



STENOGRAPHIC NOTES



No. 13

From Saturday, April 1 1944

To Friday, April 14, 1944

No. 26-G

Saturday, April 1.

Temperatures and Frost

7 am, Teletherm. 30.6°F  
Current min. 26.0° (Min. for night 21.6°F)  
H-T . . . 26.0° ( . . . 23.0°  
Humid., 10-12 mid. 90%  
 . 10-6 am 90 to 70%

On stairs - Therm. Jr. 23.0° (Min for night 18°F)  
3 to 5 ft above snow. No frost on glass.

On Snow.

Very heavy frost.  
Scraped to read.

Thermog 20.5° (Min. for night 20°F)  
1 1/2 in. into snow. Heavy frost.  
Wet at 6 pm. last night.

Exposed therm. 22.0°  
sealed in channel 19.0° Fog in snow.

Sun on instruments at 7:25 a.m.  
Moved them into shelter  
Temperatures in snow.  
Placed dye on snow  
(a) In sun (b) In shade.

1 1/2 in. deep (No. 2) Sealed 21.5°F  
No frost.

3 in deep (No. 3) Sealed 22.3°

4 1/2 in deep (No. 7) Red liquid. 2.2°C\*  
\* 2 in dirty water 6 in. deep.

21 in deep (No. 6) 32°F

### Crust

Frozen crust 7 in. deep.

Mealy but dry below.

Dye in it dormant and green.

8 am <sup>Dye</sup> Dyes on snow still green.

8:30 am

Dye in sun all red.

But dye in shade still green  
but is turning to red as it  
emerges into sun. Tiny fine  
points of moisture.

Pasture      Temp.

8:50 am

Min. 46°F (Min. for night 21°F)

H-T 45°F (Min. " " 23°F)

Calm, clear.

Humid. 8-12 mid. 100%

" 12-6 am 100% to 80%

9 am

Dye

No 1<sup>t</sup> has turned red again.

" 2<sup>t</sup> is green but turning red at edge.

Crust

Crust 9 in. deep.

Temps

18 in. (No. 6) . . . 32°F

49.5 in (No. 1) . . . 32°F

53 in (No. 2) . . . 32°F

55½ in. (No. 1) . . . 32.3°F On bottom

→ Waste freezes to snow at every ranch  
Cloth releases better.

Melting. Dye Movement

No. 1<sup>d</sup> Dye to bottom.

Saturated dye 1 in. at bottom  
Water soaked.

Entire core moist-packs.

Some ice buttons.

No. 1<sup>e</sup> Colored throughout.

Water button at bottom.

No. 1<sup>f</sup> Only top inch.

No. 2<sup>d</sup> and 2<sup>e</sup>. To bottom.

No. 2<sup>f</sup>. Dye down 1 in.

New Cores

1. 55<sup>in.</sup> Dye turning red and  
faster in lower half.  
at 9:50 am. very red but at  
most has percolated one-half  
thru core or 1<sup>in.</sup>

2. 56<sup>in.</sup>  
Upper 4 in. crushed.  
Remainder crush-packs  
Bottom inch moist.  
Some ice buttons.

Snow Survey by Clair Eddy.

The survey was made at Summit Valley yesterday.

Today the surveys were made at Summit and at Soda Springs No. 1 (Key Census) and No. 2.

Wired him to make his own line of survey and not necessarily follow the poles.

Detailed records were left with us.

Summit - Dpth 63.5<sup>in</sup> Water 30.1<sup>in</sup> Density

Summit Valley

No. 1	"	52.8 <sup>in</sup>	"	30.8 <sup>in</sup>	
No. 2	"	64.6 <sup>in</sup>	"	30.7 <sup>in</sup>	
Soda Spgs	No. 1	56.1 <sup>in</sup>	"	25.9 <sup>in</sup>	46.2%
	No. 2	56.9 <sup>in</sup>	"	26.7 <sup>in</sup>	

Remaining Gages

Hotel

1 pm. No. 1 - See March Record.

Stevens S. 9.18(20.18)<sup>in</sup> D. 5.1<sup>in</sup>.

No. 2. Stevens W

5.42<sup>in</sup> by scale\*


\* But moved forward by Ernie Mack while testing.

No. 3 Army Engg.

Dpth 12.5<sup>in</sup> from top to liquid.

Later: Prob. second section = 36.5<sup>in</sup>.

Dpth of liquid 23.22<sup>in</sup>.

Neck  or Flounce collar.

15<sup>in</sup>.

Tapers more than W

No. 4 W. 5.44<sup>in</sup> D. 4.28<sup>in</sup>

R (aducer) W. 16.7<sup>in</sup> D. 4.60<sup>in</sup>.

R (reactor) Nit W. 4.64<sup>in</sup> D. 3.96<sup>in</sup>.

PC (Plastic) W. 5.4<sup>in.</sup> D. 4.3<sup>in.</sup>

Note - lighter bail was used.

Which was used previously?

WT: lighter, wider 0.10<sup>in.</sup>

Heavier 0.12<sup>in.</sup>

### Tamps in Shelter

Min 58°F

H-T 56.5°

Thermog. 56.0°

Thermog. (H) 56.0°

### Reweighing Loges

No. 6 Wt 5.26<sup>in.</sup> D. 4.18<sup>in.</sup>  
Oil on support. Leaking? No drips.

No. 7 Stevens Q

Reset 3:10 pm. Reassumed.

WT. 17.35<sup>in.</sup> Residual capacity  
about 6<sup>in.</sup>

When capacity reached, should  
recharge and let pen sink  
down.

Same sheet can be used  
but note the drop of the pen.

No. 8 WT 5.25<sup>in</sup> D. 4.1<sup>in</sup>

No. 9 WT 7.03<sup>in</sup> D. 5.1<sup>in</sup>  
could weigh on own hook.

No. 10 WT 8.53<sup>in</sup> D. 6.1<sup>in</sup>

### Cleaning Measuring Stick

Waste is good material for wiping oil from stick. Can read mark of fresh oil on wiped stick easily.

### Melting

2:50 pm

Becky calls mine pentente "messen melting".

No. 11 57<sup>in</sup>. Melting 18<sup>in</sup>. or 40<sup>in</sup>.  
from bottom.

No. 21 56.5<sup>in</sup>. Melting 16<sup>in</sup> or 39<sup>in</sup>.  
from bottom.

Eye brushing at 16<sup>in</sup>.

→ a buzzing fly!  
Top 18<sup>in</sup> passes net.



Rest passes moist.

One crust and 2 deep red bands

### Temps

3 pm

Min. 57°F

H-T 58°F

Humid 16%

Calm and clear.

Anemometer 728 mi.

Snow stake 52 in.

### Crust

4:45 pm

Crust in shade  $\frac{1}{16}$  in.

Crystals (firm) just congealing  
and shering.

### Thermometers

Thermometers in present use  
Nos. 1, 2, 3, 6, 7. Evidently Nos. 4 and  
5 are being repaired and remembered

### Temps and Crust

5:10 pm.

Thermom. 64.0°F. In Sun.?

Min. 56.0°

H-T 54.5°

Thermog. 55.5°

Thermog. (fr) 54.0°

Pasture

6 p.m. approx.

Min 54.0°F

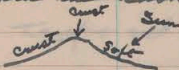
H-T 54.0° Humidity 22%

Calm. Sun 15° above horizon

Crust

Film of crust in slight depressions,

also on lee of slight ridges and  
even at crest where sun shines  
thru the snow.



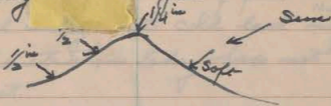
→ Crust on shady side of crest  
The sun shines thru.  
Snow still soft in full sun.

New Cores

East of Sky Parlor

1. 55 in. Core turns dye to red  
entire length.
2. 56 in. Moist packs.

Crust in shade  $\frac{1}{2}$  in. thick,  
 varying exposure to sun. Thus



Query: Will this produce sun pits?  
 "The patient was called by  
 Max Demarest under melting Berg"

### Temps and Crust

6:40 pm. Teletherm 68.9°F undoubtedly  
 in sun.  
 Winc. 52.0°  
 H-T 50.0°  
 Humid. 26%

On steps Thermog (fr) 46.5°F

On snow  
 Thermog. 43.0°  
 Exposed therm. 38.0°  
 Sealed  
 in snow channel 33.0°  
 Moisture on glass

Under snow. 1 in. under 32°F

Snow at surface frozen  $\frac{1}{2}$  in.

### Runoff

Gravel at Depot carrying the usual melt water of past days.

→ Not today but cold last night. <sup>Not colder than</sup> So penetration today has not been great.

### Depth of Freezing

→ How deep the crust in the morning? The dry sand 16 in. the snow may be too dry to freeze but thickness of the crust seems to be due to intensity and duration of cold.

Min. Feb 31 - 22°F  
a April 1 25°F

Sunday, April 2

Hotel

### Temps

7:15 am.	Thermom.	33.0°F
	Winc.	23.0° (Min. night 22°F)
	H-T	24.0° (10 to 6 am. 30-24°F)
	Humid.	10-6 am. 80-78%.

On steps Thermog. (jr) 19.5° (8-6 am 30-20°F)

On snow. Thermog. 20.0° [8-6 am 30-20°F]

Exposed therm. 20.8°

Sealed (No. 1) 20.2°

2 1/2 in. down (No. 2) 24.0°

Frost thin

\* 10 1/2 in. (No. 7) +0.2°C  
22 in. (No. 6) 32°F  
15 in. (No. 3) 32°F

\* Crust 8 in. deep.

Pasture 8:30 am.

→ Min. (current) 30°F (Max. yesterday 58°F)

H-T 28.5° [10-7 am. 30-23°F]

Humid. 8-8 am. 100%.

### New Cores

East of Soy Parker as yesterday.

1. 57 in. upper 9 in. dye green.  
→ Remainder turns red slowly.  
Moisture remains thru night.  
Frozen crust 8 in.

Details: Bottom 12 in. has slight color.  
30 in. in middle green.  
Next 7 in. red.  
Top 9 in. green.

→ \* Possibly under effect of exposure to air temp.

2. Top 9 in. crushes.  
Remainder passes moist.  
→ \* Not frozen but dormant.

### Tripla Register Restarted

About 9 am Eric Mack found me in Pasture. He had come a day early for the sky at Boeing Air Field was cloudless and invited for photographing. Batteries not eaten as before.

### Contacts



ported?  
water from Crescent  
ph.  
batteries immediately  
all 1 volt. Total 8 volts.  
Direction off  
directions record at  
contacts at wind  
and earlier heard  
manus tried to repair  
anemometer also.  
ran the anemometer  
the strips on the door  
was  
ries of perfect Wind  
Dancer Peak.  
Wind Falls.

### Snow Melt

9 am. Planted dye at No. 1<sup>st</sup> and 2<sup>nd</sup>.

### Pictures

Take picture of fence posts in morning. Second Stage.

First Stage - Protection of snow.

Second Stage - Melting by radiation.



### Stevens Q Recharged

No. 7 Stevens Q recharged - <sup>Zero point</sup> 2.95 in.

Used 1.3 in (8 in scale) column.

1.95 in " water

No. 10 oil 0.02 in oil. Triton.

0.120 in. ?

### Snow Melt and Dyes

#### Pasture

2:35 pm.

Wind: 55.0° F

H-T 55.0°

Humid. 18%

Anemom. 812 mi.

→ Need braces for crow's nest.  
on Stevens Q.

### Triple Register Restarted

About 9 am Ernie Mass found me in Pasture. He had come a day early for the sky at Beijing Air Field was cloudless and unsuited for photographing.

Batteries not set as before. Are they been shorted?

7 gals of distilled water from Crescent manery just enough.

No bubbling but batteries immediately effective. Each cell 1 volt. Total 8 volts.

### Wind Direction Off

Redlans for all directions record at once. Ernie found contacts at wind vane rubbing. I had earlier heard scraping. Has someone tried to repair it.

Cleaned anemometer also.

Now must clean the anemometer in the Pasture.

Also cement the strips on the door of Stens Q.

### Pictures

Ernie left a series of perfect Wind Erosion views on Danish Peak. Every call them "Wind Falls".

### Snow Melt

9 am. Planted dye at No. 1<sup>st</sup> and 2<sup>nd</sup>.

### Picture

Take picture of fence posts in morning. Second Stage.

First Stage - Protection of snow.

Second Stage - Melting by radiation.

### Stens Q Recharged

No. 7 Stens Q recharged - <sup>Zero point</sup> 2.95

Used 1.3<sup>in</sup> (8<sup>in</sup> scale) cadium.

1.95<sup>in</sup> " water

No. 10 <sup>oil</sup> 0.02<sup>in</sup> oil, Triton.

0.20 in.

### Snow Melt and Dyes

Pasture

2:35 pm.

Min. 55.0° F

H-T 55.0°

Humid. 18%

Anemometer 812 mi.

→ Need braces for crow's nest on Stens Q.

2 Snow Survey data sheets for April 2, 1944. to folder

No. 17 54.5<sup>in</sup>. Uncertain.

Sec. drive. Dye to bottom.  
Paces quite moist.

No. 18 58<sup>in</sup>. Possibly dye down  
34<sup>in</sup>. Unquestionably down 19<sup>in</sup>.

Sec. drive: 55<sup>in</sup>. Dye to bottom.  
Fairly capacious 7<sup>in</sup>. above bottom.

No. 21 54<sup>in</sup>. Dye 12<sup>in</sup> above bottom

Sec. drive: at least within  
2<sup>in</sup>. of bottom.

Trace remains of way.

No. 28 54<sup>in</sup>. Within 16<sup>in</sup>. of bottom

Sec. drive: 55<sup>in</sup>. Within 10<sup>in</sup>.  
of bottom, possibly 8<sup>in</sup>.

### Snow Survey

Following the poles.

Depth 51.1<sup>in</sup> Water 23.8<sup>in</sup>. Dens. 46.69

Comparison with Sledge " 56.1 " 25.9 " 46.2

Snow Stake 50<sup>in</sup>.

4:30 pm Anemom. 823.4<sup>sec.</sup>





Temps

7 pm.

Sundown.

Teletherm. 48.9° F  
Min. 46.0°  
H-T 44.5°

On Teflon

Thermog. (Dr) 40.0°

On snow

Thermog. 40.0°

Exposed 36.0°

Sealed 32.5°

2 in. deep 32.0°

8:30 pm.

Teletherm. 43.2° F

Crust crumbles and is crisp under foot.

10:30 pm. Teletherm. 33.0° F

Monday 5 am. " 24.4° F ?

7 am " 22.0° ?

Monday, April 3

Temps

7 am. Tetherm. 33.5° F  
Min. 31.0° (Night 30.5° F)  
H-T 32.0°  
Humid. 86%  
[Min. 8 to 7 am 36-32° F;  
Humid. 8 to 7 am 78-86%.]

On Steps - Thermog. (Jr) 28° F. New angles.

On snow

Thermog. 29.8° F Frost  
Exposed 30.0° Frost.  
Sealed (No. 1) 29.5° Frost thickness  
5 to 4 in. (No. 2) 32.0°

Crust 5½ in.

20 in. (No. 3) 32.0° F  
29 in. (No. 6) 32.0°  
31 in. (No. 7) 0° C

Birds singing. Overcast

Pasture

8 am.

Current min. 31.6°F.

H-T 32°F

[10 to 8 am 33 to 36 to 32°F]

Humid 8 to 8 am 100%  
but suddenly to 92%.

Dyes

No. 1<sup>h</sup> Planted last night.  
Has descended 1/2 in.

No. 1<sup>i</sup> Planted. Sinks in crevices  
green.

No. 2<sup>h</sup> 1/2 in. deep. Green.

No. 2<sup>i</sup> Planted. Green in crevices.

\* All dye purple on surface.  
None red.

→ Purple extends 3 in. down (cold),  
then pink to red throughout depth.  
Evidence of temperature change  
is influence of temp. on color of dye.

New Cores

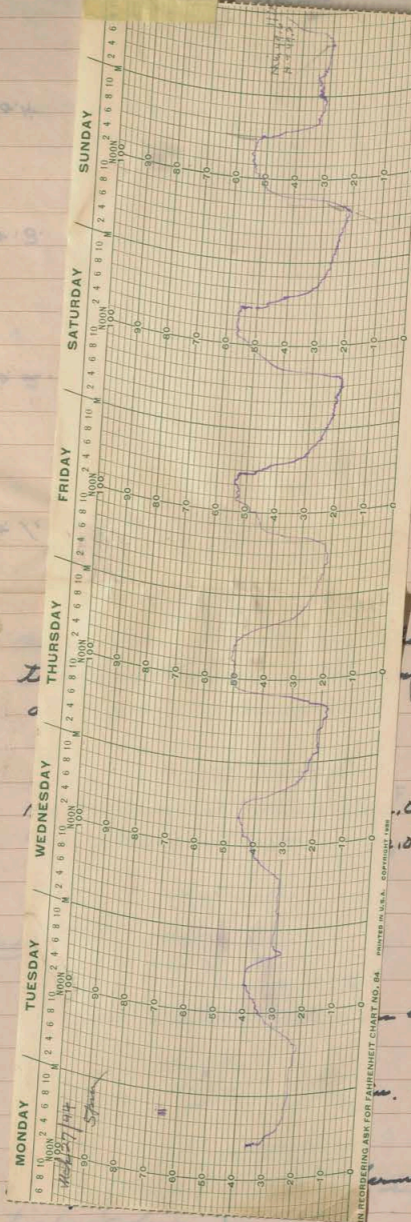
No. 1. 54.5 in. Upper 3 in. green.  
Bottom 18 in. green with  
trace of red.  
Middle red.

No. 2. Top 6 in. green.  
Bottom 12 in. green with  
trace of red.  
Middle red.

No. 3. 54 in. Upper 6 in. resists crushing.  
Next 20 in. crush-packs.  
Remainder packs moist.

No. 4. 55.5 in. Top 6 in. resists crushing.  
Remainder packs moist,  
except ice button 1 in.  
at bottom.  
Button moist but entirely  
dormant.

Note - Water in gravel at  
Depot run dry and frozen.



Taylor Instrument Companies ROCHESTER, N. Y.

IN REORDERING ASK FOR FAHRENHEIT CHART NO. 84 PRINTED IN U.S.A. COPYRIGHT 1938

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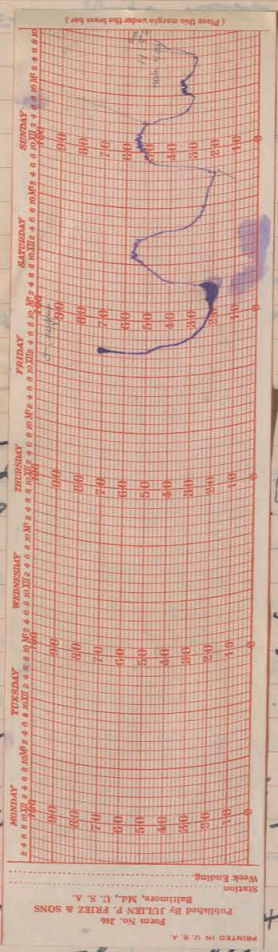
New tested at 9

No. 1  
No. 2

9 am

ci

No



that was purple

32.0° F  
32.0°

in east.

+ in.

Thermographs  
changed sheets of both thermographs

### Dye Color

New core of yesterday that was tested with dye is still purple at 9 am. Overcast.

### Snow Temp

No. 1 Temp. at bottom 32.0°F  
No. 2 Temp. at 36 in. 32.0°

### Air Temp.

9 am. Min. 36.0°F  
H-T 36.0°  
Humid 47%

Cirro-stratus. Stratus in east.

### Melting

Noon. Snow soft 3/4 in.

### Thermographs

Changed sheets of both thermographs



Temps

Overcast

5:45 pm Teltherm. 54.6°F  
Winc. 46.0°  
H-T 46.0°

On steps Thermog. (H) 46.5°F

~~On snow~~  
Thermog. 45.0°  
all in shelter

Pasture

6:30 pm Winc. 43.0°F  
H-T 43.5°

Anemom. 893.5 mi  
Snow Stake 48 in

airpropeller sled

Made for use in Alaska being tried out here.

Rear propeller. Three wide ski.  
Tight cab with cushions.  
Smooth bottom to cab so that it  
can slide on snow if too deep.

No. 1 <sup>h</sup> 52 in. 1000 Rye to bottom  
 No. 1 <sup>i</sup> 53 in. " to bottom

Both less brilliant below than above.

No. 2 <sup>h</sup> 54 1/2 in. Possibly to bottom  
 Second drive: 55 in. at least  
 10 in. from bottom.

No. 2 <sup>i</sup> Practically to the bottom.

No. 1<sup>i</sup> and 2<sup>i</sup> planted.

Sum 15°

New Cores

- 1. 56 in. Green turns red promptly.  
 Wet ice button at bottom 1/2 in. thick.
- 2. 56 in. upper 5 in. crust facies.  
 Middle 23 in. moist facies.  
 Bottom crust facies.

Air Temp.

A-T Max. 52°F

[10-6 pm 44 to 52 to 42°F]

Humid. 10-6 pm 30 to 25 to 34%

Crust

Sun just set.

Crust 1/8 in.

Temps

7:25 pm.

Teletherm 44.2°F

Wier. 40.8°

H-T 40.8°

On steps

Thermog. (gr) 39.0°F

On snow

Thermog. 38.4°

Exposed 36.0°

Sealed 32.2°

in channel

2 in under

32.0°

Crust 3/8 in.

\* Clouds breaking up.

*[Faint handwritten notes and numbers, possibly bleed-through from the reverse side of the page. Some legible numbers include 35.0, 35.5, 38.0, 38.5, 39.0, 40.0, 40.5, 41.0, 41.5, 42.0, 42.5, 43.0, 43.5, 44.0, 44.5, 45.0, 45.5, 46.0, 46.5, 47.0, 47.5, 48.0, 48.5, 49.0, 49.5, 50.0, 50.5, 51.0, 51.5, 52.0, 52.5, 53.0, 53.5, 54.0, 54.5, 55.0, 55.5, 56.0, 56.5, 57.0, 57.5, 58.0, 58.5, 59.0, 59.5, 60.0, 60.5, 61.0, 61.5, 62.0, 62.5, 63.0, 63.5, 64.0, 64.5, 65.0, 65.5, 66.0, 66.5, 67.0, 67.5, 68.0, 68.5, 69.0, 69.5, 70.0, 70.5, 71.0, 71.5, 72.0, 72.5, 73.0, 73.5, 74.0, 74.5, 75.0, 75.5, 76.0, 76.5, 77.0, 77.5, 78.0, 78.5, 79.0, 79.5, 80.0, 80.5, 81.0, 81.5, 82.0, 82.5, 83.0, 83.5, 84.0, 84.5, 85.0, 85.5, 86.0, 86.5, 87.0, 87.5, 88.0, 88.5, 89.0, 89.5, 90.0, 90.5, 91.0, 91.5, 92.0, 92.5, 93.0, 93.5, 94.0, 94.5, 95.0, 95.5, 96.0, 96.5, 97.0, 97.5, 98.0, 98.5, 99.0, 99.5, 100.0]*

The Human View

Wayne Paulsen (here again from the Pacific)  
 "above freezing last night. Crust  
 not thick enough to hold skiers."

On steps at 5 ft height above snow  
 28°F. Snow crust 5 1/2 in.

But on platform it was 32°F.

Dinner very late at 8 pm. - too  
 late for Frances.

Tuesday, April 4

Temps

7:10 am.  
 Telatherm. 31.4°F  
 Min. 30.6° [Night 28.2°]  
 H-T 31.5°  
 [12 to 7 am 32° to 29.5 to 31.5°  
 Humid. 70, 80, 56, 86, 74]

On steps Thermog. (90) 30°F [12 to 7 am 30° to 29.5 to 30, 26.5, 30°F]

On snow

Thermog.  $28^{\circ}\text{F}$ .

Light frost on case, [12 to 7 am. 30, 25.5, 28, 26,  $28^{\circ}\text{F}$ ]  
none on glass.

Slight frost. Exposed  $31^{\circ}\text{F}$

Thick frost Sealed (No 1)  $28.1^{\circ}\text{F}$   
in channel.

6 in. (No. 3)  $31.5^{\circ}$

24 in. (No. 6)  $32.0^{\circ}$

Crust 4 to  $5\frac{1}{2}$  in.

Pasture

8:10 am.

Runoff

Water dry and frozen in gravel  
at Depot.

Temp.

Miss.  $33.0^{\circ}\text{F}$

H-T  $33.5^{\circ}$

[10 to 8 am. 36 to 28 to 30 to  $33.5^{\circ}\text{F}$ ]

Humid.

10 to 8 am. 52 to 60 to 100 to  
68 to 100 to 70%.

### Snow Sampler Sticks

Is sticking due to low temp. of 30-33°F and moist snow? or to wearing off of shellac? Have shellaced it again for tomorrow's use.

### New Cores

1. 55 in.  
Upper 6 in. resists crushing.  
Next 16 in. moist flocs  
Remainder crush flocs.
2. 54.5 in.  
Upper 4 in. green, dormant for a little.  
Bottom 12 in. turns red slowly.  
Remainder red quickly.

Yesterday's test core still purple. The bottom water-soaked. 2 in. is pink purple.

A mild day. Occasional snowflakes.

### Dyes

No. 1<sup>st</sup> - uncertain.

No. 2<sup>nd</sup> See above. Dye to bottom.

→ Night percolation?

Tap 5 in. Green bottom but red below. Resists crushing.

Bottom 16<sup>in</sup> crush packs:  
also red.

Center net packs

But core is now hardening  
in the open air.

Repeat of No. 11

5<sup>4</sup>/<sub>16</sub> in. Dye to bottom.

Top crushes.

Bottom 13<sup>in</sup>. water soaked.

Remainder net packs.

In semi-gully - Natural drainage.

Planted Nos. 1<sup>st</sup> and 2<sup>nd</sup>.

Dye remains green.

### Snowing

Moderate snow storm all day.

9 am to 5 pm. Barometer fell gradually  
yesterday but became steady today.

Total new snow 3<sup>in</sup> = 0.35<sup>in</sup>.

### Fages

The flakes made incipient  
slush in cans during storm but  
were digested by the liquid.

The trees are laden with snow

### Air-Plane Sled

Came yesterday. Cruising also today.  
Camped on three ski. Air-cooled  
pusher airplane motor drives it.

Made for Alaska tundra. 80 miles  
per hr. on smooth snow. Sits low. Smooth  
on bottom to act as additional  
sled on deep snow.

Light at steering ski, so sled  
can lift upon light snow.

Cozy, commodious cushioned  
seat.

Made by missionary for traveling  
among the Eskimo.

Will send me picture for  
publication in Report of Committee  
on Snow.

### Temperatures

5:05 pm.

Telotherm. 31.0°F

Max. 29.0°

H-T 30.2°

[10 to 2 pm 32, 35, 30.3°F]

Thermog. 28°

[8 to 9 pm 30 to 31°F]

Thermog. (gr) 28°

On floor  
of shelter

32-33°F



Pasture

5:45 p.m.

Min. 30°F

H-T 32°

[8 to 6 p.m. 34 to 30 to 32°F]

Humidity

8 to 6 p.m. 64 to 100 to 90 to 100 to 90

Storm over. Sun coming out.

Anemom. 965.5 mi

Snow Stake 5 1/2 in. [New snow 3 in.]

Note. U.S.W.B. max 48°F. for previous 24 hrs but since readings were made early yesterday afternoon, there were really two high maxima for yesterday and none today.

Dyes and Percolation

No. 1<sup>st</sup> Dye to bottom probably.

Sec. drive: Even into bottom to turf.

→ a quick descent in a single day under new snow cover and mat. temp. of 33°F!

Planted No. 1<sup>st</sup> and 1<sup>st</sup>.

1<sup>st</sup> on hard snow beneath soft snow. Dye turning red.

Note "Bunty Wants" to folder

1<sup>st</sup>. On new soft snow. Dye green.

No. 2<sup>nd</sup> 53<sup>in.</sup> 4 drivings  
Dye not deeper than 1/50.

Planted:

No. 2<sup>nd</sup> On hard snow. Red at once.

No. 2<sup>nd</sup> On new snow. Green.

#### New Snow

New snow 3<sup>in</sup> at stake and  
by sampler.

#### New Cores

1. 52<sup>in.</sup> All only.

→ Rebellious stratum everywhere.

Top 6<sup>in.</sup> dry crishes.

Remainder moist, crushpacs.

2. 52<sup>in.</sup>

7<sup>in.</sup> near top remains green.

Remainder turns red very  
slowly.\*

\* In open air dye now becoming  
dormant.

3. New Snow

On new snow dye is green  
unless packed by feet or knee.

Then red. Pressure makes melting? or raises temperature.

### Runoff

Runoff at Depot negligible.

### Temperatures

7pm. Placed thermographs (two) etc on steps and snow. Three little boys come to visit the platforms.

Teletherm.  $41^{\circ}\text{F}$ . In sun?

H-T  $30^{\circ}$  in shelter.

Sealed therm (No. 1) in top of snow  $22.1^{\circ}\text{F}$

Max. air temp. today  $33^{\circ}\text{F}$ .

1-2 in. below snow  $31.8^{\circ}$

On snow (No. 1) now  $22.8^{\circ}$

Sealed?

### To Dinner

#### Freezing

\* Ice forming in path and under shallow snow and on pools by side of road.

Ice frost-patterns on post on Arthur's porch at the door.

Road icy where it has not drained dry.

9 pm.

3 Greyhound busses passed me westbound on the road, a quarter hour ahead of time(?) airplanes droned across the night sky above the clouds like drifting stars.

### Temp. and Const

9 pm.

Telotherm.	27° F
Winn.	26°
H-T	22.8°

On steps.

Thermog (gr)	16°
--------------	-----

On snow

Thermog.	16°
Exposed	13°
Sealed (No. 1)	
in snow	15.5°
2 in (?) deep	30.0°

Wednesday, April 5

Clear but light fog drifting down from Patuxent, 7 a.m.

Teletherm - 28.5°F  
Min 10° (but pin 26°F. Defective)  
H-T 13.5

[10-7 a.m. 22, 26, 21, 26, 13°F]  
4-7 a.m. 26 to 13.5°F

Humidity 8 to 7 a.m. 90-91%

On steps Thermog (p) 7.5°F

On snow Thermog. 8.0°

Frost on inside. Exposed 7.0

Sealed (No. 1) 9.0  
Frozen in.  
Snow froze  
\* Tube.

3 in. under new snow in edge of old (No. 3) adhesions of new snow 26.8°F

9 in (No. 2)\* 32.0° or possibly 32.1°F

But temp. fell after instrument was disturbed.

Crust

New snow powdery and dry.

Adhesions on tubes.  
Frost on glass of thermographs.  
Fog rising and drifting from valley.

Instruments Frozen

Stevens S iced and frosted so supports cannot be raised without pounding.  
Hot water or sun only cure.

Door of Stevens W frozen tight shut.  
Would injure rubber to force it.  
Cold, frosty morning - but clear sky and slight fog.

Solutions Congealing

Stevens S, Plastic, No. 4 have thin shell ice.

But Reducer and Prestons Nit are fluid.  
No. 2 Stevens W fluid.

10:30 am. Machine recorded clear  
of frost and mercury has risen to contacts.  
of Anemometer. Caps and pans clear. Any shooting  
last night?

→ No 3 Army Engineers

Much ice in center but rim of ice at edge that required much pushing to detach it and break it up.

Pasture 8 am.

New Core - effect of Cold.  
Dpth 54 in.

Top resists crushing  
Remainder crush packs.

Ice strata quite resistant.

→ Sampling difficult because of resistance of frozen strata to twisting of cutter. Only raising and driving was effective except riding the mesh.

→ Study freezing and thawing in small core

Old Core

On old core of last evening, dye was all green.

at 9:45 am. some flecks of green are changing to red.  
Badly frozen and melting slowly?

## Dyes

No. 1<sup>l</sup> Top green turning red. Dye has penetrated to bottom, shows red. Top 10<sup>in.</sup> green to purple, and resists crushing. Remainder wet packs. Bottom 10<sup>in.</sup> almost slush tho firm.

Note - In a drainage depression,

No. 1<sup>m</sup> Dye green on soft, dry snow. No penetration whatever.

No. 2<sup>l</sup> 54<sup>in.</sup> To bottom (red)  
Top 9<sup>in.</sup> frozen. Green to purple.  
Middle wet-packs.  
Bottom 18<sup>in.</sup> dry crumbles.

No. 2<sup>m</sup> Green. No penetration,  
at 9:15 am just becoming red  
in the depths at the edge of  
the deposit of dye.  
9:45 am. Dye showing crimson  
by radiation. Red at edges where thinner



10:30 am Record of Storm

Stevens S. wt 9.20 (20.20)<sup>in</sup>.

Supports have thawed loose.

→ Effect of ~~them~~ leaving an accuracy?

No. 2 - Stevens W.

Straight line! No record of snow fall.

→ No. 1 - Reported by Cavilland. 0.35<sup>in</sup>.

New snow depth 3 in.

Remarks

Trigger catch still tight. However, the trains rattle the windows of our quarters.

Friday - 0.30<sup>in</sup>.

Stevens Q (No. 7) 0.28<sup>in</sup> or possibly 0.30<sup>in</sup>

Snow Survey Depth 1<sup>in</sup>. wt 0.20<sup>in</sup>.

*[Faint, mostly illegible handwritten notes at the top of the page, possibly including a list or schedule.]*

Snow Survey

Made to determine loss by melting.  
 Estimate addition from recent new  
 snow at 0.30 in. Survey finished 1:10pm

2 Snow Survey data sheets and 2 pgs notes,  
 to folder

*[Faint handwritten notes at the bottom of the page, including the date 'From April 5, 1945' and other illegible text.]*

### Strata Tough

Crust very resistant to sampling this morning. One stratum very refractory, and others tough.

### Melting of New Snow

|| New snow in old path water-soaked under much trampling.

### Ice in Pasture Gages

# Gages <sup>Nos. 6, 7, 8.</sup> in midnoon had mere suggestion of ice film floating beneath oil.

at 11:30 am. Nos 9 and 10 fluid.

### 1:10 pm. Penetration of Dye

|| Dye has penetrated new snow (originally 3" now shrunk to 1") and has sunk into the old snow 4" from top of present snow cover.

! also beneath the deposit of dye, the color has descended a total of 16"!  
Query: How much does the opaque

color accelerate melting and percolation?

Present temp.

Min. 45.6° F

H-T 48.0°

4:30 pm. Max. temp. (H-T) 48° F  
Humidity 20-30%

Glass Windows; Crest

New snow is making glass windows where squeezed up by six snowshoes, or feet. Blades already frozen

Remoff

Remoff at Depot today has been less than one-fourth of previous heavy flow.

→ So low temp. of April 4 and new snow blanket of April 5 (today) has slowed down melting. How much?

Anemometer 28.3 mi.

Snow stake 48 in

Caught train 5:10 pm. for Reno.

Preliminary Forecast of Water Supplies for  
Nevada, April 1, 1944 to folder

### Saturday April 8

On Friday a cirrus overcast. On Saturday a few pellets and flakes followed toward noon by a driving snow storm and sloppy streets. By evening clear. A freight train was laden with <sup>sugar</sup> ~~sugar~~.  
New snow on mountains.  
Completed Bulletin on snow, April 8

### Sunday, April 9 (Easter)

A white snow mantle on the forest on Crystal Range at 11 am. but by 3 pm the forest was clear.

Took 3 pm bus for Soda Springs. The south shore of Donner Lake is still white but the <sup>snow</sup> hoods on the bathhouses have mostly disappeared.

Skiers at Sierra Hut catching bus for home. Haren Jorgensen is still in charge.

The Gendels were just leaving at 5 pm. Gendel will try to be back Tuesday to take color views

of the movement of the dye.

5 pm. Crust

\* New snow much trampled on  
old. Where trampled much frozen.  
Cris already formed in shade.

Temperatures and Crust

5:45 pm.

Teletherms 53°F  
Wind. 39.2°  
H-T 70.2 = 40.2°

6:30 (by watch)

In shelter { Wind. 39°F  
H-T 69.5 = 39.5°  
Therm. 38.5°  
" (fr) 38.0°

On snow { Exposed 33° close snow  
Sealed 23° sunk and almost  
enclosed in snow

Crust

Crust 1/8 to 1/8". Some of it new snow

but a top layer of dry snow about  
lies frost  $\frac{1}{8}$  in. thick.

Crust beginning to form in shade  
at 5 pm. at 4:45 pm, when the bus  
arrived.

6:50 pm.

Pasture

Snow stars 48<sup>in.</sup>  
Anemometer 516.5<sup>me.</sup>  
"Heavy wind last night" - A.C.  
Min. . . . . 41.2°F  
H-T Min. 2.8 am 53 = 23°F  
Max. 72 = 42°

→ But little runoff in gravel  
at Depot. A relatively cold day.

Nye



No. 1<sup>m</sup> Nye placed on top of new snow.  
In shade, dye is brownish  
and green.

No. 1° Nye placed on old lower snow.  
Crust 1 in. Nye put 3 in. below

surface.

Turning red slowly below crust.  
Covered hole with crust again.

No. 2<sup>n</sup> Dye placed in sun on new snow. Sun at tree tops. Dye dominant and green.

No. 2<sup>o</sup> New snow 2 1/2 in. deep.

Crust 1 in. in sun.

Soft snow on crust 1/8 in. deep.

→ Have formed? Frost or snow thus which water has percolated to the crust?

→ Dye placed on scraped old crystal 3 in. below top of snow.

→ Slow change to red deep in the coarse crystals.

Covered hole with crust.

7:15 pm. Temp. and Crust

Teletherm. 51°F

↓  
Ch. 10/15 platform { Min 35°  
                          { H-T 66-80° = 36°



On stairs  
Thermog. (jr) 31°F in setting sun

On snow  
Thermog. 28.5°  
Exposed 25.2°  
Sealed 23.0°  
" beneath snow 22.0°

a perfect example of radiation from  
Snow.

Monday April 10

\* Overcast apparently since midnight.

Temp. and Cust

7 am. Teletherm 33.6°F  
Min 25.0°  
H-T 56.8 = 26.8°

Temp fell to 21°, then rose to 26.8°  
Humid. 18% at 6 pm to 80% at 6 am

On steps  
Thermog. (jr) 25°F

On snow

Thermog. 22.3°F frosted.  
Exposed 27.8° slight frost.  
Sealed 25.5° frosted.  
Frozen in snow.

Sealed 2 1/4 in below 27.5°F  
Snow frozen to tube.

Sealed 19 in. down 32°F  
Columns brown twice

Crust

1/8 in. soft, as yesterday.

7/8 in. crust of new snow.

1 1/2 in soft new snow

6 in. crust of coarse crystals.

Bottom of freezing 8 1/2 in.

7:50 am.

Pasture

Min. 28.4°F

H-T 58.4 = 28.4°F

Midnight, min. 50° = 20°

Then fairly steady rise to 28.4°

Humid. 6 pm 18%, 9 to 6 am 100%

No. 2° Dye, which was placed last night beneath new snow on old crystals, has penetrated the old crust only, <sup>in.</sup> and has become green.

No percolation here.

Test by Packing

No. 1° 48 in. depth.

Top 6 in. <sup>upper</sup> crushes or reverts.

Remainder moist-packs.

No. 2° 52 in. depth.

Top 6 in. crushes or reverts.

24 in. moist-packs.

22 in. crush-packs.

One small crust frozen.

Caution: DO

1. Place dye at intervals in snow cover.
2. Beware of staining from sample. It leaves dark halos & blood stain.
3. Care: chill quickly in open air.

Plains snow is subject to radiation worse than dune

### Crust

$1\frac{1}{2}$  in.  $\left\{ \begin{array}{l} \frac{1}{8}$  in. loose or frostlike new snow, \\ 1 in. new snow crust, \\  $\frac{3}{8}$  in. soft new snow. \end{array} \right.

$8\frac{1}{2}$  in. old snow crust  
Total 10 in.

Washing and reshellacking snow sampler.

Break top of No 3 thermometer with shovel in digging it out. Will try to fix with top, but column is broken in two places.

3 pm. Pasture

### Stations Q

Apr 4-5 - precip.  $0.28$  in

Apr 8 "  $0.28 + 0.32 = 0.60$  in.

Love  $\frac{1}{4}$  perfect. Leaves thick.

Glued on weather strips with  
W<sup>c</sup> Carminer Iron Glue. If it holds,  
will use more glue to make  
it permanent.

3:45 pm.

Dyes  
Testing dye's descent.

No. 1<sup>st</sup> (Dormant on wet snow this morning).

53<sup>in.</sup> depth. To the bottom.

Top 10<sup>in.</sup> crush papers, not too moist.

Next 18<sup>in.</sup> wet papers

Next 10<sup>in.</sup> moist papers.

Bottom 12<sup>in.</sup> wet papers.

Dye deepest in color in top 10<sup>in.</sup>

No. 2<sup>nd</sup> 51<sup>in.</sup> depth. Dye 16<sup>in.</sup> from bottom.

Top 21<sup>in.</sup> wet papers but 2<sup>in.</sup> in  
midst of it crush papers but moist.

Next 12<sup>in.</sup> moist papers

Last 16<sup>in.</sup> crush papers.

No. 2° 48 in. depth.

Dye within 13 in. of bottom.

Bottom 13 in. moist peccs.

Next 6 in. crust peccs.

Top wet peccs.

5:20 pm Overcast

Beases to cross nest in place.  
Observers side the red too much  
and break it down.

Min. 36.5°F

H-T 67.5° = 37.5°

Humid. 86%

Stratus sky - moist.

Snowing slightly.

Max. today 76° = 46°

10 to 4 pm 40-46°

6:10 pm.

No. 2<sup>b</sup>. Pit

Contains 2 trays to catch percolation  
3 thermometers.

riches for dye at various depths.  
— bits of dye turned red.

Covered pit with canvas.  
a poor but preliminary experiment.

Crust

a possible trace of freezing on beaten trail.

6:30 pm.

Hotel - Spitting snow pellets.

Temp. and Crust

	Teletherm	36.4° F
In shelter	{ Min	35.6°
	{ H-T	67.5° = 37.5
	{ Thermograph	38° F
	{ Thermog. (gr)	35.5°

8:35 pm.

	Teletherm	37.0° F
	Min.	34°
	H-T 65° =	35°
	Humid.	76%
On steps	Thermog. (gr)	32°
On snow	Thermog.	34°
	Exposed therm.	33.3°
	Sealed in snow	32.0°

Raining on wet snow.

Sealed therm <sup>in.</sup> under snow  $32^{\circ}\text{F}$

Coarse wet crystals. No freezing.

→ Radiation almost wholly checked by clouds and moisture. Only a trace just above the snow from 3 in. above to snow surface  $34^{\circ}$ ,  $33.9^{\circ}$ , and  $32^{\circ}\text{F}$ . The interior of the snow maintains its characteristic  $32^{\circ}\text{F}$ .

The only night of scant <sup>during observations</sup> radiation, the exception rather than the rule here.

### Percolation

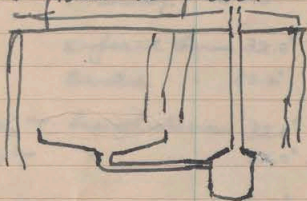
In place of the glass trays to catch percolating melt water, it will be far less artificial and quantitatively more accurate to place a large catch pan on the ground in the autumn for the snow to fall upon and melt into. A drain could conduct the melt water to a can in the ground, whose water level can be measured by a staff than a standpipe reaching above the snow.



The can should have an area sufficiently smaller than the pan to measure readily all daily increments of melting. The ratio should perhaps be 1:10.

The can would therefore need to be pumped down frequently.

If placed at the edge of the trestle, it would be a simple matter to support the standpipe from it and measure the can and pump it from the floor.



An approximate substitute would be snow surveying.

Tuesday, April 11

Snowing heavily  
New snow  $6\frac{1}{2}$  in.

8 am

Teletherm.

$31.0^{\circ}\text{F}$

Min.

$29.3^{\circ}$

H-T

$61.5 = 31.5^{\circ}\text{F}$

10 to 8 am  $34$  to  $31.5^{\circ}$

Humid. 10 to 8 am 89%

On stairs:

Thermog. (J)

$28.5^{\circ}$

under hood of snow

On snow

Thermog.

$30.5^{\circ}$

Buried in new snow

Exposed therm  $32.0^{\circ}$

"

Sealed

"  $32.2^{\circ}$

In old snow covered by new.

$3\frac{1}{2}$  in. beneath old snow  $32.0^{\circ}$

3 in " " "  $32.0^{\circ}$  - Total depth now 12 in.

11 in " " "  $32.0^{\circ}$  Now 18 in.

10 am.

~~X~~ Dye placed on new snow with sealed therm. No. 1.

Slight tendency to turn red due to warm disc. from house, but immediately

dye grains became intermingled with snow crystals without change in color.

The temp. of the snow by sealed therm. is  $29.6^{\circ}\text{F}$ . Since the therm. was taken out warm, snow has frozen to the tube. But temp. is unaffected.

#### Posture Pit

Decided to open pit only at end of storm. The time element is minor and the open air might affect the progress of percolation within. Doubtless the temp. is uniformly  $32^{\circ}\text{F}$  except possibly at bottom of pack.

#### Orifices of Gages

The vertical cans have only scant snow load.

The slanting cans such as No. 2 and No. 3 are both loaded with snow, line-wide to the very orifice.

The Reducer can has some adhesions inside of its narrow collar and the Plastic is causing adhesions outside and in.

→  
#  
Engaged Sup the orifice  
was capped probably because  
the seal was not instead of powder as here - Standard

The liquid when noticed is becoming slush even in No. 3. Eggs.

2:50 pm. Dye on New Snow.

\* Dye of 10 am. not buried is still green. Temp. of sealed thermo. now 3 in beneath snow is  $32^{\circ}\text{F}$ .

New dye placed now on snow remains green.

Temp. by sealed thermo.  $35.5^{\circ}$  but probably affected by sun thru clouds and sea fi  
Barometer rising but snow continues to fall.

Seedel returned on bus.

3:50 pm.

Pasture

Min  $25.5^{\circ}\text{F}$

H-T  $57.5 = 27.5^{\circ}$

$8\frac{1}{2}$  to 4 pm  $32.5$  to  $27.5^{\circ}$

Humid.

8 pm - 10 am. 100%

10 am to 4 pm 100 to 70%

Some snow frozen to bottom of inside of No. 8  
Aid has digested snow places but subail  
slush remains.

Stevens Q 1.25" since yesterday  
Next snow 12, 12.5, 13, 13.5"  
= approx. 1 to 10.

Snow stake 57 to 59. Far view 59"  
yesterday 45. Gain 12 to 14 in.

Hotel

No. 1. 1.09"  
Stevens Q 1.25"  
Stevens W 1.40"

Stevens W

Snow has settled down the  
sloping side of the receiver cone.  
→ Both Nos 2 and 3 caught snow today.  
Gardel suggests moving the sloping  
parts of stainless steel to prevent  
adhesion but painting the remainder  
black to increase heat.

No. 5. Freig has shoulders of cone  
still loaded to within an inch of  
the downpipe orifice.

When cleaning snow from door  
of Stevens W, the motor was started

but left momentarily to run out.  
It recorded  $0.17$  in scale =  $0.34$  in.  
But during past 13 hours, it had  
recorded  $0.70 = 1.40$  in in a series  
of steps but some rather long.

*Begin*  
This indicates binding somewhere  
in the mechanism that must be  
overcome by overweight, and may  
account for the previous failure  
to record  $0.35$  and the delayed  
recording of the second storm.

→ Can this slow-down of this  
evening of  $0.34$  in. possibly be the  
final increment that had not  
earlier been recorded?

→ Compare total catch of the three  
storms, <sup>by No. 2</sup> with the catch of No. 5, No. 7,  
or No. 1. ( $1.84$  in?)

No. 5 ?  
No. 7  $2.13$  in.  
No. 2.  $2.18$  in.

Check these figures.

In the present storm till this evening  
No. 7  $1.25$  in.  
No. 2  $1.40$  in.

### Temp. in Snow

Have placed three sealed thermos in accumulating snow at the door. for the night temperature.

Gardel reports the storm as mild but prolonged, with low over Nevada and a double front.

So not sufficient radiation tonight to justify placing thermographs on steps and snow.

### Melting

Gardel believes that but little of the snow cover has yet been melted, for the snow quality is still 90% tho the crystals are granular and coarse.

The latest density Apr. 5 was 45.9%. another survey should now be made.

The understructure at the Pit showed red yesterday infiltrated from nearby tests. If not, the dye has a remarkable power of diffusion thru the snow → water-table. This is worth testing.

### April Weather Record

	Max	Min	Precip.	Snowfall	Snow on Gr.	Wind	Clouds
1.	60	22				W	clr
				#1	200		
				2	728		
2.	59	22				NW	clr
				#1	285		
				2	823		
3.	58	30				SW	Partly
				#1	355		
				2	893		
4.	48	28	0.35	3		NW	Snowing
			9am-ON				
				#1	444		
				2	965		
5.	48	11				SW	clr
				#1	475		
				2	28		
6.	47	13				SE	clr
				#1	550		
				2	107		
7.	48	19				NW	clr
				#1	627		
				2	184		
<u>Pasture</u>							
	Max 57°	Min 10°	Part 43°	"	42°		



Apr. 8 44 23 0.45 5 48 NW cldy  
DN-Nom  
#1 734  
2 315

9. 41 20 47 SE cldy  
#1 805  
2 513

10. 50 18 45 SE cldy  
#1 939  
2 567

11. 44 23 1.09 14 56 NW Snowing  
9pm-11am?  
#1 47  
2 684?

12 38 22 0.54 6 59 NW Pt cldy  
DN  
#1 141  
2 793

13 36 6 0.03 T 56 NW cldy  
DN-DN  
#1 224  
2 876

14 43 26 0.19 3 56 NW Pt cldy  
DN-DN

#1 347  
2 14

Pasture

Max 47°F *Rose* 38°  
Min 5° " 37

15 42 29 0.03 T 56 NW Pt cldy

#1 437  
2 118

16 38 4 0.46 4 54 NW clu

#1 540  
2 228

[Apr. 1-16 Tahoe City 1.53"  
Soda Spgs 3.14"]

17 38 11 53 NW cldy

#1 636  
2 332

18 49 14 52 NW clu

#1 717  
2 427

19 46 22 0.59 6 56 NW snowing  
DN

#1 795  
2 520

April 20 32 12 0.53 7 62 NW cldy  
DK

#1 895  
2 638

" 21 41 10 T 60 E cldy

#1 7  
2 754

Pasture

Max. 45°F Reset 38  
Min. 3 " 37

" 22 52 14 57 NE cldy

#1 99  
2 830

" 23 54 26.5 55 SW cldy

#1 162  
2 912

" 24 45 24.4 T\* Snowing 55 NW Pt cldy  
2pm \* = 0.006"

#1 274.5  
2 55.4

" 25 43 9 52 NW Pt cldy

#1 362  
2 141

Apr 26	45	24		49	NW	cldy
		# 1	424			
		2	206			
" 27	45	23	0.01	47	SE	cldy
		# 1	482			
		2	275			
" 28	52	31	0.12	47	NW	pt cldy
		* 1	535			
		2	384			
" 29	56	26		44	NW	clr
		# 1	613			
		2	421			
" 30	59	25		40	SE	clr
		# 1	687			
		2	498			

Total precip. Apr. 4.39 in (No. 1)  
 Normal Apr. 2.94  
 May 1.76  
 June 0.66  
 July 0.19  
 Apr. Total 5.55 in  
 Stevens Q (No. 7) 4.90 in.

Wednesday, April 12

Anemometer Records in Pasture

Arthur has been interpolating records in Pasture when travel was bad. This is the reason Gendel has neither interest nor faith in them.

Last night, for example, Gendel read the anemometer but not the anemometer. I did not read it either for I thought Gendel had done it and did not wish to appear over zealous.

Arthur asked me for the reading, which I did not have, but had already estimated and recorded what he thought would serve.

Thus the original purpose of the anemometer to determine the difference in wind movement between Pasture and Hotel Station with various wind-directions has been entirely lost and

its local value has been brought under suspicion.

Only exact measurements can be accepted. Record no measurements whatever unless actually read.

### Temps in New Snow

\* 10:30 a.m.

at Headquarters porch.

In newly fallen snow:

5 in. deep 29°F

8 1/2 in deep 28°

11 in deep 28.2°

Placed dye on snow.

Soon turned red.

1 pm. Temp. 2 in deep in new snow 32°

3 pm. " 8 " " " " " 29.9°

Bendal noticed that top of new snow was moist but snow deeper lacked cohesion. Quite in accord with above temps.

→ One temp. near surface was 33.5° but <sup>probably</sup> due to red dye around

\* An hour later still 29.9°F.

tube and sun's penetration.

→ The deposit of dye has produced a pocket by radiating indirect rays of sun thru clouds from the snow surface. depth  $1\frac{1}{2}$  in.

The depth of penetration  $\frac{3}{4}$  in. below the floor of the pocket.

Dye powder, <sup>or dust</sup> wind blown 25 ft. away, so light it is and fine, has penetrated  $\frac{7}{8}$  in. without the benefit of sufficient mass to radiate heat.

#### Radiant Power of Fuchsine

Unlike calcium chloride or salt the power of Fuchsine to depress the melting <sup>point</sup> power is slight, Gerdel suggests not in excess of  $2^{\circ}\text{F}$ .

Evidence in the Pit (see below)

→ indicates lower power. A test in the shade shows no change in color in a tiny pit cut to the colder snow while the top of the snow shows a trace of red where the scapel cut it.

Note on "Sampling Snow during melting" in folder

Later at 4 p.m. after the sun had reflected some heat from the upper part of the pit to the floor of it, a tiny rim of red began to form around the deposit.

Gardel has written to firms to find what the depression phase of Tschime really is but has so far had no information.

### opening the Pit

# My life lesson. Next time I'll mark the pit with a soft pole. The new snow had obliterated every trace of snowpile, sag in new snow, and even all pegs.

So we probed live searching for corpses after a snowslide. The expanse seemed over-large in the whiteness until I chanced to tread on the antler pegs Nos 2 and 0, pointed out by Gardel who was assisting in the probe.

The canvas roof over the hole



was then soon detected.  
and excavated.

A veritable catacombs splashed  
with red over walls when moist.  
Now walls icy with freezing.

### Temps in snow

New snow 20 in. deep.

3 in. in old snow (No. 4)  $32.8 - 0.2 = 32.6^{\circ}F$

16 in. " " " (No. 6)  $32.0^{\circ}F$

51 in. " " " on bottom (No. 7)  $+0.2^{\circ}C$

### Circulation

*Dist. 1, 2*  
Glass trays are practically 0  
in contents. Any drops  
of water may have <sup>been</sup> fallen in  
as snow particles and melted.

Dyes show some movement.

dye at 11 in. depth in old snow  $4\frac{1}{2}$  in.

" at 17 in. " " " " 2 in.

" 28 in. in " " " " 13 in.

Total depth of old snow 48 to 52 in.;  
prob. approx. 150 in. Yes, from depth  
of No. 7 therm. depth 51 in.

Age has moved proportionally to wetness of snow strata, the bottom being wettest or rather remaining wet and unfrozen longer than the top stratum.

→ Evidently with the new snow blanket, all percolation ceased. Would it have continued during the night if the new snow had not fallen and only the diurnal crust of 9 in. approx. had occurred?

The moist, thin film of water on the snow crystals is static at least until more gravity water comes from above.

The lower moist & wet stratum of snow might represent the snow water-table. It looks so gray with moisture.

Temperature etc

Pasture  
12:45 pm

Wind 33°F  
H-T 63-30 = 33°  
6 pm - 6 am 24° to 26°F  
7 AM to Noon 26° to 33°F  
Humidity: 6 to 6 am 100% to 90%  
                  to 100%  
6 to 12 noon 100% to 50%

Stevens Q

April 4 . . . 0.33<sup>in</sup>  
" 8 . . . 0.58<sup>in</sup>  
" 10-12 (noon) . . 1.97<sup>in</sup>

3:10 pm Apr 11 to  
12:50 pm Apr 12 . . . 0.72<sup>in</sup> Total 2.88<sup>in</sup>

NO. 1 - Apr. 11 . . 1.09  
" 12 (4pm) 0.54

Total 1.63<sup>in</sup> as compared  
with Stevens Q 1.97<sup>in</sup>.

Crust

6 pm - Just at leaving for Rotary-Lions meeting at Truena, crust was beginning to form in the new snow beneath the surface but the top of the snow despite the day's melting still remained soft and dry like the snow-frost seen the previous days.

Went from Truena to Reno with Walter King, Frank Tracy, and Mrs. Pierce who were guests at the Service Club meeting.

Thursday, April 13

Worked on March Forecast Bulletin, attended Little Theater: "Kiss and Tell".

Friday, April 14

Returned to Soda Springs on  
8:30 am. bus.

Chains necessary from half way  
up Downer Grade.

Had Raymond Brown's sister of Hygienic  
Laboratory as travel companion. Going to  
Carnegiefield. I told her the story of  
taking Jennie Hill's outfit from Reno to  
Auburn.

#### Gendel

Gendel is trying to tighten the toe  
thongs of his snowshoes. The new  
thongs stretch immediately and the  
sag is exhausting.

Waiting end of present precipitation  
before weighing gages. I can  
easily do the weighing and surveying  
on Saturday - Sunday. He wants Marshall  
to help me with the lifting.

We both must be away next week.

### Resetting Instruments

11:30 am

Hotel New snow fell heavy yesterday

Min.  $38.5^{\circ}\text{F}$

H-T  $68.5^{\circ} = 38.5^{\circ}$

Wet bulb  $33.5^{\circ}\text{F}$

Dry "  $35.8^{\circ}$

12:10 pm Wet on snow. Temp?

Pasture Min.  $35^{\circ}\text{F}$

H-T  $68-30 = 38^{\circ}$

For wease Max.  $47.0^{\circ}$  Reset  $38.0^{\circ}$

Min.  $+5.6$  "  $37.0$

Wet bulb  $33.0^{\circ}\text{F}$

Dry "  $35.2^{\circ}$

### Stevens II

2:20 pm

The instrument is recording much in detail. The washers for testing trip load cannot be found, but the steps here may be indicative.

The differences may represent internal  $\rightarrow$  friction. The knife edges of the

fulcrum loose rusted.

The details are numerous:

Beginning April 11?

	Scale Readings	Individual Recordings
Apr. 11-12	5.63 to 5.82 in	0.19 = 0.38 in (avg)
	5.82 to 6.07	0.25 = 0.50 "
	6.07 to 6.12	0.05 = 0.10 "
	6.12 to 6.27	0.15 = 0.30 "
	6.27 to 6.33	0.06 = 0.12 "
	6.33 to 6.48	0.15 = 0.30 "
	6.48 to 6.62	0.14 = 0.28 "
	6.62 to 6.70	0.08 = 0.16 "
	6.70 to 6.74	0.04 = 0.08 "
	6.74 to 6.78	0.04 = 0.08 "
April 14	6.78 to 6.82	0.04 = 0.08 "
	6.82 to 6.94	0.12 = 0.24 "
	6.94 to 6.97	0.03 = 0.06 "
	6.97 to 6.98	0.01 = 0.02 "
	6.98 to 7.02	0.04 = 0.08 "

Total 2.70 in.

The trigger nearly shaken to end of its  
 → loose again. Must be made secure against  
 vibration of trains.

Wye + Temp. (Wairuna)

Clear next snow.

Top - Dye changed to red in a flash.  
4 in. deep - " " " quite slowly  
7 1/2 in. " - " " " promptly.

Fuel Oil Failure

Gendel had noticed the fire overheat and almost out at low gage even for a week. Today the fire went out and would not revivella.

So we took the feed pipe apart to find it empty. Arthur Conillard tried the tank with a snowball on a stick and found it bone dry.

Just time to warm Curley who is caring for the Hotel during Oscar Jones' funeral. So we had fire by dusk.

Arthur and Gendel had planned to bring a tank from upstairs and bring oil from Dames Summit Lodge.

## Records

4 Jan.

Pasture

Anemometer 14.2 <sup>mi.</sup>

Snow store 56 <sup>in</sup>

## Stevens Q

Apr. 10 (3:10 pm) to Apr 11 (4 pm) 3.78 to 5.0 <sup>in</sup> = 1.22 <sup>in</sup>

" 11 (4 pm) to Apr 12 (12:50 pm) 5.00 to 5.75 = 0.75

" 12 (12:50 pm) to Apr. 14 (4 pm) 5.75 to 6.15 = 0.40

2.37 <sup>in</sup>

## Skiing

Snow sticky. Almost forces me to lift my nets to break the suction.

## Catch Gages

The gages are all catching precipitation effectively during present storms.

→ Tho the snow is wet, the temperature is sufficiently high to warm the metal surfaces of the gages against adhesion. Only tiny adhesions were noted by Gerdel deep down inside of the cans.

## Boaty

Boaty and Wersha To came on 4:45 pm bus and Gerdel departed.



From Notebook 13, April 2, 1944  
 FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Yuba River  
 Snow Course No. 1 - Soda Springs  
 Party J. S. Church  
 Date Sunday, April 2, 1944

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	1	49.5	45	82.5	106.5	23.5		Ice caps, mol
	2	58	56	83	109.2	26.2		Wet soil
		-1	-1					
	3	51	48.5	83	107	24		Wet core at bottom
	4	54	48.5	82.6	108.4	25.8		Crystals slipping water
	5	50	46	82.5	105.6	23.1		
	5 <sup>a</sup>	49	46	"	106.6	24.1		
	6	50	47.5	83	108	25		

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

†Always start measurements for sampling from the initial point as shown by the sketch map of the course and follow the spacing for samples as indicated. Particular care should be taken to note any irregular spacing between samples.

No. 1 of 2 sheets. Comp. by.....Checked by.....

FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Yuba River  
 Snow Course No. 2 - Soda Springs  
 Party J. S. Church  
 Date Sunday, April 2, 1944

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	7	41	39.3	82.5	100.6	19.1		Coarse crystals
	8	52	50	82.8	105	22.2		
	9	56	55	83	107	24		Coarse crystals left only moist
		-4	-4					
	10	52	50.8	82.5	107.1	24.6		Sed drifting
	11	49	47.6	83	106	23		
	12	53	51.2	82.5	108	25.5		Coarse wet crystals
	1-10	51.2						
	av.	51.1				23.8		Dens 46.6%

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

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Notebook 13, April 4, 1944

Bunty wants  
inst. similarly  
exposed. for  
radiation, correction  
etc. but recognizes  
trends

---

"Today (Fri) water  
&  
thrust snow

Blair Eddy:  
a larva at 4800 ft  
below Spalding, but  
not seen at all  
the snow has fallen  
from 7 feet to 4 or 3 ft.

at 4800 ft. Spalding

Notebook 13, April 5, 1944

FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Yuba River  
 Snow Course Soda Springs No. 1  
 Party J. G. Church  
 Date Wednesday, April 5, 1944

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	1	44.5	39.8	82.5	103	20.5		Water snow frozen
	2	57 -11.5	54 -1.5	"	108	25.5		Water covered soil
	3	57	49.5	"	105.6	23.1		Rode the wrench and broke
	4	51	47	"	108	25.5		Water, chipping deep - 1/2 frozen bottom
	5	49	47	82.8	104.2	21.4		
	6	50	40	83	102.2			
	6 <sup>a</sup>	50	47	82.5	107.9	25.4		

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

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FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State \_\_\_\_\_  
 Drainage Basin \_\_\_\_\_  
 Snow Course \_\_\_\_\_  
 Party \_\_\_\_\_  
 Date \_\_\_\_\_

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	7	54.5	53	82.5	107.9	25.4		Wet. leaves and grass
	8	51	50.5	83	105	22		
	9	54	53.5	83	107	24		Have numbers in notes
	10	52 -1.5	50.7 -1.5	83	105.5	22.5		
	5	5	5	83	83.9			New snow Very porous = 0.120 in from samples Potent
	11	52	50	83	106.9	23.8		
	12	52.5	52.2	83	107	24		temp. d Very green Wet!

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

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No. \_\_\_\_\_ of \_\_\_\_\_ sheets. Comp. by \_\_\_\_\_ Checked by \_\_\_\_\_

20.1-10 5/2

23.5 45.9%

Apr. 2  
Depth 51.1      23.8      46.6%

Apr. 5  
48.2      23.15      48.1%

48.2) 23.20 (48.1%  
1928  
 3920  
3856  
 640  
482  
 158

54.5      Apr 2 (Sun)  
 16      " 5 " } 3 days  


---

 38.5

(1:10 p.m.) Apr. 4  
 Apr 5 (1:10 p.m.) Prec. 0.35 in.  
 10 meas. D. 51.2 W 23.5 45.9%

Apr. 2 - (41m?)      51.1      23.8      46.6%

23.5  
 0.35  


---

 23.15

23.8

23.15

---

0.65

47

Preliminary Forecast of Water Supplies  
for Nevada, April 1, 1944

CENTRAL SIERRA  
EASTERN SLOPE

The snow cover April 1 is largely 60 to 70% of normal. Probably April-July runoff will not exceed 60% of normal.

Lake Tahoe elevation April 1 is 6,226.80 ft. or 3.8 ft. above the rim. The maximum level expected will probably not be higher than 1.5 ft. below the maximum permissible elevation of 6,229.1 ft.

The present storage in Lake Lahontan in the Carson River basin is 265,000 acre feet or only 25,000 acre feet below maximum capacity.

On January 1 the Walker River reservoirs were one-half to three-fourths full.

NORTHERN NEVADA  
HUMBOLDT BASIN

In the Upper Humboldt Basin the March 1 snow cover of 83% in Lamoille Canyon is still 82% or undiminished on April 1.

This percentage is probably indicative of other areas still unreported.

The water table, tho lower than in 1943, a year of 100% of normal excess flow, is still slightly above normal.

The winter (Nov.-Feb.) runoff of the main stream at Palisade was 63.7% of normal, and that of March, the first month of the summer season, has been 73.1% of normal, with temperature near or below normal.

It is believed therefore that the percentage of the snow cover will be realized in the main stream at Palisade, as it will be in the feeders.

In the Little Humboldt, the March 1 snow cover of only 54.0 percent has unexpectedly grown on April 1 to 97 percent with consequent rise in hopes for an adequate water year.

In the Lower Humboldt basin, the present storage in Rye Patch Reservoir is approximately 160,000 acre feet in a maximum storage capacity of 179,000 acre feet and 15,000 acre feet in the Pitt-Taylor Reservoirs, capacity 40,000 acre feet.

The grazing situation, however, is a source of grave concern, for it requires early rains to save the range feed held back by low temperature and drying winds.

SOUTHERN NEVADA

At Mount Charleston the snow cover this year is only two-thirds (68%) of last. The depth of snow in Rainbow, Lee, and Kyle Canyons varied from 38 to 53 in. March 1.

Nevada Cooperative Snow Surveys  
and  
Nevada Agricultural Experiment Station

H. P. Boardman

J. E. Church

April 7, 1944

Sampling Snow  
during Melting.

at times of <sup>(a)</sup> beginning  
of drip and  
(b) end of drip.

Temp. at Drip Pan  
• in Denver Pass.

From Notebook 13, April 12, 1944  
"Opening The Pit"

Ask

2-5565

Prof. Paulman

3902 Civ 5.



**COOPERATIVE SNOW SURVEYS**

State California  
 Drainage Basin South Yuba River  
 Snow Course Summit  
 Party B. Eddy and A. Chase  
 Date April 1, 1944 25 June

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
May	1	56	55			25		Dirt
June	2	56	55			25		✓
	3	65	64			29		Ice on bottom
	4	64	63			30		✓
	5	65	64			30		✓
	6	66	65			32		Grass
	7	67	65			32		Mud.
	8	65	64			30		✓
	9	55	53			28		Grass
	10	65	63			31		Ice on bottom
	11	66	64			32		Dirt
	12	66	65			32		Mud
	13	63	61			31		Grass
	14	70	68			34		✓
	av.	63.5				30.1		

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

†Always start measurements for sampling from the initial point as shown by the sketch map of the course and follow the spacing for samples as indicated. Particular care should be taken to note any irregular spacing between samples.

FEDERAL AND STATE  
COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Yuba River  
 Snow Course Summit Colley No. 1  
 Party B. Eddy and A. Chase  
 Date March 31, 1944 5050

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	1	60	58			32		Wet snow
	2	57	56			32		Wet snow
	3	58	57			32		✓
	4	44	43			25		✓
	5	50	50			30		✓
	6	48	48			28		✓
	7	49	49			28		✓
	8	60	59			34		✓
	9	57	56			32		✓
	10	53	52			31		✓
	11	61	60			33		Wet snow
	12	55	55			31		✓
	13	64	62			32		✓
	14	63	61			31		Wet snow
	Av	52.8				30.8		

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FEDERAL AND STATE  
COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Fork River  
 Snow Course Summit Valley No. 2  
 Party B. S. S. and A. A. Thayer  
 Date March 31, 1946 25815

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	1	60	59			29		Coll. Jce.
	2	70	68			33		✓
	3	67	66			30		Dirt
	4	66	65			30		✓
	5	66	65			31		Needles
	6	60	59			28		Dirt
	7	61	58			29		✓
	8	61	59			31		✓
	9	64	62			31		✓
	10	64	63			31		✓
	11	70	68			32		Grass
	12	61	60			30		Dirt
	13	67	65			32		✓
	14	67	65			33		✓
	av.	64.6				30.7		

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

†Always start measurements for sampling from the *initial* point as shown by the sketch map of the course and follow the spacing for samples as indicated. Particular care should be taken to note any *irregular* spacing between samples.

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FEDERAL AND STATE  
COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Fork River  
 Snow Course Soda Springs No. 1  
 Party B. Eddy and R. Chase  
 Date April 1, 1944 30/6

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
Key Course	1	59	57			27		Dirt
	2	54	53			25		Watermark
	3	55	53			27		"
	4	52	51			23		"
	5	56	55			26		Incomplete
	6	56	54			25		Grass
	7	56	55			26		"
	8	58	57			25		"
	9	57	56			27		Dirt
	10	58	57			28		Grass
	av.	56.1				25.9	÷ 38.1 =	
							46.7%	68%

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

†Always start measurements for sampling from the *initial* point as shown by the sketch map of the course and follow the spacing for samples as indicated. Particular care should be taken to note any *irregular* spacing between samples.

No. .... of ..... sheets. Comp. by ..... Checked by .....

FEDERAL AND STATE  
COOPERATIVE SNOW SURVEYS

State California  
 Drainage Basin South Fork Owens  
 Snow Course Soda Springs No. 2  
 Party B. F. Kelly and W. C. Chase  
 Date April 7, 1946 2.57%

*Description or Number of Course	†Sample Number	Depth of Snow Inches	Length of Core Inches	Weight of Empty Tube	Weight of tube and Core	Water Content Inches	Density Per Cent	Remarks
	1	55	54			26		Print
	2	56	54			26		"
	3	58	56			29		"
	4	53	52			24		Rock
	5	57	56			27		See on last
	6	59	57			27		"
	7	57	56			26		"
	8	56	55			27		Print
	9	62	60			30		"
	10	59	57			27		"
	11	55	54			25		"
	12	55	54			26		"
	av.	56.8				26.7		

\*Show number or description as given on sketch map, i.e., "Course No. 1," or "Major Course," or "N 5° E," etc.

†Always start measurements for sampling from the initial point as shown by the sketch map of the course and follow the spacing for samples as indicated. Particular care should be taken to note any irregular spacing between samples.

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