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FIELD NOTE BOOK

CROCKER LAND EXPEDITION

1913 - 1915

No. 53

Seismograph

1913-1915

(S. Whitney)

Etah, Greenland

Seismographic Record

(6) 19 October, 1916,—

Wiechert Apparatus

E. O. Hovey,

Observer.

	Boxes
Sides of frame + stnt	1
Top + bottom of frame ; drum base	1
Pendulums	1
Weights + feet	2
Arms &c	1
Lamp &c	1
Paper	1
Batteries	1
NH_4Cl	1
	10

Apparently the only boxes that had been unpacked were that containing the sides of the frame and one of the boxes of weights, while that containing the top and bottom may have been partly opened, but it had not been unpacked

Seismograph Record

6 October, 1916. With Mr. Mac Millan's cordial sanction, encouragement and help and Captain Comer's help began overhauling Green's boxes in search of the parts of the seismograph and literature pertaining thereto. Found some of frame; at least two of the boxes containing it had never been opened. Found also box containing lamp and sundry extra parts, wh. had never been opened.

7.X. Found box containing needle arms, damping apparatus, drums &c i.e. whole of registering apparatus. It had never been opened and some of the steel parts were badly rusted by their three years in their packing.

9.X. Worked on machine all day and made much progress, being greatly helped by picture of assembled apparatus in catalogue of Spindler & Hoyer wh. Mac fortunately found thrown away in the shed in front of the house.

10.X. Hampered by lack of directions and rusted parts.
Ten boxes in all, only 3 of wh. had been opened.

11·X. Still searching for literature, but unsuccessfully -

12·X. Captain Corner repaired a thrust arm with a new needle in place of steel point which was rusted off.

13·X. Got apparatus all set up to-day, in my room.
14·X. Connected up clock with the seismograph.

15·X. Smoked first paper and put it onto to the drum. Got records of movements of floors of house.

16·X Working over adjustment. Ran wires from clock in my room to room where seismograph is to stand.

17·X Still running in my room for sake of synchronizing clock and graph. Mac + Captain Corner cleared out old meat room at north corner of house for reception of the instrument.

18·X. Captain Corner leveled off ground floor of room. Then he and Mac lined the ceiling and upper part

of walls with an old tufté lining - as a protection against frost. Mac established the meridian line there with his theodolite. Captain Comer and I set up the frame - Jot Small helped adjust the steady mass in equilibrium. I put in the arms, drum etc. The iron sub-bases rest on frozen gravel and are imbedded in the same material. I packed sand around them and then poured on water so that the connection is frozen solidly together.

19.X Got mechanism to running by removing all oil from the bearings ~~and worm~~ of the weight screw and the worm of the drum. Am burning a kerosene stove in the room to reduce the cold there.

20.X Running experimentally
Full damping

21.X Informed Mr. Mac Millan that the seismograph was now running "officially" - but by afternoon the time record was out of gear because the electromagnet did not work properly. No shocks recorded.

22.X - No record of shocks Magnet not doing well

"No record" means no shock recorded

23. X. No record. Magnet works sometimes & sometimes it does n't.
Temp. room at 5' 6" above ground, at 2 p.m. 24° min for 24 hrs. 15°

24. X. Fussed over electromagnet & did something that made it run for ~~for~~ several hours.
No record. Temp. 12 m, 23°; min 14°

25. X. No record. Away all day.

26. X. No record

27. X. No record. Away all day.

28. X. No record. Temp. 11 a., 23°, min. 20°

29. X. No record. Temp 12 m, 20°, min 18°

30. X. No shock recorded. Temp 11:40 a, 33°, min 20°
Struck right adjustment for magnet and got it to going all night, apparently

31. X. No record. Temp. 10:50 a, 28° min 17°
Fine marks ok. and I fixed the sheet with diluted collodion, in lack of shellac. Increased rate of clock work by raising weights & fans on governor about 1/3 inch

1. XI. No shock. Temp 10:33, 30.5° min 23.5°
New sheet on at 10:33 a.m. Old sheet showed failure of magnet from 9:54 a.m. on, but magnet began working all right on new sheet. Con. p. 8

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Room is at north corner of the house and has been used heretofore for the storage of meat. The boys called it the "refrigerator". It is a part of the shed running along the southwest front and northwest side of the main house. Dimensions: 7'3" from SE to NW by 5'9" from SW to NE and from about 6' high on NW side to 7' high on SE side, against the house. Floor is the solidly frozen ground, composed of deltal-fan gravel containing many pebbles and boulders. This was leveled off approximately then the iron feet for the instrument were imbedded in the gravel and fastened securely by freezing in by means of water poured over the ground that had been disturbed during the setting of the iron cups. The ground of this room does not thaw out even in the summer. As a protection against wind and extreme cold and the formation of frost, the

whole upper part and the ceiling of the room were lined with a tent-lining of thin drilling. On three sides the room is double walled and covered with Cabot sheathing and rubberoid roofing paper, except for a window 10" x 10" in size in the N. W. wall. Partition forming SW side is of single boards, separating room from rest of shed.

Mr. Mac Millan determined meridian across middle of space chosen for seismograph by means of a first-class theodolite-transit. We marked the line with a cord stretched between nails driven into the walls where the meridian intersected them, the points being located with the telescope. When the frame was set up, I got the outer edge of the N-S arm parallel to the cord within less than 1/8 inch, measuring with a carpenter's jointed wooden two-foot measure. Balanced the heavy mass in unstable equilibrium, secured it thus with the centering set screws, connected the thrust arms with the needle arms and loosened the set screws.

Placed a Weather Bureau stan-

dard (Green) Minimum thermometer on the southwest partition wall 5 ft above the ground (floor)
Temperature of room is moderated by burning a round-flame kerosene lamp in one corner.

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2. XI. Off at ~~4~~ 10:5:30 No record. Temp. 31° min 30° On at 10:7:18 a.m.
Magnet failed to work perfectly on last few hours of old clock, but started all right on new.

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21. X 3:25 p.m. Clock 61 sec. slow of Bond Chronometer

28 X 4:23 p. 149 sec. slow, loss 88 seconds in 7 days = 12 7/7 sec per day.
Shortened pendulum two turns ↑. ↑ thumbscrew and at 4:28 p. it was exactly 5 min slow of chronom.

4. XI 6:48 p. 245 sec. slow. Gain of 55 sec. in 7 days = 7 6/7 sec per day.
Lengthened pend 4/5 turn + started again 6 min 42 sec = 402 sec slow at 8 p.m.
(7. XI. 10:37 — 7 min 38 sec slow)

(Con. on p. 11)

3. Nov. Off at 10:0:30 No record. Magnet stopped from 3:0.1 - 3:0.6 - Marked at 3:0 6, 7 + 8 and then ceased altogether
On at 10:4:30 - not marking -
Temp. 21.7° min 18° — no heat
Wound clock at 10:10 - Tested battery and clock with telltale telegraph sounder - Both O.K.

4. Nov. Off at 10:40 a.m. Temp 22° min 19° stove not burning 24 hrs.
No record. Magnet did not work till 1:45 p yesterday when I adjusted screw and it worked all night till 7 this morning Then with occasional breaks till 10 a. then mostly off to 10:29 - then o.k. again
On at 10:44:30 a.m. Marking o.k. changed to no damping at 3 p.m.

The connecting arms (Hebelarmen) are adjusted as when received and the little thrust pins are on the second points from the outer ends of the needle arms giving a magnification of 80(?).
In all respects the adjustment of the apparatus is exactly as when received except for strengthening the joint on the armature of the magnet and reducing the distance through which armature moves and increasing pull of spiral

spring in order to get force enough to hold the needle arm thrust pins in place against the connecting arms. Also speeded ~~up the~~ governor a little. [Captain at my request prepared two long pegs on wh. to hang papers during changing operation. Time reduced from 4½ min to 1½ min. + convenience Mcneard]

5 Nov. Off at 10:14:30 a.m. On at 10:16:05
Temp 9° min 8°
No record. Time marks missing from 11 to 11:20 and one, two or three missing several times afterward during 24 hrs. Marking O.K. this morning. Time marks are almost exactly 1 cm apart, twenty of them lacking only 1 mm of being 20 cm apart.

6 Nov. Off at 10:23:30 Temp. 3° min 1°
Time marking considerably interrupted and not very satisfactory.
No record of shocks.
On at 10:25:30 a.m.

7 Nov. Off at 10:04 a.m. Temp 10.5° min 5°
All hours well marked. Most of minute ditto, but some not at all.
No record
On at 10:08 after adjusting needle.

8 Nov. Off at 9:40 a.m. - No record.
Temp. 17° min 8.5°
Time marks poor and lacking for last several hours, 2 a.m. being last one
On at 9:42
Added 1/4 lb NH_4Cl to one cell bet. 10:7:30 + 10:16:30 - Tell tale showed clock to be O.K.

9 Nov. Off at 10:34 No record
Temp. 26° min 18°
No time marks after 10:01 am. yesterday
On at 10:36 a.m.
Tell tale shows clock to be all right

10 Nov. Off at 9:50 No record
Temp. 28.8° min 24.5°
No time marks whatever
On at 9:52:40 a.m.

11 Nov. Off at 10:16 No record -
Temp. 23° min 21.7° No time marks
On at 10:18:00

12 Nov Off at 9:52:20 No record
Temp. 11° min 9.0° No time marks
On at 9:54:20 Made marks at 9:5:5 + 5.6

13 Nov Off at 10:4:15 No record
Temp. 8/12.7° min 8° No time marks
On at 10:6:30 Marked at 10:8 + 9

Clock - cont. fr. p. 7.

11. XI - 7:24:36 Clock slow 8 min 24 sec (= 504 sec.) of chronometer a loss of 102 seconds in 7 days - an average of 14 4/7 sec per day. Shortened pendulum two turns Started clock again, at 7:34:20 it was 9 min 40 sec (= 580 sec.) slow - Wound clock.

13. XI - Noon clock slow 8 min 35 sec apparent gain 65" in 2 days.

14. XI 9:45 a.m. - Slow 8 min 5 sec gain of 30 sec. Lengthened 1 turn Started clock 9 min 28 sec slow

15. XI. 10:15 a. Slow 9:17 sec. gain 11 sec

16. XI 10:10 a Slow 9:06 sec. gain 11 sec. (Temp last night outside - 11°) Clock hangs against dining room partition. No fire after ca 7 p. Cool after midnight)

17. XI. 10:15 a Slow 8 min 54 sec. gain 12 s. Lengthened pendulum 1/2 turn Started clock 10 min 32 sec slow Wound

18. XI - 10 a.m. Clock 10 min 48 sec slow of watch. watch 16 sec fast of chronom. ∴ clock 10 min 32 sec slow of chronom. - 2 + no change from yesterday.

14 XI Off at 10:16:30 No record -
Temp - 9.8° min 8.2° No time marks
On at 10:19 Marked 10:20 + 21

15 XI Off at 9:52:15 No record
Temp 12° min 9.6° No time marks
On at 9:53:35 Marked 9:56 + 57

16 XI Off at 9:50 No record
Temp 10 min 5.5° No time marks
On at 9:51:50 Marked 9:54 + 55

17 XI Off at 9:51:15 No record
Temp 6° min 4.4° No time marks
On at 9:52:40 Marked 9:54 + 55

18 XI Off at 9:40 No record
Temp 5.8 min 4.2° No time marks
On at 9:41:32 Marked 9:43 + 44

19 XI Off at 10a No record
Temp 9.5° min 4° No time marks
On at 10:1:40 Marked 10:3 & 4
Clock 10 min 29 sec slow

20 XI Off at 10:39a No record
Temp 7.5° min 6.5° No time marks
On at 10:41:42 Marked 10:44+45
Clock 10 27 sec slow Lengthened 2 points
Lighted stove + started again 11 min 30 sec sl
20° at 11:20 + 24° at 1 p.m. (After count)

Hour mark made at beginning of 60th minute

21. XI. Off at 10:12a	No record
Temp 10° min 9.5° (Stove out)	No time marks
On at 10:14	marked 10:15 & 16
Clock 11 min 30 sec slow	(Watch)
22. XI Off at 10:39a	No record
Temp 16° min 9°	No time marks
Took off magnet rc & adjusted parts	
On again at 12:43:10 p.	
Clock 11 min 30 sec slow (watch)	
23. XI. Off, 10:19:40 a	No record
Temp 25.5° min 19.5°	Time marks perfect
On again 10:21:30 a	
Clock 11: min 29.5 sec slow	(Captains count)
24. XI. Off at 10:17a	No record
Temp 21.5° min 21.5°	On at 10:18:30
Clock 11 min 30 sec slow	(watch)
25. XI. Off at 10:45:45 a	No record
Temp 10° min. 9° (Stove out)	On at 10:47:30
Clock 11 min 30 sec slow	(watch)
26. XI. Off, 10:58:50	No record
Temp 23° min 22°	On 11:00:20
Clock 11 min 29.4 sec slow	(Captains count)
27. XI. Off 10:49 a	No record
Temp 12° min 10°	On 10:52:10
Clock 11 min 29.4 sec slow	(watch)

1st Hour mark at beginning of 1st min.

27-XI. Moved minute hand forward 1 min. to make hour contact come at beginning of 1st minute. ∴ clock now 10 min 30 sec + 12 m mark came O.K. except 3 sec too soon. Turned screw from me. O.K. + the 1 p.m. Mark looks all right

28. XI Off 10:46 a.m. No record
Temp 24° min 13° On 10:47:50
Clock 10 min 29 sec slow (watch)

29. XI Off 10:15:30 am No record
Temp 7.5° min 7.5° (Fire out) On 10:17:05
Clock 10: min 30 sec slow (2 coils) Wound
Lighted stove at 2:50 p.m.

30-XI. Off at 10:27:08 No record
Temp 15° min 12° On 10:28:56
Clock 10 min 30 sec slow (watch)

1 Dec. Off at 10:23:30 No record
Temp 28.5° min 14.5° On 10:25
no time marks after 3:16 a.m. Battery zinc eaten off. Connected again + O.K. at 10.53 a.
Clock 10 min 30- sec slow (watch)

2 Dec Off at 11:6:04 No record
Temp 14.5° min 14.5° (Fire out) On 11:07:53
Time marks O.K.
Clock 10 min 30- sec slow (watch

3-XII. Off 9:48 a.m. — No record

Temp 34° min 14.5° — On 9:50

Paper began to run off the drum at 2:44 a.m. and was one-half off when covered. Clock 10 min 30 sec slow (9 C. count)

I.e. less than ½ sec change in 13 days, as compared with the Museum chronometer

4-XII. Off 9:57:30 a.m. — No record

Thermometer removed to weather bureau station — On 9:59:06

5-XII Off 10:56:06 — No record

On 10:57:30

Wound + set clock at 12:07:12, with chronometer by Mac Millan's count.

6-XII. Off 10:42:30 a.m. — No record

On 10:45:04 a.m. — Temp 11° by German thermometer from field equipment.

7-XII Off 10:27:30 a.m. — No record

On 1:14 p.m. — Temp 10.5°

Second zinc gone between 10:27 + 1:14 Put in new zinc + first mark is 1:32 p.m. but third zinc corroded off at 3:34 p.m., leaving only one cell in commission + magnet would not work on this. Fixed up an Edison CuO cell with NH_4Cl + connected it with the other. Worked all right, beginning 10:18 a.m., 8 Dec -

8-XII-16. Off 10:54:40 a.m. No record.
See note under yesterday's date.
On 10:56:30 Temp 3°
Lighted stove and at 12:45 temp is 18.5°
Temp outside at noon was −8. calm
Clock agrees with chronom. within a second according to G.C.'s count. Maybe .5 sec slow,
Temp. 2:30, 25°; {for I had moved pointer back about that much to adjust the minute contact Temp 8p. 29°

9-XII-16 Off 10=52=20 am No record
On 10:53:40 a Temp 20.3°

10.XII. Off 10:23:50 a. No record
On 10:25:20 a (no fire) Temp 7.6°
Clock 0.5 sec slow. G.C. count. Wound.

11.XII. Off 10:29:30 No record
On 10:31:20 Temp 3°
Lighted stove. 16° at 11:20; 19° at 2p; 20.5° at 8p.
Moved minute hand back one space to adjust hour contact, making clock 59 sec slow

12-XII-Off 10:34:30 a No record
On 10:36:20 Temp 19°
Time marks somewhat interrupted till 1 a.m & then hour marks only for 2, 3, 4, 5, 6 + 7 & then none at all.

13 XII · Off 10:10 - Some kind of record from ca 2:54 to 2:55 p.m. of the 12th affecting principally the N-S component + scarcely visible on E-W. arm. Does not look like an earthquake record, but I have no knowledge of any one's having touched the instrument at that time - Preserved that part of sheet.
On 10:11:30 Temp 23.2°

14 XII Off 11·10·30 No record
On 11:17:05 Temp 24°
Time marks intermittent - minutes marked for ca ½ time betw 3:30 & 7 p.m.

15 XII Off 10:17:30 No record
On 10:19:25 Temp 15° (no fire)
Time marks intermittent - Ceasing during day and after midnight.
Wound clock - 58 sec. slow - D.C. count 12 m. 24° with fire.

16 XII - Off 10:30 No record
On 10:32:20 Temp 24° (no fire)
Paper began to run off drum ca 7:30 p.m.
Time marks intermittent - e.g. Hours 12 - 7 p.m. - 9 & 10 - Minutes 2:30 - 4, 6:49 - 7, 8:23 - 8:52 p.m. after 11 p.m. trace of E-W component over arms & is confused with the N-S

17.XII-16 Off 10:40 a. No record
Time marks ~~almost~~ altogether lacking
except 11, 12, 1, 2, 2:39 – 3 p.m.
Clock stopped 8:45 a.m. Why?
Started it again at 10:11:12 a. 8 sec fast. G.C.
On 10:41:25 Temp 18°

18.XII. Off 10:26:35 No shocks
Time marks: hours – 11, 1 – 1 incl. 4 + 5
minutes continuously 4:16 – 10 p.m.
On 10:27:30 Temp 19.5°
Clock 8-sec fast (watch)

19.XII Off 10:54:40 a.m. No shocks
Time marks intermittent – more so than
yesterday –
On 10:56:20 Temp 15°

20.XII – Off 10:50 a.m. No shocks
No time marks except for 10:57 – 11:01 a.m. –
On 10:51:15 Temp 9.5°
Wound clock – 7+ sec fast – G.C. count
cleaned battery plates + time marking
resumed all night on 11:20. Solution was too strong
Lighted stove, raising temp. to 23° – 28°

21.XII. Off 10:42 No shocks
Time marks O.K. but paper ran up on edge
of drum early this morning –
On 10:43:50 Temp 28°
11h. " 26°

22-XII: Off 10:46:0 a-m. No shocks
Everything all right
On 10:48:10 Temp. 23.2° (Outside, -24°)
Temp. 2:30, 21.6° · 8:30, 21.5° 11:30 p., 18.5°

23. XII Off 10:49 a.- O.K. - No shocks
On 10:57:10 a Temp 15.5° (Outside -29°)
1 p.m. 18° 6:45 p. 21°

24. XII - Off 11:02:16 a m No shocks
Paper began to run up on ring drum at 5:37 am, confusing later lines by crossing-
On 11:03:40 a m Temp 16.5 (Outside -33°)
4:30 p.m. 8° stove just going out - Lighted up again. 5 p. 14.5°

25-XII Off 11 a m O.K. no shocks
On 11:01:45 Temp 13.6° (Outside -31.5°)
Wound clock ca 10 a.m. - 6 are fast - accounts by both G.C. & D.B.M.
Temp 1 p.m. 14.5° 4:30 - 3° (fire out & lighted again)
5 p. 13°

26 XII Off 11:04 O.K. No shocks
On 11:05:30 Temp 14.5° (Outside -24°)
7 p. 18°. Pendulum sensitive to light touch

27. XII Off 10-27-35 O.K. No shocks
On 10:29:10 Temp 18° (Outside -27°)
4 p. 18.3° (-29.5) 9 p. 19.2°

27. XII. D.B.M. reports to-day that the chronometer is 1 min 25 secs fast and that its rate is 1/10 sec gain per day ∴ the rate of the clock is now 1/10 sec loss per day.

28. XII. Off 10:43:30 a. No shocks - Began to run up on rim of drum at 4:02 p. Time marks O.K.
On at 10:45:20 Temp. 14.1° (Outside -25°)
Temp 9 p.m. 12.5° (Outside -29°)

29. XII - Off 10:50:15 O.K. No shocks
On 10:51:50 Temp. 12.2° (Outside -30°
6 p.m. 18° (-26.3°)

30. XII. Off 10:43a O.K. No shock
Temp +4° stove out (Outside -14°)
On 10:44:30 Lighted stove. Temp 17° at 11:25a.
11 p.m. -28°. Wound clock -

31. XII Off 11-1-30 a No shock
Time marks O.K. except minute marks missing: 11:21-32 ind a.m.; 12:2+3; 2:2-46; 3:13-16, 18-25 p.m.; 7:3-58 a.m. 8:3-5 a.m.
On 11:2:50 Temp. -24° (Outside -14°)
Temp 11 p.m. 24°

Am now closing doom door at night and sleeping in cold with. May but should not change rate of clock

1917

1 January, 1917. Off 11:2:40 am No shocks
Motor stopped at 3:18:50 this morning.
Started it again at 9:33. Fire was out, the
lamp having gotten to smoking badly in
the night. Abkpoodis was ~~asleep~~ at 3:30 A.M. turned the
lamp down so low that it went out.
He may have touched the machinery in
some way. Started on again all right.
Perhaps the cold stopped it, but it was
10° at 9:33 & the motor has run at lower
temperatures. Time marks O.K.
On at 11:4:10 Temp 10° (Outside -18°)
Lighted stove. Temp 11:30 a, 13°; 12.30, 15.5°; 3 p. 18°
10 30 p.m - 24°

2 Jan. Off 10:38 No shocks
Some unimportant interruptions of
minute marks slow motion in swing of
from ca 4 to ca 5 p.m pendulum toward S.W.
causing needle points
to diverge about 2 cm each and return equally.
On 10:39:20 Temp 16.5° (Outside -12°)

3 Jan Off 10:17:30 No shocks
Disconnected on account of other
work and
On at 2:43:40 Temp 3° (Outside -16)
Stove not burning since yesterday
morning on account smoking - Lighted
again at 2:50 p.m - Temp 3:30 10°
Clock 9.5 sec fast by D.B. Mc.cut
a gain of 3.5 sec. in 9 days - (7:48 p.m)
He now reports the Bond chronom-

etc. as being probably 6 min 30 sec fast, by observations on Aldebaran. He is recalculating the rate.

4 Jan. - Off 10:36:50 No shocks
Motor ran more rapidly than usual at first, slowing down gradually after 7 p.m. Not absolutely regular.
On at 10:38:30 Temp 17° (Carlisle -11°)
round clock 6 p.m. 20°, 10 p.m. 12° (stove out)
Lighted stove - Temp 11 p.m. 15°

5 Jan Off 10-58 No shocks
Motor ran all night
Minute marks absent 11-02 - 11:50 incl.
Coloured zincs of battery yesterday + marks ok. to 6:01 a.m., then minutes fail altogether + 7 a. is only later hour mark
On 10:59:30 Temp 21° (Outside -15°)
Renewed Edison cell using Ca ¼ lb NH_4Cl + started in ok at 11:47 a. 4:30 p. 21.6°

6 Jan Off 10:50 No shocks
Time marks somewhat interrupted up to 1:01 a.m. + then lacking altogether
On 10:51:45 Temp 7.6° (Outside -14.6°)
Lighted stove 11:40. 12-15, 14°; 2:45 p - 17°

7 Jan. Off 11:24 a. No shocks.
Paper began to run up on rim of drum at 5:52 a.m. Time marks missing except the noon mark till 12:20 when I took renewed NH_4Cl in Fondorff cell. Then o.k.
On 11:26:5 Temp. 17.8° (Outside -16°)
12m 20.5° 10:30 p. 24°

8 Jan. Off 10:43:15 am No shocks.
Time marks good. Paper began to run up on rim of drum at 7:01 a.m.
Tested pendulum at 10:43:30 yesterday morning - Fairly sensitive.
On 10:44:45 am Temp 10.5° (Outside -13.5°)
Stove out. 12:15 p. 5.5° lighted stove 12:40 -2.1°
5:45 p. 21.5° 9:30 23.6°

9 January, Off 10:47 a. No shocks
Time marks o.k. till ca 4:30 am, then minute marks somewhat interrupted till ca 8:30 a.m.
Paper began to run up on rim ca 7:50 a.m.
On 10:48:30 a Temp. 10° (Outside -12.5°)
Stove out. On account of frequent smoking retired the round flame stove that I have been using and started a little Florence flat flame stove - Temp. 11:15 a. 14°. 6:45 p. 14°. 8:45 p 16°
Hound clock at 10 a. 11 sec. fast, BBM comt.
Gain of 5 sec. in 15 days (Bond chronometer)

10 Jan., 1917. Off 10.48 No shocks.
Time marks ok, except 9.57-59, 8.11-59, 9.2 a.m.
On 10.49.35 Store out Temp 8.2° (Outside -6°).
Lighted fat. 11-23. 12 m. 13.5°

11 Jan. Off 11.30 No shocks
Time marks o.k. till 7 a.m. + minute marks
missing from 7.02 to 11.27 a.m. inclusive
On 11:31:30 Temp 19° (Outside 0°)
Put Florence store in room from nine
12 p.m. 21°. ? p.m. 21° 11 p.m. 21°

12 Jan. Off 10.38 a No shocks
Minutes missing 11.40a - 1.04p inc + 6.42 a.m. on -
Hour marks all present as usual.
Paper began running up on rim of drum 6.49 a.m.
On 10.39.40 a. Temp 17° (Outside - 6.5°)
12 m 30° 10:30 p. 27°

13 Jan. Off 10.45 a No shocks
Time marks much interrupted. One-half
missing -
Paper began running up on rim ca 7 a.m.
On 10.46.30 a Temp 20° (Outside - 8°)
Copper pole had corroded apart in
Edison cell - Put in new ones + started
along O.K. about 11.30. Vaselined the
coppers above the liquid in the cells
+ left the vulcanite tubes off to avoid
rapid formation of $CuCl_2$. This cell

was put into commission on 7.XII

1.15 p. temp +6° 2 p, 2.2°. Noted a slow swing of heavy mass toward N.W. due to heating up of stove.

14 January. Off 10.56 a. No shocks.
Everything o.k. since battery cell was fixed. The swing of the heavy mass due to heating up of stove reached its maximum 1.16 to 1.18 p.m. Turned down light and room cooled off more rapidly than it had warmed up, so that heavy mass had come back to normal position by 1.48 p.m. It took about 1 hr. to swing out and ½ hr. to come back.
Stove removed from room 11 p.m. to 10 a.m.
temp. at 10 a.m. 10.5°
On 10.57.30 a.m. Temp 27.2° (Outside +2°)
2 p., 24.3° 11 p. 21° round clock 10a. - 10a. cf.

15 Jan. Off 10.41 a O.K. No shocks
On 10.42.30 a. Temp 23° (Outside +1°)
1.15 p. 28° 11 p. - 22.2°

16 Jan. Off - 10.14.15 No shocks -
O.K. till 9.58 a.m. when paper began to run up -
On 10.15-45° Temp 18° (Outside - 2°)
12.40-2.40. 5.35, 18° 11 p., 18°

17 Jan. Off 10.52.20 a — No shocks.
O.K.
On 10.53-50 a — Temp 7.5° (Outside -11°)
Stove out. Filled & lighted 11.20. 11°; 1.37 - 31°; 12.50, 76.2°
11 p. 21°

18 Jan Off 10.25.15 — No shocks
Minute marks missing 5.02 - 6.02 p., 7.0 - 8.23 p.
9.02 - 11.03 pm and from 6.02 a.m. on. Paper
began to run up ca 6.47 a.m.
On 10.26-45 a.m. — Temp 2° (Outside -18°)
Stove out. Lighted up again at 10.55 a.m.
11.15 a 17.5° 2.30 p. 22° 11 p. 38.5°
Cleaned Edison zinc + O.K at 11-14

19 Jan. Off 10-46 a m — No shocks
Temp was down to ca 18° during early a.m.
Time marks (minute) somewhat interrupted. Edison cell seems to clog rapidly on NH_4Cl.
On 10.47.25 a.m. — Temp. 34.5° (Out -13.5)
Wound clock 8.45 a. 10 sec fast by G.C.S. time
Removed Edison cell + cut down one of its zincs so that it would go into a Fondolfi cell. Got this done about noon and then the time marks came o.k.
Temp 12 m 28°; 5.30 p. 25.8°. 11 p. 22°

20 Jan. Off 10.45 a — No shocks
Time marks o.k. beginning 12.32 p.
On 10.46.35 — Temp. 22.3° (Outside -1°)
1.45 p. 42° 10.00 p -12° stove out

21 Jan. 1917. Off 10.36.10 No shocks.
O.K.
On 10.37.25 Temp. 6.1° (Outside -6°)
Stove in again - 12.45 p, 20.3; 5.30, 20.7°; 11 p. 18.8°

22 Jan. Off 10.36.10 No shocks
O.K.
On 10.37.20 Temp 17.8° (Outside -8°)

23 Jan. Off 10.44.30 No shocks
OK till paper began to run up on rim of drum at 5.27 a.m.
On 10.46.40 Temp 28.2° (Outside +11°)
5.30 p 28° 10.45 p. 26.9°

24 Jan. Off 10.24 No shocks
OK till 8.04 a.m when paper began to run up on rim
On 10.25.10 Temp 25° (Outside +2°)
12.20 p. 46° 6.30 p 28.8° 10.30 p 45.2°
Wound clock 8.45 a. 8 + sec fast by both G.M.T. + G.C. count.

25 Jan. Off 10.22 a. No shocks
O.K. Motor does not keep constant rate
On 10.23.35 a Temp 17.5° (Outside 5°)

26 Jan Off 10.46.30 a No shocks
OK as to marks. Paper began running up at 5.4 a.m.
On 10.47.50 Temp 36.5° (Outside 8°)
10.45 p.m - 14.5° (stove out)

27 Jan. 1917. Off 10.33-05 No shocks
O.K.
On 10.34.30 Temp 19° (Outside 14°)
6p., 20.5°; 10.30p. 17° Stove out all day

28 Jan. Off 10-54 No shocks
O.K. Stove out all day
On 10-55-10 Temp 18.4° (Outside 11°)
Ca4p. 18° 11p, 17°

29 Jan Off 11a No shocks
O.K. No fire
On 11-1-20a Temp 18° (Outside 15°)
Wound clock. 9 sec fast. 8p. 15.1°; 11p-12.8°

30 Jan Off 10.28 am No shocks
O.K. till paper began to run out at 5.0 a.m
all marks present. no fire
On 10.30.10a. Temp 14° (Outside 0°)
1p. 11.2°; 10.45p. 10°

31 Jan. Off 10-57-5a No shocks
O.K. no fire
On 11.0.30 Temp 7.3° (Outside -5°)
1.45p. 7°

1 February, 1917. Off 11.34a No shocks
OK except that paper began to run up on rim of drum at 4:11 a.m.
On 11.35.10 a Temp 6.6° (Outside 1.5°)
3.45 p. 7° 10.30 p. 8° No fire

2 Feb. Off 10.35 a No shocks
O.K. No fire
On 10.36.10 Temp 6.3° (Outside -0.5°)
Lighted stove 11 a. 11.15 a. 22.5° 1.30 p. 18°
11 p.m. 25.6°

3 Feb. Off 11.9 a No shocks
O.K. Fire went out in early a.m.
On 11.10.10 a Temp 9.8° (Outside -4.5°)
round clock 9.33 a.m. 10 sec fast. P.C. Count
Lighted stove 11.30 a. 12.45 p. 14°. 9.30 p. 32.6

4 Feb Off 10.28 No shocks
OK Fire out early a m
On 10.29.10 Temp 7.8° (Outside -10°)
10.20 p. 8.1°

5 Feb. Off 10.43.15 No shocks
OK Tick paper began running up at 6.33 a.m.
On 10.44.30 no fire Temp 5° (Outside -8°)
5.30 p. 5.5° 11.40 p, 8.6°

6 Feb. Off 10.39 a OK No shocks
On 10.40.10 No fire, Temp 4° (Outside -1°)
new wick + lighted stove noon 1.40 p. 15° 10.45 p 26°

7 Feb. Off 10.48a OK No shocks
On 10.49.10 Temp 21.1° (Outside -14.5°)
5.15 p. 20.8° 11 p. 19°

8 Feb. Off 10.52-10a OK No shocks
On 10.53.15 Temp 16.7° (Outside 18°)
round clock 10.40 13 seconds fast
of the Bond chronom. G.C. count
2.25 p. 20.1° 10.15 p. 17.1°

9 Feb Off 10-32a OK No shocks
On 10.33 Temp 14.8° (Outside -14)
10 p.m. 6.8°

10 Feb. Off 11-3-5a No shocks
Dropped some minute marks just before + after
3 a.m. Paper began running up on rim 5.21 a.m.
On 11-4.15 Temp 3.8° (Outside -4°)
Lighted stove 11.20. Temp 11.47 - 15.1° 10.15 p 28.9°

11 Feb. Off 10-36a No shocks
OK but paper began running up at 6.03a.
On 10.37.05a Temp 23.8° (Outside -15°)
11.30a 26.5° 7.30 p 22.5° 10 p. 24.1°

12 Feb Off 11.30.10 No shocks
OK till 12.23 a.m. after which no time
marks appear
On 11.31.35 Temp 18° (Outside -15°)
Renewed zinc after one unsuccessful

attempt at freeing two old rods together.
Made one that worked from old Edison zinc.
Temp 11 p.m. 23.8°

13 Feb. 1917. Off 10.30-30. No shocks
Time marks o.k. after 6 p.m.
On 10.31.40 Temp 23° (Outside -4°)
Wound clock at 10-17 a. 15 sec. fast 9.C. count
2.30 p. 22° 10.25 p. 23.9°

14 Feb. Off 10.16 a. No shocks
O.K.
On 10.17 Temp 19.7° (Outside -11.5°)
9.30 p.m., 29.5°

15 Feb. Off 10-23 a. O.K. No shocks
On 10-24 a.m. Temp 20.6° (Outside -19°)
1.30 p.m. 21.5° 10.45 p. 19.5°

16 Feb. Off 10.20 a No shocks
O.K. except that minute marks were lacking from 8.02 to 8.59 a.m. incl.
On 10.19.50 a.m. Temp 16.4° (Outside -17°)
Mr MacMillan gives me the rate of the Bond chronometer as being +2 seconds per day.
Temp. 1 p.m. 16.2° 10.40 p 16.2°

17 Feb. Off 10-02 a.m. No shocks
O.K. except no time marks 11.02-11.59 a.m. + 9-02-9.59 a.
On 10.03.10 a. Temp 19° (Outside -11°)

17-II-(Con) Temp

Bond chronometer reported to be 10 min 44 sec fast of local mean time at 9 a.m (G.M.T.)
1.45 p. 25.2° 10-45 p. 26.5°

18 Feb. Off 10-32-10 No shocks
O.K., except no time marks 7.02-7.59 p., 4.02-4.59 a
and 6.00-6.59 a.m
On 10.33.15 Temp 25° (Outside -11°)
Round clock 9.33 a.m. 18 sec. fast G.C. fast
6.10 p. 21.4° 9.45 p. 20°

19 Feb. Off 10.29 No shocks
O.K. except no time marks 7.02-7.59 a.m 10.02-10.
On 10.30-05 Temp 19° (Outside -8°)
10.45 p. - 22.1°

20 Feb: Off 10-16 No shocks
Minute marks missing at intervals, especially between 12+1 and 3+6 p.m and 6+9 a.m
On 10.17.15 Temp 21.5° (Outside -6°)
Renewed battery solutions (4 heaping tablespoonfuls NH_4Cl each) and all OK at 10.58 a.
11.17 - 24° 2.15 p. 20.5° 10.40 p. 23°

21 Feb. Off 10.18 No shocks
O.K. except minute marks missing 10.46-10.59 a.
while batteries were being renewed
On 10.18.50 Temp 22.1° (Outside +1.2°)
2.15 p. 22.2°

22 Feb. Off 10.35 a.m. No shocks
O.K.
On 10.35-55 a Temp 23.5° (Outside +3°)
ca 2 p.m., 24° 10.45 p. 33.6°

23 Feb. Off 10.30 a.m. No shocks
O.K. except that paper began unwinding at 9.53 a.m.
On 10.31 a.m. Temp 25° (Outside +4.5°)
round clock at 9.28 a. 21 sec fast. 9.P. count
5.45 p 25° 10.20 p. 37°

24 Feb. Off 10.27 a. No shocks.
O.K.
Tested pendulum 10.50-45 — 10.51 a.m. yesterday. Vibrated all night.
On 10.27.50 a.m: Temp 27.5° (Outside - 4°)
2 p. 29.5° 10.15 p. 31°

25 Feb Off 10.03 a.m. No shocks
O.K.
On 10.03.50 a Temp 27.5° (Outside - 6.4°)
2.30 p. 27° 10.20 p. 25.1°

26 Feb Off 10.35 a.m. No shocks
O.K.
On 10.35-50 a.m. Temp 21° (Outside - 12.5°)
5:20 p 9.5° Stove out. Lighted again + at 5.25 p 22.5°
10.30 p. 21°

27 February 1917. Off 10.22 No shocks
O K except time marks 7.02 - 7.59 a.m. missing
On 10.22.55 Temp 13.1° (Outside -22°
2.10 p. 16° 6 p. 16° (Removed stove)

28 February. Off 10.49 a.m. No shocks
O K. except marks for 9.05 - 9.14 a.m. incl
On 10.49.55 no fire Temp 0° (Outside -18.5°)
Round clock 9.40 a.m. 27 see last P.C. count
5 p. 0° 10.15 p. -1°

March, 1917

1 March, Off 9.59 a No Shocks
Minute marks missing after 3.01 a.m.
On 9.59.55 a Temp 0.7° (Outside -21°)
4 p. 1° 11 p. 0.4°

2 March Off 10.30 a No shocks
Time marks missing 10.02, 10.03 a.m.
4.02, 5.02 + 03, 6.02 - 8.59 p.m. 1.02 - 1.59,
and 3.02 a.m.
On 10.31.10 a.m. Temp -2° (Outside -18°)
added two tablespoonfuls NH_4Cl to each
jar and started marking again at 11.08
2 p. -2°. 6.38 p. -2.5° Moved Florence
stove out there again. 10.45 p. 9°

3 March, 1917, Off 11.01.5 No shocks
Time marks O.K. 11.09 a - 7.01 a. incl.
but then minute marks missing onward
Off 11.01.55 Temp 17.8° (Outside - 21°)
3.50 p. 14.5° 10.05 p. 14.2°

4 March. Off 10.27 a. No shocks
Minutes missing 11.02 - 11.59 p.m. & 5.02 - 5.54 a.m.
Paper began running up at 6.11 a.m.
On 10.27.55 am Temp 12.2° (Outside - 19°)
1.30 p. 28.5° 6 p. 20.5°

5 March Off 10.44.10 No shocks
Minutes missing - some between 12 + 1 p.m.
also 11.02 - 1.59 p. + 6.02 - 6.59 + 7.02 - 7.57 p.
Paper began running up ca 6.29 a.
On 10.45.02 Temp 14° (Outside - 14°)
2 p. 24.5° 11.30 p. 27.5° Round clock.

6 March Off 11.07 No shocks
O.K.
On 11.08 Temp 23° (Outside - 13°)
4 p. 13° 11.40 p. 3.6°

7 March Off 10.42 No shocks
O.K some minutes missing
On 10.42.45 Temp 4.5° (Outside - 12)
11.25 p. 4°

8 March Off 10-37 No shocks
Paper ran up on rim twice, annoying the lines. Time marks O.K.
On 10-37-50 Temp 3° (Outside -7°)
Sighted stove. 18° at 11.30 a. 1.50 - 23°. 10.45 p. 19.1°

9 March. Off 10.57-10 a No shocks
Time marks missing 1.02 - 1.9 p.m. & 2.02 p - 2.41 a -
Paper began running up at 9.48 a.m.
On 10.54 a. Temp 18.6° (Outside -7°)
6-40 p. 29° 11.10 p 22.1°

10 March off 10.54 a No shocks
Time marks o.k. except where interrupted by stoppage of clock through action of a little Eskimo boy in evening.
Paper began running up about 6 a.m.
Set clock with Bond chronometer at 9.47 a.m - Wound clock
On - 10.55 - 10 Temp 27° (Outside +0.5°)
1.35 p. 26.2° 11.15 p. 31°

11 March Off 10.27 a. No shocks
O.K.
On 10.27.55 a Temp 29.1° (Outside -2.2°)
1.30 p.m. 31.5°

12 March. O/f 10-9 a. OK except that paper began running up at 7.28 a.m.

Heavy shock of some kind recorded by N-S component coming from N. and beginning at 2:49 p.m. 11 Mch (correction being made for the hour mark coming at 3 min. past the actual hour, due to error made when clock was set on 10 March.) and continuing till about 2:52:30 p.m. Some doubt regarding the record is raised in my mind by the apparent continuity of the regular needle trace through the maze of arcs. This will be settled when I submit the record, which I have collodionized, to Fr. Tondorff. Preliminary and subsequent tremors are missing from the record, seeming to show a lack of sensitiveness in the apparatus, if this was a true earthquake shock. The record would indicate the occurrence of a heavy quake somewhere in the region from Japan to Sumatra, or a lighter quake further north.

MacMillan tells me that by his observations the Bond chronometer was 10 min 41.3 sec fast on 28.II and gaining 2 seconds per day

This indicates that it was 11 min.
3.3 seconds fast yesterday (11 inch)
Today by captain Cook is correct, the
clock is 2 seconds slow, showing
that loss in two days ∴ 1 sec slow yes-
terday. Correct time of beginning
of record 2·37 p.m., within 5 sec-
either way, end 2·42·30
new paper on at 10·10·03 a. Experimen-
ed with pendulum obscuring re-
cord. No shocks arrived however.
Prepared another paper and put it on
at 12·06 p.m. (corrected for hour mark)
Temp. 10·10 a. 28.2° (outside -12)
5·40 p.m. 30° 11 p.m. 28°

13 March, Off 10·39(42) a.m. No shocks
O K except that paper began to run up on
rim at ca 4·39 a.m.
Cleaned drums, smoked drums + renewed batteries
On 10·42(45) a Temp 26.5 (Outside -12°)
7 p.m. 25° 9·50 p.m. (turned light down)

14 March Off 10·32(35) a.m. No shocks
O.K.
On 10·33 (36) a.m Temp 16° (Outside -17°)
11 a 26° 11 p.m. 20.5°

15 March, 1917. Off 11.01 a No shocks
O.K.
On 11.02.40 a.m. 16.3° (Outside -28.5°)
clock befor 4.5 + 5 sec slow G.C. count-
Stopped from 9.40 to 10.48 for pur-
pose of adjusting horn mark and
setting. Horn mark incorrectly
and set clock again at 1.2:18 p.m.
6.22 p. 14.5°
Tried again at 7.03

16 March Off 10.37 a.m. No shocks
O.K. except minutes missing from
9.01 a.m onward - Put in 2 Tapleys. NH4Cl cap
On 10.37.50 Temp 16° (Outside -23°)
1.20 p.m. 15° 6.24 p. 13.6° 10.30 p. 14°

17 March Off 11.01 a.m No shocks
Time marks missing from 11.02 a.m. - 1.28 p.
ca 1 am - 2.26 a.m - and at other short
intervals
On 11.02 a.m. Temp 11.9° (Outside -22°)
1 p.m - 23° adjusted batteries -
6.35 p.m. 21.3° 11 p.m. 20°

18 March Off 10.09 a No shocks
Time marks O.K. after 12.50 p when
batteries were fixed
On 10.09.35 Temp 17.3 (Outside -19)
6.30 p. 27.2° 11 p.m.

19 March, 1917. Off 10.26 a.m. No shocks
O.K.
On 10.27 a.m. Temp 30.5° (Outside 16°)
Returned D.B.M's thermometer to him

20 March. Off 10.41 a.m. No shocks
OK except that a few minute marks
are missing occasionally
On 10.42 a.m.
Wound clock 10.06 a.m. 4 sec slow
of Bond chronom. by G.C. count

21 March Off 10.49.30 a.m. No shocks
Times interrupted. Ticking from
1.02 to about 9 a.m.
On 10.51.15 a.m.

George Comer, Observer

March 22 off at 9.38 am no shocks
O K
on 9.40.15

March 23 off 10-5 20 no shocks
O K
on at 10.16.30

" 24 off at 10.09 no shock
O K
on 10 11 40

Clock slow of Chro 6' .45"
as clock was taken for repairs 6 a.m.
no shock not working well after
" 25" on at 9-23
no shock. Battery not working
working neither morning or noon
off at 10 47 on the 26
as the error of the chronometer
is unknown & are these figures
are approximate
no record for the 26 and
the battery & wires out of order
Seismograph working but no
records of shocks

March 27
took down clock and wires
& wires and Batteries got all
replaced at 1230
and soon working well

42 Etah North Greenland

march 28 1917

The seismograph went all night till 7 am then missed to mark off the minuts at 8 30 I turned the long set screw and the minuts were again registered but I find that I have not replaced the hands back on properly and the Hour mark does not register till 5 minuts after the hour and the seconds not being correct does not mark of the minuts or the exact minut of the clock but hope to get the correct time and equitment later.

No shock off at 10 16 on at 10 20

I have no knowledge at present as to the correct time the chronometer is said to be about 10 minutes fast

Etah north Greenland

march 29 Paper on an at

10.20 off at 9.2 no shock
the Batteries mark the minute
Mark in good shape last
the Hour mark did not
show after good from
5 am till taken off
New Paper Placed on
at 9.4.52 am
no record working well
on at 9.54.30 March 30
off at 9.58. march 31
no record minute not
being marked after 6 am
for some reason the
minute mark cease
late each morning now
for several mornings

march 31 on at 9 am
not marking the minute
till noon after turning
one of the long screws on left
hand side
off at 9.50 April 1
no shock not marking
the minute towards morning

Etak [illegible] Maryland

April 1 1917

on at 10 am April 1 no
off at 9.52 April 2 shock
running very well but minute
marker not quite true
on at 9.56 April 2
off at 9.07 no shock
minute marker locking
by morning also hour
marker after 5 am

April 3 on at 9.11 am
off at 9.08 no shock
no minute mark
April 4 on at 9.11
off at 9.06 no shock
no minute marker
but hour mark good
April 5 on at 9.07
off at 9.02 April 6
no shock
hour marks no minute
April 6 on at 9.05
April 7 off at 9.14 no shock
on at 9.16.30
off at 8.57 no shock

April 8th on at 9 am
9th off at 10.12 am
no shock

Etah north Greenland

April 10

off at 8.52 no shock
on at 8.54 no shock
clocked stoked by natives

April 11 on at 9.10.30
off at 10 14 no shock

April 12 on at 10.16
off at 8 am
working well no shock

April 13 on at 8.02 30 am
off at 9.03
no shock

Skeleton clock
April 14 on at 9.05 am
off at 9.30
no shock

minute mark becoming faint
April 15 on at 7 32 am
no shock off at 8.57 am

April 16 on 8.57 am
off at 7 40 am
no shock not marking minute

April 17 on 7 42 pm
April 18 off at 9.10 pm
no shock on at 9 12 pm

April 19 on at 7.52 am
no shock started marking towards
morning then began again
intermittent in marking
towards morning
off at 7.53 am

Clock

April 20 no shock 1914

on at 7 55 am
off at 7 37 am no shock
making intermittently

April 21 on at 7.45am
off at 8 54 am
working well till 11 pm no shock

April 22 on at 8.56
not marking no shock

April 23
putting in new wires
and refilled jars
off at 7.48 am
no shock working well till
after 9 am then marking
not perfect

April 24 on at 7.47
off at 7 37
no shock
not marking good

April 25 on at 7.36
off at 7 25 am
no shock
not marking

April 26 on at 7.36
off at 7.44
no marking water dripping
on siphon
Batteries not working
or Connection Bad

Stak north Greenland

April 27

	on at 7.46 am
Changed for	off at 8 01 am
working well	no shock
April 28	on at 8 04 am
	off at 9 54 am
working well	no shock
April 29	on at 9.54 am
	off at 9 05 am
working well	no shock
April 30	on at 9-07 am
	off at 8 01 am
working well	no shock
May 1	on at 8.07 am
	off at 8.03 am
	no shock

do not understand why the why the Clock had gained 4 minutes on the marking of the Hand

may 2	on at 8 07 am
	off at 7 32 am
working well	no shock
may 3	on at 7.34 am
	off at 8.38 am
working well	no shock
may 4	on at 8.40
	off at 7.42
working well	no shock
may 5	on at 7 44
walked off the	off at 7 33
Roller this am	no shock

Etah

May 6 Record on at 7.35
on at 7.42
off at 7
no shock 42

after running 14 hours one hand ... worse
May 7 on at 7.44 a
off at 7.38 a
working well no shock
May 8 on at 7.40 a
off at 7.37
no shock
right Pointer (facing it) again
became erratic last half night
other wire working well
May 9 on at 7.39
off at 7.33
working well no shock
May 10 on at 7.35
off at 7.26
working well no shock
May 11 on at 7.28 a
off 7.31
working well no shock
May 12 on at 7.33
off at 7.31
no shock
working well
May 13 on at 7.33
off at 7.46
working well no shock

Etah

may 14 1917

on at 7 49
off at 8 14
working well No shock
but worked off the drum a little
this am so that the levers
fallen clasped out

May 15 on at 8.16

on account of the Ice around
melting and dripping on the
Seismograph it is not
running well the Ice formed
has stopped or shut off
the Batteries
have removed the tent
and then taken off all
the frost clinging to the
roof then later
found it best to put
sheets of tin up to
prevent further dripping
have put on 3 records
& day the last at 10 17
pm
and now have put the
Kerosene stove back on
to dry off the instrument

Elak

May 17

on early
but not working
till 9:20 am

not working I finished
put a drop of oil on
the rod which holds up
the small plunger to
the two small coils then
by working it back and
forth with the point of
a knife it set going
all right

off at 7.32 am

working fine all right

May 18 on at 7.34 am
off at 7.42

working well No shock

May 19 on at 7.44 am
off at 7.29

working well no shock

May 20 on at 7.30 am
off at 7.46 am

working well no shock

May 21 on 7.47 am
off at 7.33 am

working well no shock

North Gyleemland

May 22 on at 7.35 am
off at 7.29 am
no shock

Abbell marking at about 4 am
the little punker next to the
two reads not working could
shake it back and forth and
set it going allright

May 23 on at 7.31 am
off at 7.32 am
working well no shock

May 24 on at 7.30 am

have failed to note down
a day

May 25 on at 7.3[illegible]
off at 7.20
no shock
working well

May 26 on at 7.22
off at 7.38
no shock
working well

May 27 on at 7.39
off at 7.3[illegible]

Etah

may 28

off at 7 32
no shock
working well
on at 7 34
off at 7 27
working well no shock

may 29 on at 7 29 am
off at 7 33 am
working well no shock

may 30 on at 7 35 am
off at 7 51
no shock
stoped working the drum
not revolving

may 31 on at 7 53
had run off during
the night
the Place where the
seismograph is placed is
now so wet that there
is an inch or more of
water on the ground
and the thawing may
throw the instrument out
of plumb

June 1

half a record as
the drum stoped recording

June 2 off at 732
one half of record
allright but other half
had recrossed
no shock
on at 7.34 am

June 3 off at 7.35
on at 737
working well no shock

June 4 off at 728 am
on at 730 am
working well no shock

June 5 off at 7.31 am
on at 733 am
working well no shock

June 6 off at 730 am
on at 732 am
working well no shock

June 7 off at 7.34 am
on at 7.36 am
working well no shock

Etah north Greenland

1917

June 8 off at 7.42
on at 7.44
working well no shock

June 9 off at 7.33 am
on at 7.35 am
working well no shock
getting perfect shock but
no shocks is rather
Discouraging

June 10 off at 7.29
on at 7.31
working well no shock

June 11 off at 7.35
on at 7.37
working well no shock

June 12 off at 7.30
on at 7.32
working well no shock

June 13 off at 7.31 am
on at 7.33
no shock
during the steamgauge the
left hand marker failed to
keep time and retarded
during the night right marker
OK

Utah

June 14

off at 7.38
on at 7.40
working well no shock

June 15 off at 7.30
on at 7.32
working well no shock

June 16 off at 7.36
on at 7.38
no shock
the right hand pointer (facing the machine) failed to mark the hours but marked the minutes correctly

June 17 off at 7.39 am
on at 7.49 am
not working well no shock
the right hand while it marks the minute correctly does not mark the hours distinctly though they can be seen the left hand runs and marks well but recedes

Etak

June 18 1917

off at 7 34 am
on at 7 39 am

the right hand no shock
failed to mark the hours
distinctly the left hand
working correctly

June 19 off at 7.51
on at 8.4 am
no shock

left hand working alright
but right hand does not
strike out & the right but
only makes a dot

June 20 off at 7.34
on at 7 40

the right hand no shock
still fails to mark
the hour but kicks
ahead and not side wise

June 21 off at 7 14
on at 7 25
no shock

the right hand still fails
& swing out side wise
and marks the hours distinctly

north Greenland

June 22 1917

off at 7 30
on at 7 41
no shock

there is a little improvement in the marking of the hours by the right hand marker

June 23

off at 7.36
on at 7.47
no shock

the right hand is working but not so perfect as the left one (seeing it) the left one goes like this ——|——|——
while the right one goes ——o——o——

June 24 off at 7.26 am
on at 7.28 am
no shock

working well but the right hand is not quite so energetic as the left one though quite readable

Etah

June 25

off at 7.33 am
on at 7.35 am
working very well no shock

June 26 off at 7.23 am
on at 7.26 am
working well no shock

June 27 off at 7.42 am
on at 7.44 am
working well but no shock

June 28 off at 7.53 am
on at 7.55 am
working well no shock

June 29 off at 8.23
on at 8.25
working well no shock
the right hand does not
make such perfect lines as
the left one

June 30 off at 8.19
on at 8.21
working well no shock
both hands working
perfect

July 1

off at 8.46 am
on at 8.59 am
working well no shock

July 2 off at 8 25
on at 8 27
found the lower roller on
the ground at bearing worked
off this morning no shock
right hand is
not working easy

July 3 off at 8.23 am
on at 8 34
no shock
the left hand working perfect
but right one not so well
I can see that it is
because I have not always
known just what to do
to adjust it

July 4 off at 7 25 am
on at 7.27 am
no shocks
working well both painters

Utah

July 5 1917

off at 7 30 am
on at 7 32 am
no shock

in adjusting the instrument The Marking Pointer not only swung out but now returns and cross over the line a little other wise correct

This is the 2nd event off up the coast looking for material around old seism

July 10 1917

In taking down and and packing up the seismograph I have broken on of the hooks which the lower roller rests against there are 6 hooks of the material

It should be stated that when the seismograph was taken down I found that the frame on which the frame rested were in soft mud and this no doubt has been the case since the ground thawed some time ago

Marvin, C. F. — Universal Seismograph for Horizontal Motion, &c
Monthly Weather Review — Nov., 1907.


0
3
6
9
12
15
18
3
6
2:54 p.m.
12·XII·16
N–S comp
moment