	30.98	30.92	32.07	30.50	31.57	30.55	

A 1 5 4 3 2 1

Port 1 st clothes of A 1

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1879phae.proj.1424M

Oct 13-14/d 79

Polaris Lb C=46.826 J

13 14 +91 20

	m	m	m	m	m	m	m	m	m	m
−10	15-25	47.5	42.5	40.7	38.3	35.1	33.4	31.1	29.9	25.4
	57.9	52.1	47.9	45.3	42.9	39.9	38.0	35.8	33.9	29.1
	576	52.1	48.0	45.2	42.8	39.9	38.2	35.8	34.5	30.2
	57.9	52.7	48.1	45.9	43.8	39.3	38.2	36.3	34.0	30.9
	25 9	44	27 5	17 1	7 8	34.2	27.8	19.0	12 3	11 6
	56.47	51.10	46.88	44.27	41.95	38.55	36.95	34.75	33.07	29.10 15

	m	m	m	m	m	m	m	m	m	m	m
−10											
10	22.6	20.1	18.6	16.1	14.0	11.3	8.1	56.9	29	6.9	10.9
	26.9	24.4	23.1	20.4	18.2	15.8	13.1	29	25	12.1	16.0
	27.2	24.2	22.8	20.5	18.4	16.1	13.7	4.1	24	13.2	17.8
	27.1	25.0	23.3	20.7	19.3	17.0	14.1	3.3	Rej	13.0	17.1
	23 8	13 7	18	777	29 9	20 2	90	72		52	21 8
	25.95	23.42	21.95	19.42	17.47	15.05	12.25	1.80	Rej	11.30	15.45

1st 8 wires + last. 4 +1 4, 3, 2, 1

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1879phae.proj.1424M

1879 Oct. 14
Polaris L.C $c = 46.826$
13 14
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m

18 obs. for δ. Clouds.

A +1 2 only, in A.R.

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1879phae.proj.1424M

148 Oct-15-1879

Polaris c=46.826

1 14

488 40

	m	m	m	m	m	m	m	m	m	m
45 4	38.5	48.2	50.3	52.1	54.1	55.9	57.6	2.0	3.9	29.0
	45.8	55.1	57.5	59.4	2.1	4.0	6.1	9.3	11.6	37.2
	46.7	57.1	59.1	0.8	3.7	5.0	6.6	9.1	12.1	37.8
	50.0	59.7	1.9	3.4	5.8	7.1	9.9	12.9	16.9	42.0
	181.0	220.1	228.8	235.7	57	120	204	333	45	1460
	45.25	55.02	57.20	58.92	1.42	3.00	5.10	8.32	11.12	3650

(50)

	m	m	m	m	m
45 0	30.1	30.8	31.9	32.9	33.2
	37.0	38.1	39.1	40.1	40.8
	38.3	39.5	40.5	41.2	42.1
	42.9	43.1	44.2	45.8	46.1
	148.3	151.5	155.7	00	22
	37.07	37.87	38.92	40.00	40.55

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1879phae.proj.1424M

1879 Oct. 15-16
Polaris L.C.
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	M	M	M	M	M	M
10 0	29.1	28.7	28.1	29.9	26.9	R
	35.1	34.1	33.9	33.1	32.2	R
	39.1	38.1	37.4	37.7	35.4	R
	38.8	37.9	36.4	37.1	35.9	R
	14 21	13 88	13 58	13 58	13 09	
	35.52	34.70	33.95	33.95	32.72	

Red stake for C

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1879phae.proj.1424M

Oct 19 1879

Polaris C = 46.826

1 14

+88 40

45 4	17.9	22.9	26.3	28.1	30.2	32.6	35.9	39.9	40.9	47.8
	21.1	26.0	29.0	31.0	33.9	36.0	39.3	43.9	45.1	52.1
	18.9	23.7	26.9	29.1	31.4	33.7	37.9	41.6	42.9	49.9
	22.0	27.0	29.7	32.1	34.7	37.1	40.5	44.9	45.9	52.1
	7.99	1.96	3.19	12.03	1.02	1.94	15.46	17.03	1.48	20.19
	19.98	24.90	27.98	30.07	32.55	34.85	38.65	42.57	43.70	51.47

	49.6	53.9	55.1	56.1	59.9	2.5	8.1	35.1	37.1	32.0	37.8	38.6
	53.1	58.7	59.0	0.1	4.0	5.3	11.1	37.6	40.5	40.0	40.1	41.1
	50.9	55.1	55.7	56.8	0.0	1.9	8.1	34.9	37.9	39.2	37.5	38.8
	54.9	58.9	59.5	0.6	3.9	6.1	13.0	39.1	41.6	41.9	42.1	43.5
	8.5	26.6	29.3	23.36	7.8	17.8	40.3	26.7	15.71	15.81	15.75	16.20
	52.12	56.65	57.32	58.40	1.95	4.45	10.07	36.68	39.27	39.52	39.38	40.50

Seeing good

Lost 1st 2 wires

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1879phae.proj.1424M

1879 Oct. 19
Polaris L.C. C = 46.826
13 14 +91 20

	m	m	m	m	m	m	m	m	m	m	m
10 1	34.9	32.9	30.9	28.8	26.3	25.4	17.7	16.6	49.5	48.8	47.2
	36.7	35.0	32.9	30.1	27.4	26.8	19.5	18.3	51.1	50.4	48.0
	34.9	33.0	30.9	29.1	26.8	25.1	17.9	16.7	49.9	49.1	47.4
	37.9	36.1	33.6	31.1	29.0	28.3	20.1	19.1	52.1	51.9	50.0
	244	170	80	1191	295	256	752	307	2026	2002	1927
	36.10	34.25	32.00	29.78	27.37	26.40	18.80	17.67	50.65	50.05	48.18

	m	m	m	m	m	m	m	m	m	m
10 0	46.0	45.7	45.1	43.9	42.9	43.1	41.7	40.9	40.3	40.2
	47.3	46.9	46.9	45.7	45.0	44.9	43.1	42.1	41.3	41.1
	46.0	45.4	44.5	43.8	42.9	43.5	41.8	40.5	39.7	40.0
	48.3	48.1	47.0	46.4	45.2	46.8	44.7	43.7	42.9	42.1
	27.6	26.1	23.5	19.2	16.0	18.3	11.3	7.2	4.2	3.4
	46.90	46.52	45.87	44.80	44.00	44.58	42.82	41.80	41.05	40.85

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1879phae.proj.1424M

Oct 20-21 1879

Polaris L.L. C=46.791

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10 2	36.4	30.4	27.0	22.9	19.7	15.9	13.9	10.1	7.6	4.2
	41.9	35.0	31.6	27.5	23.9	20.1	18.1	14.1	12.2	8.1
	40.9	33.8	30.8	26.1	23.1	18.9	17.1	13.1	12.0	7.6
	40.4	34.8	30.9	27.0	24.1	19.3	18.0	13.6	12.0	8.1
	03	140	03	235	908	742	271	109	438	280
	40.07	33.50	30.07	25.87	22.70	18.55	16.78	12.72	10.95	7.00

	m	m	m	m	m	m	m	m	m	m
10 1	59.8	56.4	53.8	49.9	46.9	43.6	40.1	37.9	34.1	32.0
	4.2	10	58.0	54.1	51.1	47.1	44.1	42.1	38.3	35.8
	2.9	59.9	56.9	53.0	49.9	47.1	43.5	41.9	37.9	35.3
	3.9	0.1	57.1	54.1	51.2	47.1	44.8	43.1	38.7	36.5
	108	2374	258	111	1991	249	125	50	290	196
	2.70	59.35	56.45	52.78	49.78	46.22	43.12	41.25	37.25	34.90

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1879phae.proj.1424M

OCT 26

Polaris C = 46.80 9

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m	m	m	m	m	m	m	m	m	m	m
10 2 33.9	26.1	21.9	20.2	17.1	14.5	10.9	7.1	4.5	0.6	156.5
36.5	28.1	25.0	22.7	20.0	17.0	14.2	11.0	8.1	4.1	59.4
37.8	29.3	26.1	24.0	21.1	18.4	14.9	12.1	8.9	6.5	0.9
38.9	30.1	22.6	24.6	22.7	19.0	16.2	14.0	10.6	6.9	2.5
27.1	11.36	15.6	11.0	09	29.2	16.2	4.2	32.1	17.1	23.93
36.78	28.40	23.90	22.75	20.22	17.30	14.05	11.05	8.02	4.27	59.82

m	m	m	m	m
53.0	50.2	47.9	33.7	30.4
56.1	54.1	51.1	36.2	33.2
57.1	55.1	52.4	37.8	34.4
59.2	57.4	54.1	39.2	36.0
25.4	16.8	5.5	26.9	14.0
56.35	54.20	51.36	36.72	33.50

A_{-1} 5.3 $A_{5.1}$ 3.1, inclusive.

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1879phae.proj.1424M

1879 Oct. 24

Polaris L.C. c=46.809

13 14

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		m	m	m	m	m	m	m	m	m	m
10	2	34.1	29.1	25.4	19.2	15.9	10.6	5.9	0.9	1 56.9	50.6
		35.9	30.4	27.1	21.9	17.9	13.1	8.1	3.1	59.1	53.1
		31.4	25.9	22.9	17.6	13.3	8.3	3.2	58.7	55.0	49.1
		34.0	28.1	25.1	19.2	15.9	10.2	6.0	1.1	57.4	51.2
		154	335	205	379	230	22	232	38	284	40
		33.85	28.37	25.12	19.47	15.75	10.55	5.80	0.95	57.10	51.00

		m	m	m	m	m	m	m	m	m	m
10	1	48.0	44.4	40.1	36.9	33.1	29.9	26.1	0 55.5	52.1	50.9
		50.1	45.9	41.9	39.0	34.1	31.4	27.5	57.9	54.1	53.1
		45.9	41.9	37.8	34.0	30.1	27.7	24.1	53.6	50.1	49.1
		48.4	45.0	40.7	37.0	33.7	30.9	26.0	57.1	53.9	52.1
		1924	172	05	269	110	1199	237	241	102	52
		48.10	44.30	40.12	36.72	32.75	29.98	25.92	56.02	52.55	51.30

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J.F.M. obs.

False rattle before A7

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1879phae.proj.1424M

001-25,1879

Polaris c = 46.809

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+88 40

m	m	m	m	m	m	m	m	m	m
45 4 25,3	28,1	30,4	32,1	35,5	41,1	42,4	40,1	48,9	52,1
25,9	30,1	32,9	34,1	37,1	42,9	44,1	47,1	54,4	54,1
19,9	23,1	25,9	27,9	30,3	36,3	37,7	40,6	40,7	46,4
23,0	27,7	30,0	31,9	34,1	40,1	41,9	44,5	47,9	52,0
9 41	29 0	11 9,2	6,0	1 7,6	0 4	6 1	17 5	32 7	6 9
23.52	27.25	29.80	31.50	34.25	40.10	41.52	44.37	48.17	51.72

m	m		m	m	m	m
45 4 0 53,3	56,9	50 0	2,1	8,6	12,1	13,1
55,7	59,2		3,3	9,5	13,1	14,1
49,9	52,6		5,6	3,2	5,6	7,0
52,3	56,1		2,9	8,1	11,1	13,5
1 1,2	25,0		5,1	2,9,4	2,1	7,7
52.80	56.25		1.27	7.35	10.52	11.92

Skinny very bad

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1879phae.proj.1424M

156

1879 Oct 25

Polaris 2-6 C=46.759

13 14

+91 20

m	m	m	m	m	m	m	m	m	m
40.8	36.9	37.9	35.8	32.7	28.4	28.1	58.6	58.2	57.9
41.1	39.0	38.1	35.2	32.9	28.9	28.1	0.5	59.1	58.1
35.1	32.9	32.4	30.1	27.1	23.9	22.5	54.3	53.6	52.9
38.4	36.7	36.1	33.6	30.9	27.3	26.1	57.9	56.9	56.0
15 5 4	27.5	24.5	14.7	13.6	28.5	24.8	23.13	27.8	24.9
38.85	36.88	36.12	33.67	30.90	27.12	26.20	57.82	56.95	56.22

m	m	m	m	m	m	m	m	m	m
57.1	55.9	54.9	53.4	54.1	51.9	50.9	50.4	50.0	50.1
58.3	56.1	55.1	53.5	54.9	51.9	51.1	50.2	49.9	49.9
52.8	50.9	49.9	46.7	49.1	47.4	46.1	45.4	45.1	46.0
55.7	54.1	58.1	52.1	53.0	50.9	49.9	49.5	49.2	49.0
23 9	17.0	23.0	7.7	11.1	2.1	19.80	19.55	19.42	19.50
55.98	54.25	55.75	51.93	52.78	50.52	49.50	48.88	48.55	48.75

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1879phae.proj.1424M

1879. Oct. 26

Polaris C=46.759

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	m	m	m	m	m	m	m	m	m	m
45 4	25.1	29.9	31.7	33.9	36.5	38.1	40.8	42.6	46.0	49.9
	27.9	31.8	34.2	37.1	39.8	41.2	44.0	45.9	49.9	52.1
	22.6	26.8	29.6	32.4	35.1	36.5	38.9	41.0	44.7	48.0
	26.9	31.7	34.0	36.8	39.5	41.1	43.1	45.0	48.7	51.2
	22.5	10.2	9.5	20.2	30.9	15.69	6.8	14.5	29.3	1.2
	25.62	32.55	22.37	35.05	37.72	39.22	41.70	43.62	47.32	50.30

	m	m	m	m	m	m	m	m	m	m
	51.0	53.6	56.1	57.7	50.6	1.3	4.9	7.4	8.1	9.9	12.2
	52.8	57.0	58.6	1.1		4.1	7.9	9.9	10.1	12.2	14.2
	50.2	52.0	53.8	55.9		59.9	2.1	4.7	4.9	6.9	8.3
	53.1	56.3	57.9	8.0		4.9	7.2	9.9	10.6	13.1	14.9
	9.1	18.9	26.4	23.47		10.2	22.1	31.9	33.7	42.1	9.6
	52.27	54.72	56.60	58.67		2.55	5.52	7.98	8.42	10.52	12.40

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1879phae.proj.1424M

158 1879 Oct. 26

Polaris L6 C=46759

13 14

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m	m	m	m	m	m	m	m	m
10 ll 55,0	52,3	49,7	46,1	43,4	42,1	38,6	36,2	34,1
58,1	54,9	52,2	49,1	45,9	44,6	41,0	38,2	36,2
64,2	51,11	48,9	46,4	43,0	41,1	37,8	35,7	33,3
56,0	53,4	51,0	47,1	44,4	42,5	39,6	37,1	35,2
233	117	18	277	167	103	371	266	188
55.82	52.92	50.45	46.92	44.17	42.58	39.27	36.65	34.70

m	m	m	m	m	m	m	m	m	m
23,8	21,6	51.2	50,0	49	48,0	47,11	47,0	45,6	45,9
25,2	22,9	53.9	52,1	51,5	50,0	49,2	48,6	47,0	47,7
22,9	19,9	51,0	48,6	48,9	47,4	46,6	46,1	44,3	45,7
24,9	22,6	52,8	51,9	51,1	49,3	48,6	48,4	47,8	47,2
168	70	89	36	20 14	19 47	317	303	187	259
24.20	21.75	52.22	50.90	50.35	48.67	47.92	47.57	44.67	46.48

Clouds.

$\frac{A}{-1}$ 5 A $9_0\ 8_2\ 8_1\ 7_0\ 6_2\ 6_1\ (6_0)\ 5_2\ 5_1\ 5_0\ 4_2\ 4_1\ 4_0\ 3_2\ 3_1\ 3_0\ 2_2\ 2_1\ 2_0\ 1_2\ 1_1\ 1_0$

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1879phae.proj.1424M

OA 27 479

Polaris δ = 46.759

1 14

+88 40

45 4	12.9	19.0	19.9	22.9	27.2	37.9	42.0	47.1	50.4	54.9
	17.1	22.7	24.1	26.9	31.9	42.2	46.3	52.0	54.6	55.9
	14.4	21.0	21.6	25.5	30.0	39.9	45.0	49.8	52.4	54.2
	18.1	24.3	25.9	28.7	33.9	43.1	47.9	52.8	55.7	57.9
	22 5	7 0	9 15	2 40	3 0	16 31	21 2	20 17	13 1	19 9
	15.62	21.75	22.88	26.00	30.75	40.78	45.30	50.42	53.27	54.98

54.9
59.7
59.1
0.9
23 4 6
58.65

A 1264

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1879phae.proj.1424M

160 Oct-28-1879

Polaris Lb. C=46.759

13 14

+91 20

	M	M	M	M	M	M	M	M	M	M
10	1	28.1	24.0	21.0	19.2	18.1	48.3	48.0	46.2	40.9	41.1
		30.9	26.1	23.9	21.1	20.2	51.1	49.9	48.2	43.1	44.1
		30.9	26.4	23.9	21.4	19.8	50.9 519	50.6	49.0	44.1	44.4
		32.9	28.0	26.4	24.5	23.1	53.2	53.2	52.1	46.0	46.1
		28	24.5	15.2	6.2	8.12	4.5	1.7	3.55		
		30.70	26.12	23.80	21.55	20.30	51.12	50.42	48.88		

M	M	M	M	M	M	M	M	M	M
39.9	39.8	38.1	36.9	36.9	37.1	36.9	35.4	37.2	36.9
42.1	42.1	40.8	39.0	39.1	39.1	39.0	37.9	40.1	37.9
42.6	42.8	41.1	40.0	40.9	40.1	40.0	38.9	40.9	39.0
45.1	44.9	44.0	42.1	41.8	42.1	41.9	41.1	42.9	40.9
		New Sheet	1580	1587	1584	1578	333	11	1537
		40	39.50	39.68	39.60	39.45	38.32	40.28	38.42

New sheet

~~4° to 3°~~

~~Lost 1 of the 1st wire~~ Lost δ_0 or δ_1 and $\frac{2}{1}$ $\frac{2}{2}$

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1879phae.proj.1424M

1879 Oct. 29
Polaris δ=46.759
1 14
+88 40

m									
45-4	17.5	19.2	22.2	25.0	28.1	30.0	32.6	34.9	38.7	40.2
	22.0	23.9	26.7	29.7	32.2	34.9	37.1	39.6	42.8	44.7
	20.1	22.3	24.6	27.7	31.2	33.2	35.7	38.1	41.5	43.1
	23.6	25.5	28.6	30.7	34.1	36.0	38.6	41.1	45.1	46.8
	32	909	216	1131		56	141	286	339	81	148
	20.80	22.72	25.40	28.28	31.40	33.52	35.90	38.48	42.02	43.70	

m									
42.6	44.0	45.9	47.6	50.6	54.2	55.9	56.0	58.9	50°0 2.5
47.0	49.0	54.0	52.1	55.2	59.1	0.9	1.1	3.1	6.2
45.8	48.0	49.6	50.4	53.6	58.4	59.5	59.1	1.9	4.5
49.1	50.9	52.3	54.0	57.1	59.9	1.8	2.0	4.6	8.9
247	328	1990	41	165	316	2381	2382	87	221
46.18	48.20	49.75	51.02	54.12	57.90	59.52	59.55	2.18	5.52

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1879phae.proj.1424M

162 00-29.879

Polaris L-C. Vc=46759

13 14

+91 20

10	1	53.7	50.9	49.0	48.1	44.7	41.6	39.8	39.9	37.9	35.9	34.0	33.2
		57.3	54.1	52.1	51.9	48.7	45.1	43.2	43.0	40.4	39.1	37.0	36.2
		55.9	53.1	51.3	50.9	47.9	44.1	43.0	42.1	40.1	38.8	36.2	36.1
		58.1	55.3	53.8	53.2	50.7	45.9	45.6	45.1	42.3	41.0	38.8	39.1
		250	134	62	41	314	167	116	101	07	348	260	246
		56.25	53.35	51.55	51.02	47.85	42.16	42.90	42.52	40.18	38.70	36.50	36.15

31.9	30.2	28.1	27.6	23.4	21.2	20.0	19.1
34.5	33.1	31.1	31.0	26.9	23.9	23.1	22.0
34.0	32.6	30.5	30.8	25.9	23.7	22.8	22.1
35.9	34.9	32.9	32.9	28.1	25.1	25.1	23.9
16.3	10.8	2.6	2.3	24.3	13.9	11.0	7.1
34.08	32.70	30.65	30.58	26.08	23.48	22.75	21.78

A9. to 3.

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1879phae.proj.1424M

1879 Oct. 30
Polaris c=46.791
1 14
+88 40

m	m	m	m	m	m	m	m	m	m
454 87	138	171	191	212	231	263	284	310	337
130	179	212	239	261	278	303	331	352	390
91	139	178	209	230	242	279	299	321	354
144	181	222	249	271	288	321	349	369	393
452	237	783	818	174	239	1164	63	152	297
11.30	15.92	19.58	22.20	24.35	25.98	29.10	31.58	33.80	36.92

m	m	m	m	m	m	m	m	m	m
45 4 395	421	451	449	486	491	515	536	553	571
447	479	494	501	532	543	571	582	11	21
411	438	461	440	500	514	531	541	589	591
453	485	508	507	538	554	581	591	18	32
106	223	314	327	56	102	198	250	2351	15
42.65	45.58	47.85	48.18	51.40	52.55	54.95	56.25	58.78	0.38

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1879phae.proj.1424M

Oct 30 1878

Polaris L.C. c = 46.791

13 14

+91 20

10	2	5.1	0.2	57.8	54.1	52.7	50.9	47.4	45.2	43.0	40.9
		7.4	2.1	58.6	55.9	54.3	51.5	48.6	47.1	44.9	41.9
		13.3	58.4	55.8	52.1	50.4	48.6	45.9	43.6	41.3	38.6
		5.1	1.6	58.2	55.1	53.8	51.2	48.2	47.1	44.6	42.1
		30.9	2.6	29.9	17.2	11.2	2.2	30.3	23.0	13.8	3.5
		7.72	0.65	57.48	54.30	52.80	50.55	47.58	45.75	43.45	40.88

40	1	38.0	35.2	33.0	31.4	29.5	26.6	24.4	23.7	
		39.5	34.1	34.1	33.0	30.4	28.1	26.4	25.8	
		36.2	34.0	31.4	29.7	27.9	25.0	23.8	21.9	
		39.6	37.9	34.1	32.9	31.3	28.1	26.4	24.5	
		33.5	24.2	12.6	7.0	11.91	27.8	21.0	15.9	
		38.38	36.05	33.15	31.75	29.78	26.95	25.25	23.98	

A 9, 43.

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1879phae.proj.1424M

1879 Nov. 4
Polaris L.b. c=46.791
13 14
+91 20

	m	m	m	m	m	m	m	m	m	m
10 2	47.1	39.7	33.4	27.4	24.1	19.1	14.9	8.8	5.6	2.1
	44.1	37.1	31.1	25.0	22.0	16.2	12.6	6.6	3.4	0.1
	34.7	26.9	21.0	14.9	12.1	6.0	2.4	56.9	53.9	50.9
	35.2	30.0	24.1	17.9	15.3	9.7	6.0	0.8	57.1	53.9
	11	137	1096	52	735	510	359	111	00	2270
	40.28	33.42	27.40	21.30	18.38	12.75	8.98	2.78	0.00	56.75

	m	m	m	m	m	m	m	m	m	m
10 1	57.4	52.9	49.6	45.1	42.9	38.9	9.7	7.3	6.2	4.8
	55.8	51.1	48.1	43.0	40.9	37.6	8.9	6.1	5.1	3.0
	45.6	41.1	37.7	33.5	30.9	27.4	59.1	56.0	54.8	53.1
	49.2	44.9	41.1	37.1	34.9	31.9	2.0	59.7	59.0	57.1
	80	1900	165	1587	1496	158	197	91	51	2380
	52.00	47.50	44.12	39.68	37.40	33.95	4.92	2.28	1.28	59.50

Rej. stroke for 8 just before 1st wire.

J. F. M. obs.

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1879phae.proj.1424M

166 Hoos

Polaris C=46.711

1 14

+88 40

m	m	s	s	s	s	s	s	s	s
95 4	52.2	56 0.9	5.6	8.6	8.9	12.6	14.7	17.1	18.1	22.0
	49.6	59.3	4.0	6.4	7.1	11.1	12.1	15.4	16.8	20.3
	59.1	48.7	51.9	55.1	55.7	0.2	2.1	4.8	5.6	8.2
	43.1	52.9	56.6	59.4	0.8	5.0	6.0	8.4	9.9	13.5
	18 43	22 18	23 81	95	125	289	349	457	504	640
	46.08	55.45	59.52	2.38	3.12	7.22	8.72	11.42	12.60	16.00

m	m	s	s	s	s	s	s	s	s
50 0	45.9	47.1	47.9	48.6	49.5	51.6	51.9	53.6	53.0	54.4
	44.0	44.4	45.1	46.0	46.9	49.1	49.0	50.8	50.2	52.0
	32.9	33.4	33.2	34.4	35.7	37.9	38.3	39.4	39.9	40.6
	36.3	37.4	38.8	39.1	40.3	43.1	43.9	44.9	44.9	45.6
						181 7	18 31	18 87	18 80	19 26
						45.42	45.78	47.18	47.00	48.15

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1879phae.proj.1424M

1879 Nov. 7
Polaris Δ L6 = C = 46.711
13 14
+91 20

		m	m	m	m	m	m	m	m	m	m	
10	1	52	50	26	03	60	59.6	58.9	56.9	56.0	55.1	54.9
		41	41.0	41.5	59.8		58.5	58.0	55.2	55.0	54.2	53.1
		54.4	53.9	51.4	50.1		49.0	48.8	46.5	46.1	45.0	44.8
		59.9	59.9	57.0	54.1		54.0	53.9	51.0	51.1	50.1	48.9
		36	28	2325	2243		2211	196	96	82	44	17
		0.90	0.70	58.12	56.07		55.28	54.90	52.40	52.05	51.10	50.42

m	m	m	m	m
54.7	53.6	53.1	54.2	53.4
53.9	52.9	52.9	53.1	52.2
44.9	43.8	43.6	48.7	43.6
49.9	48.0	48.0	49.1	48.3
34	1985	1976	01	1975
50.85	49.62	49.40	50.02	49.38

J. T. M. obs.

Lost, 9, 8, 8, 8, 7, 7
2 1 0 2 1

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1879phae.proj.1424M

168

1879 Nov 9

~~1879~~ Polaris L. C. c = 46.711

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10	47.7	38.1	36.5	33.9	32.9	29.8	28.1	25.1	22.4	6 52.4
	50.1	40.2	38.2	35.9	33.9	32.0	29.9	27.1	24.1	54.9
	50.9	41.9	39.6	37.9	34.8	33.6	31.9	28.6	25.9	56.2
	54.2	45.2	43.2	41.6	39.1	36.2	34.7	31.2	29.2	59.1
	29	54	377	293	208	116	46	1120	216	226
	50.72	41.35	39.42	37.32	35.20	32.90	31.15	28.00	25.40	58.65

	m	m	m	m	m	m	m	m	m	m
0	50.9	50.0	48.9	48.0	48.0	46.9	46.4	45.1	44.2	44.3
	52.1	51.9	50.9	50.1	50.0	48.2	48.1	46.1	45.2	46.0
	54.1	53.2	52.0	51.9	51.9	50.4	49.9	48.5	47.4	47.8
	57.7	57.6	55.8	54.9	54.9	53.2	53.6	52.2	51.9	51.1
	148	127	76	52	48	1987	380	1919	297	292
	53.70	53.18	51.90	51.30	51.20	49.67	49.50	47.98	47.42	47.30

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1879phae.proj.1424M

1879 Nov. 8 10

Polaris c=46.711

1 14

+88 40

m									
45 4	10.9	13.6	17.1	20.1	23.0	25.8	27.9	30.9	34.4	36.2
	15.3	18.1	21.9	24.2	27.0	30.1	32.1	35.1	38.4	41.1
	12.9	15.0	20.0	22.5	24.9	28.1	30.2	32.9	36.1	38.5
	17.2	19.8	24.6	26.9	29.1	32.3	34.2	37.1	40.3	42.9
	16.3	26.5	8.36	13.7	24.0	11.63	12.44	16.0	14.92	15.87
	14.07	16.62	20.90	23.42	26.00	29.08	31.10	34.00	37.30	39.67

m									
45 4	38.8	41.8	43.6	46.1	47.7	49.9	52.9	54.7	56.9	59.1
	42.8	46.0	48.0	50.8	52.1	54.9	58.0	59.3	1.0	4.1
	39.9	44.0	46.2	48.5	50.0	52.1	55.3	56.0	59.1	1.5
	44.9	47.9	49.6	52.1	53.8	56.9	59.8	1.0	3.0	5.4
	18.64	19.7	21.4	19.75	3.6	21.38	26.0	23.10	0.0	10.1
	41.60	44.92	46.85	49.38	50.90	53.45	56.50	57.75	0.00	2.52

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1879phae.proj.1424M

Nov 10 1879

Polaris L.C. c = 46.711

13 14

+91 20

m	m	m	m	m	m	m	m	m	m
10 2 20.5	15.2	13.5	10.9	9.1	6.9	4.1	1.6	1 58.1	55.0
23.1	18.0	15.9	13.1	10.1	8.0	6.2	2.9	59.4	56.7
20.0	14.3	12.8	9.8	7.8	5.9	2.1	0.0	56.2	53.7
22.9	17.2	15.6	12.6	10.6	8.5	5.0	8.1	59.9	57.2
6.5	24.7	18.0	46.4	38.1	29.6	16.4	7.6	33.6	22.6
21.62	16.18	14.50	11.60	9.52	7.40	4.10	1.90	58.40	55.65

m	m	m	m	m	m	m	m	m	m
10 1 52.9	51.1	49.2	47.1	45.1	42.9	42.1	39.9	37.9	35.9
54.1	52.2	50.2	48.3	46.1	44.1	43.1	39.9	38.9	37.1
51.9	49.8	47.3	45.1	43.6	40.8	40.5	37.2	35.5	34.1
54.8	52.9	51.7	48.9	46.9	45.1	44.5	41.8	40.0	37.9
13.7	6.0	19.84	2.94	2.17	1.29	1.02	15.88	15.23	25.0
53.42	51.50	49.60	47.35	45.42	43.22	42.55	39.70	38.08	36.25

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1879phae.proj.1424M

1879 Nov. 11
Polaris L.C. c = 46.775
13 14
+91 20

m	m	m	m	m	m	m	m	m	m	m	m
10 0	47.0	46.1	45.3	45.1	45.1	44.8	43.9	44.0	44.1	45.2	43.8	43.1
	49.1	48.4	47.8	48.0	47.4	47.0	46.3	46.1	46.1	47.7	45.7	45.1
	47.8	46.9	46.8	45.9	45.9	45.1	44.1	44.0	44.2	45.9	43.8	43.7
	51.9	51.6	51.0	51.1	51.9	50.6	49.2	49.1	49.7	50.9	49.6	49.1
	35.8	33.0	30.9	30.1	30.3	27.5	23.5	23.2	24.1	29.7	22.9	21.0
	48.95	48.25	47.72	47.52	47.58	46.88	45.88	45.80	46.02	47.42	45.72	45.25

A, +1 (lost Nov.)

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1879phae.proj.1424M

Nov 5 1879

Drain Lb. e=46.775

13	14									
+91	20	R	R	R	R	R	R	R	R	R
10 6	29,6	58.0	55.1	53.2	51,6	52,1	47.3	46.6	46.0	45.7
	32,3	54,2	54.6	55.0	53,4	52.0	48,9	48.0	48.0	47.5
	33,5	0.0	54.0	55.0	55.4	54,2	51.4	52.6	50.0	50,1
	37,6	4,8	2.4	0.9	58,6	57,0	52,4	53,9	53,0	53,0
	134	20	2231	2271	196	133	320	1993	1970	1963
	33.35	0.50	58.28	56.78	54.90	53.32	48.00	49.82	49.25	49.08

R	R	R
43	45,0	52,0
46,4	46,6	46,2
49,1	50,0	49,2
52,1	51,7	52,0
319	1933	1974
47,98	48.32	49.35

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1879phae.proj.1424M

Flor 16 1879

Polaris. C = 46.775

1 14

+88 40

	m	m	m	m	m	m	m	m	m	m
45 4	1,50	1,85	22,1	26,3	29,0	31,1	33,2	36,6	39,0	41,8
	18,1	22,3	26,1	30,0	32,3	35,0	37,0	40,0	43,2	45,7
	16,5	25,8	24,3	28,3	31,1	33,2	36,0	38,6	41,2	44,4
	19,8	23,4	27,2	31,0	33,8	36,2	38,2	41,1	43,6	47,0
	694	900	997	1156	1262	1355	1444	1563	1670	1789
49	1735	22,50	2492	28,90	31,55	33,88	36,10	39,08	41,75	44,72

m	m	m	m	m	m	m	m		m	m	
44,9	46,4	49,0	52,9	53,1	56,2	56,4	59,7	50	0	2,7	27,2
48,4	50,4	52,9	54,8	56,9	0,0	1,0	3,4			6,1	29,5
47,9	48,9	51,6	53,3	55,6	58,8	59,2	1,9			4,1	28,0
50,0	52,0	53,9	56,3	57,8	1,2	1,9	4,8			8,2	32,1
1915	1977	2076	2153	2234	2362	2389	98			211	1168
47,88	49,42	51,90	53,82	55,85	59,05	59,72	2,45	50	5,02		29,20

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1879phae.proj.1424M

174

Nov 16 1879

Polaris L.C. c=46.775

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10	55.1	49.1	46.9	44.0	41.9	40.2	37.1	36.1	33.9	33.0
	57.2	51.4	48.4	46.0	44.1	42.4	39.2	38.0	36.1	34.9
	55.2	49.3	47.0	44.4	42.5	41.1	37.7	36.3	34.2	33.9
	57.6	51.9	48.9	45.9	45.0	43.3	40.1	38.4	35.9	35.2
	2251	2017	1912	1803	1735	1670	1541	1491	1401	1370
	56.28	50.42	47.80	45.08	43.38	41.75	38.52	37.28	35.02	34.25

(10.0)	m	m	m	m	m	m	m	m	m	m
45	30.5	1.1	0.0	0 58.9	57.9	57.2	57.1	56.9	56.3	55.2
	32.3	3.1	1.4	0.2	58.9	59.2	58.4	58.0	57.1	56.2
	30.0	1.1	0.0	58.1	57.1	57.4	56.2	55.9	54.9	53.9
	32.8	2.8	1.5	0.2	59.0	59.1	59.1	58.0	57.9	57.0
	1256	81	29	2374	2329	2329	2308	2288	2262	2223
	31.40	2.02	0.72	59.35	58.22	58.22	57.70	57.20	56.55	55.58

From 9. to 3.

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1879phae.proj.1424M

1879 Nov. 17
Polaris C=46775
1 14
+88 40

	m	m	m	m	m	m	m	m	m	m
45-4	20,1	26.0	29.2	32.1	34.0	38.9	43.7	48.9	52.6	56.4
	23.2	29,0	31.9	35.9	37.4	42.1	46.9	51.9	56.1	0.0
	22.0	28.0	30.7	34.1	36.1	40.5	46.0	50.6	54.9	59.1
	24.4	30.9	33.4	37.1	39.1	43.2	48.1	53.1	57.8	1.3
	97	1139	52	192	266	47	247	45	213	2378
	22.42	28.48	31.30	34.80	36.65	41.18	46.18	51.12	55.32	59.45

m	m
58.1	50' 32"
2.0	6.1
0.0	3.9
3.2	7.1
3 3	20 3
0.82	5.08

A 1 2 3 4 5
1

A 1 to 5

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1879phae.proj.1424M

176

1879 Nov. 21

Polaris L.C. C=46.765

13 14

+91 20

	m	m	m	m	m	m	m	m	m	m
10	1 22.2	18.0	16.2	15.9	11.1	11.0	10.6	8.2	10.1	10.0
	18.1	14.5	12.1	12.2	8.0	7.1	7.1	3.9	5.2	5.9
	4.8	1.1	59.1	59.6	55.1	54.0	53.9	51.1	52.5	52.2
	11.1	5.4	4.3	3.7	59.9	58.9	57.2	54.1	55.0	53.1
	562	390	317	314	141	110	88	2373	28	12
	14.05	9.75	7.92	7.85	3.52	2.75	2.20	59.32	0.70	0.30

Seeing very bad indeed

Lost 9_0 8_2 8_1 8_0 7_2 7_1 7_0 $+2_1$

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1879phae.proj.1424M

1879. Nov. 23

1879 Polaris L.C.

13 14 c = 46.765

+91 20

		m	m	m	m	m	m	m	m	m	m
10	1	159	13.1	11.6	10.2	8.9	8.1	4.6	48	4.0	2.9
		13.2	11.4	9.3	8.1	6.5	6.5	4.5	4.1	3.0	2.4
		3.1	0.9	58.7	58.1	56.4	55.7	53.1	53.9	52.8	52.9
		7.9	5.8	4.7	2.2	1.2	1.2	58.9	58.6	57.9	55.7
		401	312	243	186	130	115	11	14	2377	2339
		1.007	7.80	6.08	4.65	3.25	2.88	0.28	0.35	59.42	58.48

		m	m	m
10	1	2.1	1.3	1.6
		3.9	4.3	4.8
		52.5	52.0	52.3
		56.6	55.9	55.3
		2351	2335	2340
		58.78	58.38	58.50

$3_0\ 2_2\ 2_1\ 2_0\ 1_2\ 1_1\ 1_0$

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1879phae.proj.1424M

178

1879 Nov. 30

Polaris

14

+88 40

m

m

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1879phae.proj.1424M

180

1879 Nov. 24

Polaris c=46.710

1 14

+8 40

m	m	m	m	m	m	m	d	m	m
454 180	220	259	281	315	341	365	398	410	440
164	203	246	270	291	331	350	385	399	422
5.2	9.1	13.4	16.0	18.6	21.8	23.4	27.6	28.6	31.1
9.2	13.4	17.2	20.0	22.2	26.7	28.2	31.6	32.9	35.2
488	648	814	911	1014	1147	1231	1375	1424	1525
49 1220	1620	2035	2278	2535	2868	3078	3438	3560	3812

m	m	m	m	m	m	m	m	m	m
4 44 5.7	48.7	51.7	51.9	54.3	57.4	59.2	5 0 1.0	5.2	7.4	9.7
44.9	47.1	49.9	50.1	53.9	55.1	58.1		3.0	4.0	6.9
33.9	36.0	38.3	38.9	42.1	44.4	47.0		51.2	52.1	55.6
37.1	39.9	42.9	44.2	46.9	49.1	51.5		57.0	58.9	1.9
1616	1717	1828	1851	1972	2060	2158		2364	24	141
49 4040	4292	4570	4628	4930	5150	5395		5910	060	352

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1879phae.proj.1424M

Nov. 25-12/7

Polaris C=46.710

1 14

+88 40

		R	R	R	R	R	R	R
45	4	26,7	360	419	477	532	579	34
		268	364	422	473	533	591	40
		17,2	272	328	372	461	502	546
		230	331	390	443	499	559	07
		937	1327	1559	1765	2005	2241	22
	49	2342	33.18	3898	44.12	5012	5602	0,55

		R	R	R
50	0	306	340	362
		300	335	350
		202	239	260
		270	296	320
		1080	1210	1292
	50	2700	3025	3230

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1879phae.proj.1424M

182

Nov 25 - 1879

Polaris L.C. e=46.710

13 14

+91 20

10	2	3,6	0.1	57,2	54,7	52,5	50.1	47,9	45,9	43,9	42,7
		3.0	59,0	55,9	52,6	51,1	48,9	47,0	44,0	41,5	40,8
		52,4	48,6	45,9	43,7	41,8	39,1	36,3	34,5	31,9	30,8
		56,5	53,1	50,9	48,2	45,9	43,4	41,1	39,1	37,0	35,6
		23 55	2208	99	1992	1913	1815	1733	1635	1543	1499
		58,88	55,20	52,48	49,80	47,82	45,38	43,32	40,88	38,58	37,48

41,0	39,1	36,8	34,9	33,0	32,1	125	111	81	9,0
39,8	37,1	35,1	33,1	31,0	30,1	104	99	7,1	6,4
29,1	27,1	25,1	23,0	20,8	20,1	0,1	0,1	57,0	57,1
34,9	32,0	29,6	28,7	27,0	25,1	5,1	4,9	1,5	2,1
1448	1352	1266	1197	1118	1074	281	260	137	146
36,20	33,80	31,65	29,92	27,95	26,85	7,02	6,50	3,42	3,65

A_{60} to A_{30}

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1879phae.proj.1424w

1879 Nov. 26
Polaris c=46.71 0
1 14
+88 40

	m	m	m	m	m	m	m	m	m	m
45 4	24.6	29.3	31.9	35.0	38.1	40.0	43.5	46.9	48.4	52.2
	25.3	29.9	32.6	35.1	38.9	41.9	44.2	47.3	49.1	51.3
	15.9	21.0	23.8	26.8	29.8	32.5	35.6	38.4	40.2	45.29
	23.1	27.4	30.1	33.7	36.9	39.3	41.9	45.1	47.1	49.7
	8.9	27.6	11.84	1.06	23.7	33.7	5.2	16.7	24.8	19.41
	22.22	26.90	29.60	32.65	35.92	28.42	41.30	44.18	46.20	48.52

	m	m	m	m	m	m	m	m	m	m
45 4	53.0	55.9	57.5	59.8	50 0 4.0	7.3	33.6	33.9	35.0	35.9
	53.9	56.9	57.9	0.1	4.1	4.0	33.0	33.1	34.9	35.9
	45.1	47.2	48.9	51.0	54.7	57.0	24.2	23.6	25.9	26.0
	51.9	54.1	56.1	57.9	5.5	4.9	32.3	31.1	33.1	24.1
	1.39	1.41	2.04	2.288	5.3	1.62	31	17	89	119
	50.98	53.52	55.10	57.20	1.32	4.05	30.78	30.42	32.22	32.98

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1879phae.proj.1424M

184

1879 Nov. 29

Polaris C=46.710

1 14

+88 40

	m	m	m	m	m	m	m	m	m	m
45	4	31.1	33.9	37.1	38.9	41.3	44.9	46.2	49.1	57.1	53.1
		33.0	36.0	38.9	40.8	43.2	46.3	48.1	50.4	52.9	55.2
		25.9	28.1	31.0	33.1	35.4	38.9	41.0	43.4	47.4	47.1
		32.3	35.1	37.2	40.1	42.4	46.0	47.9	49.9	52.2	54.9
		21	131	242	329	23	161	232	328	16	103
		30.52	33.28	36.05	38.22	40.58	44.02	45.80	48.20	50.40	52.58

	m	m	m	m	m	m	m	m	m	m
45	4	65.1	57.8	58.8	50 4.0	29.2	31.0	34.1	35.7	36.9	37.1
		57.1	59.9	0.5	4.1	30.1	31.2	34.1	35.1	37.0	37.9
		49.8	52.4	53.0	56.1	21.4	22.9	26.0	26.9	28.9	28.4
		56.2	59.0	64.8	4.0	29.5	31.9	34.1	34.9	36.9	36.2
		182	291	2321	82	~~31.8~~ 11.02	1170	1283	1326	1347	1396
		54.55	57.28	58.00	2.05	27.55	29.25	32.08	33.15	34.92	34.90

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1879phae.proj.1424M

L.C.

Nov 29 1879

10	21	18.2	14.9	10.2	9.1	5.5	2.9	2.1	58.9	57.8	53.0
		16.1	10.9	7.3	5.7	2.2	0.8	58.9	55.6	54.8	49.1
		4.8	0.1	55.9	55.6	57.4	49.5	48.7	44.7	43.2	38.9
		9.2	4.9	0.9	0.0	55.6	56.4	53.1	49.7	49.0	43.9
		483	408	143	104	2347	2276	2228	2089	2048	1849
		12.08	12.20	3.58	2.60	58.68	56.90	55.70	52.22	51.20	46.22

52.1	49.9	47.6
47.9	44.1	44.9
38.5	35.8	33.5
24.2	41.1	39.0
1847	1739	1650

Aqu to 3v

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1879phae.proj.1424M

Nov 30 1879

Polaris C=46.696

1 14

+88 40

m	m	m	m	m	m	m	m	m	m
45 4	45,9	49,0	50,2	51,5	56,1	55,9	59,1	3,0	7,3	10,4
	45,0	48,1	48,9	50,1	55,0	55,9	58,5	0,5	4,2	13,0
	31,7	34,8	36,0	37,2	41,2	42,5	45,2	48,0	51,6	54,7
	37,9	40,9	42,5	43,8	47,2	47,8	57,0	53,6	58,4	1,9
	1605	1728	1776	1826	1995	2021	2138	2251	15	300
	40,12	43,20	44,40	45,65	49,88	50,52	53,45	56,28	0,38	7,50

m	m	m	m	m	m	m	m	m	m
50 0	12,9	38,6	40,7	40,9	39,2	42,6	42,9	43,1	44,1	44,7
	16,1	35,9	37,9	38,2	37,2	39,8	40,9	41,6	42,1	42,0
	56,1	21,5	24,9	24,7	23,6	25,8	27,1	27,5	27,8	28,5
	32,1	29,9	32,1	31,7	29,9	33,1	35,1	34,9	36,0	37,0
	2223	1262	1356	1355	1299	1413	1460	1491	1500	1522
	5,58	31,55	33,90	33,88	32,48	35,32	36,50	36,78	37,50	38,05

Seeing very bad.

Rej. single stroke for 1st wire.

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1879phae.proj.1424W

NGC 30 1877

	m	m
10 2	6,1	3.3
	26	580
	204	464
	340	517
	2328	2194
	5820	5485

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-1

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1879phae.proj.1424M

Dec 1879

Palisa

1 14

+88 [illegible]

	R	R	R	R	R	R	R	R
45	4	45 0	42,0	48,3	53 0	57,2	8,250	0309	34,2
		36'0	43,2	49,0	54,0	58,7	4,2	30,8	34,0
		28,6	31,0	34,2	41,3	47,2	5,25	18,9	21,9
		31,8	38,4	45,0	49,3	53,9	0,1	26,2	30,4
		1364	1546	1795	1976	2170	00	1056	1208
		34,10	38,65	44,88	49,40	54,25	0,00	26,40	30,20

		R	R
50	0	36,2	36,8
		35,9	36,4
		24,7	25,7
		32,3	33,3
		12,91	13,17
	50	32,28	32,92

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1879phae.proj.1424M

Dec 1875

Polaris L-b. a = 46.696

13 14

+91 20

m						
10 2	0.61	56.0	53.2	50.9	48.7	45.4	43.9
	58.6	55.0	52.0	50.1	46.7	44.8	42.2
	44.1	43.9	41.9	39.3	36.8	33.9	32.3
	54.9	50.5	44.1	46.2	42.9	40.7	39.9
	22.32	20.54	19.52	18.65	17.51	16.48	15.83
	55.80	51.35	48.80	46.62	43.78	41.20	39.58

Ag 90 W 50

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1879phae.proj.1424M

190 Dec 2 1879

Polaris L.b. c = 46.696

13 14

+9.1 20

10	2	8.1	5.4	4.1	2.0	59.9	57.1	54.2	53.1	49.9	48.9
		9.0	5.4	4.1	1.9	59.1	56.3	54.9	52.4	49.1	48.9
		1.1	57.8	55.8	53.6	51.8	49.0	46.3	44.9	41.9	40.4
		9.9	5.3	3.9	1.2	59.3	56.6	54.9	52.9	49.2	47.9
		261	139	99	2387	2301	2290	2103	2033	1907	1861
	12	6.52	3.48	2.48	59.68	57.52	57.25	52.58	50.82	47.68	46.52

46.6	45.0	48.7	40.9
46.7	44.5	43.0	39.9
38.2	36.6	25.1	32.8
46.5	44.0	43.1	40.3
1780	1701	1649	1539
44.50	42.52	41.22	38.48

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1879phae.proj.1424M

Dec 3 1879

Polaris L.C. c=46.715

13 14

+91 20

10	2	99	51	28	04	577	529	579	489	464	460
		49	48	30	591	576	521	511	488	459	451
		35	579	559	535	516	461	449	420	399	389
		571	27	03	581	561	570	498	469	459	449
		307	105	20	2311	2222	2021	1977	1866	1781	1749
		7.68	2.62	0.50	57.78	55.55	50.52	49.42	46.15	44.52	43.72

44.0	41.2
43.0	40.6
37.0	34.2
41.9	40.1
165.9	156.1
41.48	39.02

A 321

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1879phae.proj.1424M

192 1879 Dec. 4

Polaris. C = 46723

1 14

+88 40

m	m	m	m	m	m	m	m	m	m
45 4 28.1	32.8	35.9	38.1	41.0	43.2	45.7	46.8	49.1	52.8
32.1	36.1	39.9	42.9	44.9	47.1	49.9	51.1	53.2	56.1
39.9	40.9	47.9	50.4	53.1	55.6	58.0	59.8	1.2	4.1
35.7	39.0	43.1	45.0	47.9	50.1	52.9	54.1	56.0	59.3
13 5 3	1518	1668	1764	1869	1960	2065	2118	2195	2323
33.82	37.95	41.70	44.10	46.72	49.00	51.62	52.95	54.88	58.08

m	m	m	m	m	m	m	m	m	m
54.9	57.1	58.1	1.9	27.7	28.9	29.9	30.3	31.6	32.3
58.6	0.9	2.1	4.1	30.1	31.7	31.9	32.3	33.1	34.8
6.9	8.8	10.0	11.1	37.7	39.9	40.1	40.9	41.6	42.9
1.9	3.8	5.1	8.9	34.2	25.3	36.9	37.1	38.6	40.1
23	106	153	260	1297	1358	1388	1406	1449	1501
0.58	2.65	3.82	6.50	32.42	33.95	34.70	35.15	36.22	37.52

Rej. ~~1st wire~~ 1st ½ wire, 1 stroke.

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The means have been checked in this book to page 119 inclusive

(Dec. 13)

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1879phae.proj.1424M

8 12
1 12
7 0

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1879phae.proj.1424N

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