TRU-LINE

STENOGRAPHIC NOTES

No. 15 Sila Springs

From Monday May 1 1944

To Sunday July 2 1944

No. 26-G

Monday, May 1

Top to top of lone trees.

Hotel

6:10 am. Temp. and Crust

Tab Therm	35.7°F
Min.	26.5°
H-T	28.5°

8 to 6 am H6 to 28.5°

Humid. 76 to 88%

On steps

Thermog. (Jr) 24.5°

Glaze on instr., espec. glass

Observer

Thermog. 26°

Heavy glaze.

Frozen concentrate of dripping water on top of case.

Sealed (No 1) almost buried 27°

Thick glaze over

Note - Snow frozen 4 in. below No. 1 which, when cut out, resembled a white veil attached to it.

5 in. deep (No 6) 32°

Crust 3½ in. deep.
So No. 6 is deeper.

Pasture In light fog.
7 am

Sealed (No. 5) almost buried
in pergan snow. Glaze 25.3°F
[at Hotel 27°F]

3½ in. deep (No. 7) +0.2° C*
* But head of column diagonal.
Really 0° C

5 in. deep (No. 4) 32.2°F - 0.2 = 32.0°F

Crust - Firm 4½ in. But cohering
by cold to 8 in i.e. cold or freezing
3½ in deeper.

→ 8 in. represents lower limit of
radiation effect? Beneath 8 in.
snow moist coarse.

→ So unless quite cold, the
temp. even in freezing snow
may remain only 32° F.

Temps.

7:15 am. Frost melting on white wood and red iron of trestle.

Wim. 31.6° F

H-T 32°

8 to 7 am. 42 to 28 to 32° F

Humid. 100%. Fog still rising from reservoir. & beyond dam.

Dyes

W- Dye on surface.

Green, purple.

Sank 2 in. last night.

Middle Dye. An crust at 4 in. down.

Purple.

Frozen to 4 in deep. Purple.

Then moist - cracks

" crack - pass

Bottom squeezes red stream of water.

→ Dye to very bottom.

E Dye. at 17 in. depth. Snow 42 in. [illegible]

Top frozen.

Middle crush-packs but mostly crunches.

Bottom 4 in. wet-packs. Gray wat[illegible]

→ Cold has been active in this snow but water still moves.

New Dye

W Dye showing points of red.

N Dye (new) is still green.

Sun 15° above hill. Air warm

North dye also showing red.

Both W and N show red where the more exposed ice crystals are moist.

Melting

Footprints leave faint trace but crackle. Sometimes break thru.

Only slight freezing to 28°F. in shelter but 25° on snow, yet crust 5 in. deep.

How deep when min. was 9°F?

Apr. 25 - Crust 6 in. Temp. 2 in. in snow 18.7°

Depth of crust not greatly different in 28° and 9°F. Cut hw cold penetrates farther (Apr 25 · 6 in 28.2°F)

Hotel
1:50 pm

Temps.

Wim.	57.4°F
H-T	59.6°
Thermog.	54°
Thermog (Jr)	56°

Snow Survey by Eddy (Wim) and Chase (Nav't)

At noon the surveys had been finished at Summit and in the Pasture. The men brought their lunches in and spent the hour resting.

The S.P. Co still retains a civilian guard at the crossing of the Lower Trail where the soldiers were.

Lake Norden within 8 ft of spillway. But only 15 ft depth remains in Lake Spalding. Water off 100 acre-feet daily.

South Yuba rising. The little lakes so puffed about in March is now full.

The stream gage a few miles down

belongs to the Forest Service.

FORM 130

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING
SACRAMENTO

CALIFORNIA COOPERATIVE SNOW SURVEYS

SNOW SURVEY NOTES

Drainage Basin: South Yuba River

Snow Course: Summit

Party: B. Eddy + H. Chase

Date: May 1 1939

*Description or Number of Course (1)	Sample Number (2)	§Distance Between Samples (3)	Depth of Snow Inches (4)	Length of Core Inches (5)	Water Content Inches (6)	Density 100 x (6)/(4) (7)	Remarks
	1	25	39	38	19		Dirt
Key	2		41	39	20		Rock
	3		47	46	24		Wet on Bott
Course	4		52	51	28		Dirt
	5		57	56	30		Gravel
	6		59	58	32		Grass
	7		58	57	30		"
	8		58	57	30		"
	9		55	53	29		"
	10		55	54	30		Mud
	11		55	53	29		"
	12		54	53	29		Wet snow
	13		51	50	27		" "
	14		52	51	28		Grass
Average			52.3		27.5	51%	

*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 by the circles. Particular care should be taken to note any *irregular* spacing between samples.

No.....of.....sheets. Comp. by.....checked by.....

60280 7-38 200-25

STATE PRINTING OFFICE

CALIFORNIA COOPERATIVE SNOW SURVEYS

SNOW SURVEY NOTES

Drainage Basin South Yuba River

Snow Course Soda Springs

Party C. Eddy

Date May 1 1944

*Description or Number of Course (1)	Sample Number (2)	†Distance Between Samples (3)	Depth of Snow Inches (4)	Length of Core Inches (5)	Water Content Inches (6)	Density 100 x (6)/(4) (7)	Remarks
	1	25'	43	41	22		Dirt
Key	2		42	41	23		✓
	3		43	42	23		Slush
Course	4		36	35	19		✓
	5		44	43	22		✓
	6		44	43	22		✓
	7		43	42	22		Grass
	8		44	43	23		Slush
	9		41	40	20		✓
	10		45	44	24		✓
Average			42.5	27.0	51.7%		
					51.8		

*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 by the circles. Particular care should be taken to note any *irregular* spacing between samples.

No.....of.....sheets. Comp. by.....checked by.....

60260 7-38 200-25

STATE PRINTING OFFICE

density higher than area of April 29.
Depth has fallen.
slightly less water. { Apr. 29 22.5 fm
May 1 22.0 fm

Melting

2:20 pm.

Pasture

1. W. Dye on surface last night.
Dpth 40 in. Tunnel 1½ in caved by dye.

Dye within ½ in. of bottom
1-17 in. very red. Remainder sparser. Percolation begins above.

3. N. Dye. Planted on surface this morning.
Dpth 43.5 in. Tunnel 2 in.

Dye has gone to bottom
Very red to 7½ in from bottom.
Note:- Crust at this level of 7½ in.
Water runs from core.

Bottom below crust and few inches above it water-crushes.
Remainder above wet-crushes.

Wind. 56.8° F

6 am to 2 pm 28° to 58° F

Clear, almost calm.

Crust and Melting

Crust soft 5 in. deep.

yard stick can be pushed easily to 12 in.

slightly less easily to length of stick or 36 in.

Footprints 1 to 3 in. or more.

The surface of the snow under knee or foot becomes water-gray. i.e. wet.

Instruments

4 pm. Reset instruments with Hjalmar Bergman. He learns carefully and quickly.

Humidity at Hotel.

Dye remnant in vaseline jar made red ink. Do put for Oscar.

at 5:40 pm sling psychrometer.
(Hitch) Percent per record 28%.
Dry bulb 59.6°F
Wet " 47.8°

Take again in morning when the humidity is greater.
The instrument seems too low. as compared with Pasture.

also make cross-survey.

Stevens Q (No. 7)

April 1 . . . 2.95 in.
May 1 . . . 7.85
Total 4.90 in. Shielded
No. 1 4.39 in. Unshielded

Pasture 8:10 pm

New Dyer

1. W. Surface. Slight frost
2. Middle 6 in. deep on crust.
3. E 12 in. deep (below crust).

Planted 3 thermo.

Crust 3/8 in.

Temp.

8:20pm Clear, almost calm.

Min 37.8°F

H-T 38°

Humid. 95%

→ Max. 58° To 38°F at 8:20pm

Hotel Temp and Cond

8:30pm Telethermo. 53.2°F

Min. 39°

H-T 40°

Humid 73%

On Step Thermog. (Ft) 34.2°

On Boat Thermog. 34°

Sealed (No 1) 32°

Cond ½ in.

Tuesday May 2

Clear, fresh breeze.
No glaze on inter.

6:30 am Temp. and Crust

Telethermo. 39°F
Min. 38.6°
H-T 39°
Humid. 32%!

8 to 6 am 49 to 32.5 to 36 to
31 to 41 to 39°F
Humid. 70 to 85 to 60 to 75
to 36 to 32%

On step

Thermog. (Jr) 36°
(Min. 27°)

On crust

Thermog. 34°
(Min. 27.5°)
Sealed (No. 1) 29°
5 in. down (No. 5) 32°*

* Just below hard crust but in loose cold crystals that crush loose

Crust 3 3/4 in.

Pasture

6:50 a.m.

Surface Scale (No. 6) 27.5°F

3 in. (No. 4) 32° − 0.2 = 31.8°

5-5½ in. (No. 7) 0° C

Crust. Hard frozen 4 in.

Congealed 2½ in. more.

→ Really congealing to 9 in.; or freezing zone.

But below 4 in. snow crushes with a tendency to pack.

→ Temp. rises from 31.8° to 32° F between 3 and 5 in. depth.

Snow really congealed to 6½ in.

Why not colder below 3 in. apparently?

Free water here? Test for by calorimeter?

Dyes

1. W.. Dye on surface

Settled ¼ in on snow. Stream.

Tracks like Tahoe in winter

2. Middle - Dye 6 in. deep.
Dpth 38 in.
(a) Water at bottom
and a frozen red bit of cone
in redriving for cone.
Where did I pick it up?

(b) Dpth 38 in.
Color only 12 in. down.
(c) Dpth 38 in
Color only 12 in. down.

Top frozen.
Middle crushes.
Bottom crush-fears.
Very bottom is water-gray.
No, believe I picked frozen red nubbin
up in redriving for cone from
the stratum 6 in. down.

3. E Dye - 12 in. down.
Dpth 37 in.
dye down 21 in.
Top 5 in. frozen.
Next 16 in crushes
Next resists.

4 in. at bottom water-soaked.
Soil and snow-ice gray-wet.

Temp.

Min. 29°F but air feels cold
H-T 38.5°

8 to 7 a.m. 40 to 30.5 to 40 to
35 to 40 to 37.5 to 40 to 39°F
Humid. 100 to 63 to 94 to 38, to
30 to 37%

7:45 a.m. Dye

N-Dye. New on surface.
W-Dye. (Old) shows one band
of red

Melting

Black road only slightly moist.

Therms

11 a.m. Fastened loose corks in tubes with
shellac. Reparaffined ends.
Take Nos 2 and 3 to Univ. for new tub

Snow Survey

approx. 11:30 A.M. 1 p.m.

Loss since April 29 (Fort.) 2.6 in.

" " May 1 (E. and C.) 2.1 in.

Snow Cover Apr. 29 22.5"

" " May 1 22.0

" " May 2 19.9

2 Snow Survey data Sheets for May 2, 1944 to folder

Melting

Found door of shelter open wide!!
I must have left it so this morning.

Temp.

Min 58°F
H-T 52.5°

8 A/pm 38° to 52.5°F

Humid. 22%

Water running out of snow.

Snow Stake

May 1 . . . 38 in.
May 2 . . 36 in.

Surface continually breaking down.

Dyes

W- Dye (Planted last night) 35 in. depth.

Heavy color down to about 21 in. to ice stratum.
Dye practically to bottom.
Wet camel-pacs.

N. Dye (Planted this morning) 39 in. depth.

Dye to bottom.
Zoned in bright color at about 3-4 in. intervals except continuous at top.

Upper 20 in. met.-crushes.
Bottom met.-crush.-paces.
6 in. Center resists but soon
met.-crush.-paces.

Snow-slaves 370 (36 in).

Study

→ Study snow cores at frequent intervals in the morning to determine the stages from cold congealing snow as this morning to the met.-crush.-pace like this noon.

Why the transition and activity so quickly? Melt water or conduction of sun's heat? Aided by high density? In turn, why the quick reverse in the evening as in Middle Dye (6 in.) last evening. Is it an extension of met surface crust became cold before the dye can sink an inch.

→ Insolation — Compare sun-melted snow with sun-melted snow in shade. Why the high difference in rate? How deep does sun penetrate the

surface layer to break down the crystals? Does it proceed at isolated place when the crystals become wet and release their water to flow to crystals deeper down.

How deep is the zone of disintegration or combined sun-melt water effect? A task for Hand and Lundquist.

The total daily effect seems to average about 2 in. with slight increase, if any, in density.

Saturday May 6

Mild night at Rent.

Yellow water in Truckee River at Floriston (Joe Gray Cross). Quiet water above.

Donner Lake half-filled. Ask Harry Dwyer regarding its capacity and stages.

Norden Lake showing water-leads. "Spilling at dam".

Snow Cover
Dry at "postoffice" and road open to railway station.
Beacon Hill pock-marked with rocks and stumps.

Crusts
Marshall here. Reports pools thinly frozen last night.
Probably a crust.

Snow Survey
11:30 - 1:30 pm.

2 Snow survey data sheets for May 6, 1944 to folder

Precipitation

Thunder and clouds from E. gradually covered the sky. "Forecasted by U.S.W.B. - Fletcher".

Tired and slept during the p.m.

3:30 p.m. Hail and rain on snow.

No. 1 Gage 0.60 in.

Stevens Q 0.47 in. ?

5:30 p.m. Stevens S

Apr. 28	13.10 in.	(2.10)
May 6	13.69 in.	(2.69)
	0.59 in.	

Comparison excellent.

Sno-Cat

During the storm Tuckerman came with his new yellow Sno-Cat. and parked it on a tongue of snow near the bridge.

We saw him when helping Marshall catch the 5:10 train home. Poor soul, no companions turned his thoughts to Eaton Canon.

Temps and Crust

No snow remains at Hotel.
So thermographs were transferred to Pasture — one 5ft above snow in shelter, the other on page on the snow.
The Hotel temps. were combined with those of the Pasture.

7:50 pm.
Hotel

Tel-thermo.	41° F
Wins	39.5°
W-T	40.0°

Pasture

In shelter	Wins	40.5°
	W-T	40°
	Thermog.	38°
	Thermog. (ft)	38°

8:45 pm. Insts in place

Wins.	37.8°
W-T	37.5
Humid.	98%

5 Ft above Snow

Thermog. (ft)	35.5°

On Snow.

Thermog.	35.0°
" (No. 1)	33.5°

At Hotel

9 pm

Telethermo.	41.1°F
Min.	38.5°
H-T	38.0°
Humid.	83%

Dyke

Pasture

8:35 pm

N-dye	On surface (Red.)
Middle	6 in. down
S-dye	12 in. "

→ Light rain. Can see my breath.

Crust

→ Crust 1/4 in. Coarse rain-wet crystals. Cohere but pull apart easily. It is their first stage of crusting.

Sunday, May 7

6 a.m. Temp and Crust

Hotel -

Telethermo.	36.2° F
Min.	34.6° (Night 32.7°)
H-T	36.0° (Night 34°)

Dew and wet on platform.

Larger pools unfrozen. a very few tiny ones with incipient ice.

// But snowbanks at Headquarters door like basalt but slippery.

Pasture -

* Snow cover like flint and slippery. All irregularities rounded due to rain ~~enamel~~ of yesterday frozen to enamel last night.

No crackling as usual from crushing of the porous surface.

Min.	33.5° F (Night 27.9°)
H-T	33.5° (Night 32°+)

Humid. 98%

Moist on thistle. But below floor icy even on the wood. The floor seems to be the transition zone to frost. *

* But the thermog. hanging 5ft above snow was wet, not frozen.

5 Ft Up.
Thermog (Jr) 33°F Night 29.5°)
Dew.

On Snow
Thermog. 28.5°F (Night 28.5°)
Glaze on glass.
Pale on case.

(No. 1) In snow 29.5°
Thick glaze
→ 2¼ in. down (No. 6) 32°
Beneath crust in mealy snow crystals.
3¾ in. (No. 5) 32.0°+

Crust

Crust 2¼ to 2¾ in thick.
Crystals solid but crystals beneath are mealy and lack cohesion entirely.
Practically no moisture when pressed in hand but dry dust when thrown on it turns pink immediately.

Test moisture quality by calorimeter.

→ Crust untouched by sun (i.e. frozen) remains green.

Melting

The snow is a dazzling glare in the morning sun. Melting started. All dye, except in semi-sun, is red. Air mild

Dye

N-dye. On surface. Penetration only ¼ in the laid on wet snow.

Middle-dye - 6 in. down. Strong penetration to 18 in. Half or diffused percolation to bottom - 30 in. below surface.

S-dye - 12 in. down. Strong penetration 4 in. further or 16 in. below surface. Then slightly weaker to bottom.

Ice

The shallow pool on the grass in Sendak's color plate has very thin ice. Surrounded by snow 2 ft deep.

Capillary Density

Loose glass crystals - a jewelry store or treasure house.

What is the density of loose crystals, i.e. capacity for holding water in suspension?

1 to 2 mm in size. Water should run thru. The snow surveys show increasing density.

Stevens Q

May 1 . . . 6.85 in? Temp. curve?
May 4 . . 6.95
May 6 . . 7.52
0.57 or 0.67?

No. 1 Since last evening 0.127 in
(by U.S.W.B. 0.09 in. Had evaporated during day)
Total 0.69 in. ; 0.727 in.

Thermos

Jan Repaired thermometers. Used shellac to fasten corks into tubes.

Checking H-T at Hotel

9:30 a.m.

Some doubt regarding accuracy of humidity pen at high stage.

So should get wet and dry bulb readings at 50 and 90%.

At 9:30 a.m. manual on sheet

Dry bulb 52°F
Wet " 44°
= 57%

Sheet records 51%

No 1. Large.

Since last evening accumulated precip. 0.127 in.

Melting

Pasture
9:45 a.m.

Crust soft - 1 in. deep.
Friable 2 in. "
Can be penetrated by yard stick.
Footprint 1 in to 2 in. deep.

→ 1. New morning dye
has penetrated 12½ in.
Snow below penetration moist-pack

→ The coarse mealy crystals beneath the morning crust now moist-pack the still squeezing mostly from the heat

→ Is moisture becoming more active?

Blue notepad "Stevens Q-No.7" to folder

2. Old dye (on surface last night)
Down 22$^{in.}$ with traces to the ground. Total from surface 30½$^{in.}$

Ice stratum or crust 13$^{in.}$ deep.

→ Query: Is the percolation of moisture microscopic?

Reweighing Gages

10:30 am.

~~Hotel~~ No. 1 accumulated.
Have now made steps of boxes for → reaching No 1 and Stevens S.*

(* Otherwise the eye is too low to read the dial accurately.)

No. 2 Stevens W.

Water thru gasket at upper edge of door(?) but did not penetrate clock case. A bit more than usual but storm was driving and heavy. Total 0.74$^{in.}$ in late afternoon.

Reread.

Record - May 6 -
0.015, 0.03, 0.02, 0.02 —, almost a continuous slanting line, 0.04$^{in.}$
Later in evening 0.04, 0.04$^{in.}$

Total from 8.20 to 8.57 = 0.37 = 0.74 in. precip.

Heat?

→ NB. — Probably on May 5 (by chart May 4) pen moved 0.02" and 0.02" = 0.04" = precip. 0.08 in or prob. 0.06 in.

Did it rain or snow? The two records are 3 hours apart.

Was it heat? Max. temps. May 4 and May 5 were 65°F and 69°F.

Watch this.

No. 3 Army Engineers

Dpth 25.28 in (or on the redwood stick 25.30 in). Tommy have crept up.

No. 4 W. 11.56 (0.56) in D. 10.32 in

Pointer turns 2 1/4 times to a solid stop. Starts 1/4 dial before 0.

22 divisions

10 0 1

21 11 12

P(lastic) W. 10.74(21.74) in D. 9.6 in

([illegible] bail)

Which? —

Apr. 1 – 2.95 in

May 1 – 7.85 in

277.80
− 15.81
261.99
37.50
224.49

...weighed

0.69 in.

...May 6 only 0.74 in precip.

25.28 in

...56 in D. 10.32 in

... in D. ~~10.0~~ 9.6 in

... in D. 10.0 in

...32 in (20.82 in) D. 9.2 in

...61) in D. 9.5 in

...52 in

No. 8 W. 9.61 (20.61 in) D. 8.6 in

No. 9 W. 13.30 in D. 11.2 in

No. 10 W. 14.80 in D. 12.35 in.

10.74 (21.74) in D. 9.6 in
...ire bail)

Gages were reweighed

Hotel - May 7-

No. 1 — May 6-7 0.69 in.

No. 2 - Stevens W May 6 only 0.74 in precip.

No. 3 - Army Engs. D. 25.28 in

No. 4 Weight 11.56 in D. 10.32 in

Plastic W. ~~13.77~~ 10.74 in D. ~~10.0~~ 9.6 in

Stevens S W. 13.77 in D. 10.0 in

Reducer D 8.0 in

Prestone (vit) W. 9.82 (20.82) in D. 9.2 in

Pasture -

No. 6 W. 10.61 (21.61) in D. 9.5 in

No. 7 Stevens Q 7.52 in

No. 8 W. 9.61 (20.61 in) D. 8.6 in

No. 9 W. 13.30 in D. 11.2 in

No. 10 W. 14.80 in D. 12.35 in.

4 (21.74)in D. 9.6 in
ine hail)

S W. 13.77 (2.77)in D. 10.0 in

R(educer) D. 8.0 in.

Prestone (kit) W. 9.82 (20.82)in D. 9.2 in

No. 5 Twig. W. 3.75 to 4.42 = 0.67 in.
[for Way 6 only].

Fracture
1:15pm
No. 6 W. 10.61 (21.61)in. D. 9.5 in.

No. 7 Steven Q (from this morning).
Way 1 6.85(?)in Temp. anna?
" 4 6.95
" 6 7.52
0.57 or 0.67 in.

No. 8 W. 9.61 (20.61)in. D. 8.6 in.

No. 9 W. 13.30 in. (2.30) in. D. 11.2 in.

→ Slough of water around and beneath No. 9 tower. Noticed this during dye tests this early spring.

No. 10 W. 14.80 (3.80) in. D. 12.35 in.

→ 3 ft cans difficult to raise into their nest. I leaned back so far to raise the base to the level of the nest that I nearly tipped backward from the tower-plank with the can on top of me.

→ An extra step should be added to the plank of towers No. 9 and No. 10.

Temp.

1:35 pm Min. 60.6° F
H-T 59°
Thermog. 56°
Not ventilated as well in bottom and end as the others.
Thermog. (Jr) 59°
With Shelter door open
H-T 59.5°
Thermog. 58°
Thermog. (Jr) 59.5°

In the wide open exposure as at night, the ventilation will probably be sufficient for accurate records.

Susan Sunday

Noon. Finished 1:15 pm

2 Snow survey data sheets dated May 7, 1944 in folder

Density - May 6 - 54.1%
May 7 - 55.4% But at similar hour (noon)

Loss of Snow Cover

May 6 -	Noon. Snow-survey	13.1 in
" "	afternoon. Hail and rain	0.67
	Total	13.77 in.
May 7	Noon. Snow-survey	12.3
	Loss (1 day)	1.47 in.

The Tucker Sno-Cats

2 pm. The Tucker and Waltman families came from Grass Valley also with the White Sno-Cat for color film of both "cats".

Returned for me at 2 pm. to share picnic and a trip to Ice Lakes. Gone until 6 pm.

Rode on bar of White Cat. Can travel very slowly. Present snow texture excellent.

Wheels to raise ski a fine feature. Treads and drive key to success. Some of the treads broke because of poor welding. Can be overcome.

300 feet of film exposed. One

daughter-in-law from Los Angeles phoned Dee an excellent driver. Three sons in Tucker family. Mother a schol. teacher

Temp and Crust

Pasture
8 pm.

Min 42°F
M-T 42°+
Thermog. 44°
Thermog. (Jr) 40.5

The two thermogs were set: one 5ft above, the other on the snow.

Dye

1. On crust. Remained green.

2. On wet snow uncovered by removing thin crust. Turned red.

3. Dye 4 in deep.

4. Dye 12 in. deep on a crust.

New crust already forming was 3/8 in. thick.
No. 1 already half-buried in snow 32°F.

Monday, May 8

6 am. Light fog and pogonip over valley
Pasture Only seldom ice feathers on water

Wire 29.3°F

H-T 30°

Dew on glass

8 to 6 am 42° to 31° (midnight) to 30°F

Humid 98% all night.

5 Ft. above Snow

Thermog (Jr) 26°

8 to 6 am 42° to 32 to 26°F

Glaze on glass.

On Snow

Thermog. 26°+

8 to 6 am 42 to 31 to 26°F

Heavy glaze

No. 1 in snow 28°F

Light glaze

2¼ in. (No. 2) 31°F

5½ in (No. 3) 32°F

→ In wet crystals below crust. Crystals lack cohesion utterly, but these firm.

Crust

Hard crust ¼ in. thick.
But the entire crust is 6 in.+ from surface to frontier of loose crystals.
The lower 2 in. of latter 2½ in. is friable with dull knife blade, the congealing loosely.
Upper 4 in. crust is hard.
→ This zone registered 31° F.
The loose crystals the congealing registered only 32° F. But they turned fine. Loose water?

Melting

Melting plainly occurs mainly at the surface. Study the projecting increasing upward of the supports of the snow thermograph.
This showing the top of the supports is level with the snow last 2 to 3 in. of snow yesterday, as I recall it but did not measure it.
Compare decrease in depth at Snow Stake since active melting began.

Dyes

1. On crust. Dye skin deep only.
Green.

2. On moist snow below crust.
→ Tho started to turn pink last night, it is green like No. 1
Merely consolidated with upper crystals.
No noticeable difference between Nos. 1 and 2. Merely green piles of dye.

→ 3. Dye set 4 in. Now it is 6 in.
Spread but caught from descending beyond 6 in. by descent of cold.
→ In wet snow, is rate of penetration by cold rapid? Note No. 2 also, but on surface only.

4. Dye planted 12 in.
Descended to 20½ in. below surface to ice crust, 6 in. above ground. Snow mealy.

5. Extra sample of snow 25 in.
Upper 4 in. frozen.
Bottom 6 in. porous.

Middle crushes. No packing whatever.

Dye on Core

Upper part (frozen) still remains green.
Middle shows pink.
→ Bottom 5 in. red and brighter.
Water more active. Capillarity 1 in.

Melting

8 am. Melting starting in snow.
Faint impress by boots on snow.
Road snow growing soft.

McLaughlin!

A voice behind me as I dug.
Mc from the South Seas, worn, in need of rest. To ski and fish.
The Japs can not be rooted out of the jungles for three years. A slow mopping up.

Ice on Thermometer

Dug a therm. from the crust like a fin. Unmelted in the shade and frozen firmly to tube.
But in sun when the temperature in the tube recorded 40°F, the

entire fin became encrusted and came off, like snow or ice on the branch of a tree.

8:15 a.m. Rate of Descent of Dye.

1. Dye on crust last night.
2. " on wet snow beneath crust last night.
3. a new planting near Sunstaker, Near the Creek at Ice Lakes Road.
4. South in shadow of tamarack.
5. North on snow dune in sun.

Compare rapidity of descent.

10:40 a.m.

4. South shaded dye near creek. Red, but snow soft only 1/4 in.
5. North dye in sun. Snow soft 1 in.

At Trestle
Footprints 1/2 in. deep.
Snow melted or softened 1 in.

1 and 2 - Evening dyes earlier in shade - only ½ in. soft.

3. Sun dye of this morning. 8 a.m. 1 in. soft.

2:15 p.m. Sinking

Snow has sunk 2 to 8 in. below top of thermog. pegs. Does this mean 1½ to 1.5 in. water loss? Survey tomorrow.

Crust section of 4 in. almost completely melted. Attacked on all sides as in laboratory.

But another section is slower melting but is extremely soft. Crystals are loose.

Dyes

1. Am crust - 24 in. deep.
   Dye just reaching bottom

2. Am wet snow: 24.5 in. deep.
   A heavy crust at 12 in.; but dye completely to the bottom and deep in color.
   The upper half wet-crushes.
   The bottom foot wet crush-packs.

The bottom 2 in. is ice-snow. Upper 1 1/4 in. stained dye, lower 3/4 in. is dye-diffused or stained - except ice bottom itself, which is water-gray

3. Near dye. 22 in.
Dye deep in cake and to bottom

By streams
4. In shade 38 in. deep.
(a) Dye sunk within 9 1/2 in. of bottom
(b) " " " 4 in. of bottom
Crust softened only 1 in. from top.

NB. - Snow half deeper than in Pasture probably because of slower rate of melting in the shade.

5. In sun. 30 in.
Dye to bottom.
Like a fine-white marble cake

Top 6 in. wet-packs.
Next 6 in. resists but not crushed packs under pressure.
Bottom 18 in. wet. packs readily.

No. 5 in semi-shade is also slower than Nos 1-3 in melting. Compare depths 22 & 24 1/2 in. with its depth of 30 in. and No. 4 of 38 in.

→ But measurements made almost too late in day to determine comparative rates. Possibly can repeat meas. tomorrow.

Done 3:15 pm.
With note copying time only for an hour's extra day-sleep.

Temp. and Crust

7:35 pm
Pasture
Min 47.6° F.
H-T 46.8°
Thermog. 47.5°
Thermog. (Jr) 46.0°

Day's phases
H-T
8 to 8 pm. 40 to 55.5 to 46.8° F
Humid. 100 to 18 to 34%.

Sun just setting.

Melting Today

4 in. depth = 2 in. water by projecting of thermog. supports in the snow.

Snowstake May 7 . . ? (18) .
" " May 8 . . 15 in.

?3

Crust Tonight

Temp. 47°F approx. 8 pm. Sun just down.
Crust 1/4 in. as measured twice.

→ Crust has formed suddenly, even as I kneel in the snow planting dyes.
Even as on Mount Rose.

Dyes

NW-Dye On crust. Turned red.
NE-Dye. Crust skimmed away.
Both dyes equally turned red.
Middle-Dye 11 in. deep.
S-Dye 5 in " ".

Thermoms.

With the two thermogs were placed also 5 sealed therms. Valuable when the thermohms are all exposed.

Our Last Night

Last night for temp. and const. Only 15 in. of snow. Will there be any survey next Friday, May 12?

Much to do tomorrow.

Tuesday, May 9

6 am. A cloud bank in the east.

Ice

No ice on pools at Hotel but 1/4 in. thick below the Railway tracks where ground is lower and in Pasture. Colder in depression. Radiation?

Temps

Min. 40° (min. night 28°F).

H-T 40°

8 to 6 am 48 to 33 (at 2 am), 40°F.

Humid. 30 to 92 (at 2 am), to 50%.

5 Ft. above snow

Thermog. (Jr) 36.5°F

8 to 6 am: 48 to 29 (2-4 am) to 38 to 36°F

On snow

Thermog. 34°F

8 to 6 am: 48 to 26 (2 to 4 am) to 34°F

In surface (No. 1)	30°F
2 in. (No. 2)	32°
4 in. (No. 3)	32°
4 in (No. 6)	32°
5 in (No. 5)	32°

Crust

To frontier of loose crystals 5½ in.

Hard crust . . . 4½ in.

Out 32°F at 2 in. and 4 in.

Only surface has 31°F.

→ Why not colder? Will snow harden in high temp. such as 32°F? Surface exposed to air 30°F.

Study degree hours.

Cores

(a) Depth 22 in.

Approx. 6 in. crushes (frozen)
" 12 in moist-pocus.
" 4 in. wet-pocus.

(b) Same depth.

Top green. (frozen)
4-in pink
Remainder more active pink.
even to bottom of snow crystals.

Dyes

N W-Dye. On crust. Green.

NE-Dye On new snow. Green.

Both turned pink last night but are now merely consolidated with snow crystals 1/4 in. deep.

Middle-Dye - Planted 11 in. Depth. approx. 22 in.
Has gone to bottom.

S-Dye. Planted 5 in. Same depth as Middle.
Descended to 18 below surface.

NB. → NO freezing to overtake dye and stop its descent. Degree hours? May 8 and 9?

Oesnic

Melting

7:20 am. Sun just appearing from cloud blanketing sunrise.

1 and 2. Dye of NW (crust) and NE (new snow) are still green.

At Stream.

3. In shade. Dye planted on crust.

4. In semi-sun " " " "

9 am. Sun finally out and melting probably has begun.

Humidity

7:50 am. Hotel

H.T. sheet is 1½°F too high above flange. Sheet should be corrected by +1.5°F

Test of humidity: Sheet moved.

Wet bulb 32°F

Dry " 42°F (Current min. 41°F)

Humid. from 54%. Check this from table. Table 36%

Height of Telethermoscope
By 10½ in. wide siding, height is 25 Ft

Crust Melting

10:30 am
Crust soft ½ in. but friable with
yard stick completely thru the
4 in. and more.
All dyes red and color sinking

Snow Survey
10:30 to 11:30 am

2 Snow survey data sheets dated May 9, 1944
in folder

Snow Survey Summary

in.

May 2.	Dpth 38.6	Water Equiv.	19.9	Dens. 51.6 %	
May 6	24.2		13.1	6.8=1.9	54.1
May 7	22.2		12.3	0.8	55.4
May 9	16.3		8.7	3.6=1.8	53.4
Loss 7 days	22.3		11.2		

=1.6 in. daily. Not recorded

Storm of May 5 of 0.74 in. should be included

There seems to be no critical or explosive density. Rate almost uniform during period.

The snow sinks uniformly (rate 2.1) with the water equivalent.

Dye Sinking

11:40

NW. 20½ in confluently to bottom

NE moderately to bottom.

→ Planted a mark of color west to the W of above

By Stream:

N. In partial sun among trees.
Mostly sun.
Total depth 30 in. to ground
× Dye penetrated 19 in.
Marble cake: pockets and leads and levels of dye.

Color strong for 13 in.
Chance for color picture by Gandel.

S. In shade of tamarack.
× Depth 28 in.
Dye penetrated 9 in.
Less variegated marble cake

Snow Level in Pasture
Snow has melted 1 in. down at thermograph pin-supports.

Pasture Temps

12 Noon. Wire 51°F
H-T 6 to 12 Noon
4^0 to 38.5, to 40 to 50.5°
Humid. 54 to 68 to 36%

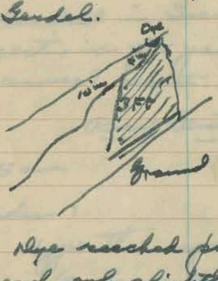
New Dye

Planted 11:40 am.

Has reached ground 18in. at 12:30pm
= 1½ ft in 50 min.

Dye on Dike

Excavated N. dye. Left S dye for Gendel.



Dye reached practically to ground. Spread only slightly uphill; but flowed down west and downhill expanding with depth. Fainter beyond 3 ft width. Dye follows habit of percolating water.

Yellow Sno-Cat

The Tuckers and Waltmans came for the Cat. Dennis Jones drove it thru the forest across the S. Yuba.

Friday, May 12.

Donner Lake full. "Has filled 5 feet in a week" – Old friend [illegible]

→ Ask Harry Dewes for data on rise and discharge of lake to tie in with snow cover percentage.

Gardell in Sacramento. Left suggestions for joint preparation of annual report.

Hotel

Reset Instruments

10:25 am

→ Order:

Hygro-Thermograph Forms.

(a) Form No. 1074C −20 to +80°F

On hand 25

(b) Form No. 1074B +10 to +110°F

On hand 22

10:55 am.

Wet bulb 41°F

Dry " 48.2°

But pen on bar. So meas. can not be identified on sheet. So discard

11 am.

Wet bulb 42°F

Dry " 50.2°

Can the applied on new sheet just placed on drum.

Pasture

11:20 am

Wet bulb 40°F

Dry " 47°

For week { Max. 68°F Reset 49°F
Min. 27° " 49° }

Stevens Q

12:35 pm Stevens Q 8.68 in.

Guy lines loose (snow gone)

(8) Less out of plumb than earlier - during winter

Rewound

→ Ink still 1/3 and fresh.

Final Snow Survey

Foot of Snow stakes have the snow still around it.

Snow survey 12 Noon to 12:30 p.m.

1 Snow survey data sheet dated May 12, 1944 to folder

Caught 2 pm bus for Reno.
Lake Norden now breaking up.
Snow gone everywhere.
Carson Hill a waste of stumps and rocks.
Our guest at the Hotel. Mr Laughlin at Sierra Club Lodge for a long rest.

May 25 – June 17 absent on trip to Washington, Boston, Albany to American Geophysical Union, Blue Hill Observatory, and Dr. Horton.

Friday June 23

8:30 bus crowded. Standing room on 11:55 on Burlington. Lunch at Truckee.

Few drifts on eastern slope. Donner and Norden lakes full.

At Office dye has colored gravel and sunk into soil 1/4 in.

Weather

2 pm. Overcast 90%, fresh wind.
Temp. 61.5°F

Hotel

H-T reset
2:20 pm Wet bulb 46.6°F
Dry " 62.0°

Stevens Pt.

2:45 pm. Rain 9.13 in × 2 = 18.26 in precip.

Removed
Weight 1/4 in. from trip. Watch.
Rain barrel one-half full.

all gages clear of ice, and some 2/3 filled.

Pasture

3:10 pm. Temp. 60.7°F
Min for week 29°F Reset 57°F
Wet " " 62° " 56.2°

H-T reset
Dry bulb 68.5°F
Wet " 44.5°
drop of rain falling. Shower clouds

trailing. Air moist. Storm here.
→ The temp. is falling and humidity rising abruptly.

Anemometer at 3:30 pm 25 mi.

Stevens Q
3:30 pm Rec 12.34 in
Rewound.
Rec 1/3 full at well open. Dust on ink.

Horses rubbing guylines

(19)

Tower nearly vertical. Lines fairly tight and even.

Weather Record

	Max.	Min.	Precip.	Snofall	Snow on Ground	Wind dirt.	Clouds
May 1	61°F	26°F			38 in	SE	clr
			#1	763 mi.			
			2	580 mi.			
2	60	29			35	SE	clr
			#1	898			
			2	723			

May 3 59 36 30 SE clr
#1 937
2 —

4 65 25 28 SE clr
#1 166
2 20

5 69 28 25 SE clr
#1 239
2 91

Pasture Max. 64° Rest 64
Min 24° " 64

6 69 28 0.60 21 SE Cloudy
Reg. 2:30pm
#1 305
2 172

7 64 32 0.09 18 SE clr
7pm
#1 391
2 271

8 61 28 15 SE clr
#1 481
2 370

9 57 34 11 NW clr
#1 570
2 471

May 10	54	31			8	NW Pt cldy
			#1 657			
			2 591			
11	52	34			4	NW clr
			#1 754			
			2 707			
12	55	27	Shower T			SE clr
			#1 825			
			2 786			
Pasture		Max. 68°	Recd 49°			
		Min. 27°	" 49°			
13	60	30			0	SE clr
			#1 896			
			2 —			
14	59	34	0.04			NW cldy
			3pm to 6pm			
			#1 986			
			2 950			
15	37	24	0.74	Snowfall 6 in.	On ground 6 in.	NW cldy
			4pm			
			#1 51			
			2 28			
16	44	12	0.06	Snowfall 2"	6	NW Pt cldy
			#1 126			
			2 91			

May 17	38	28	0.46	Snowfall 2 ranged 3	NW	Stormy
			#1 204			
			2 180			
18	49	28	0.06		NW	clr
			#1 280			
			2 260			
19	59	29			NW	clr
			#1 343			
			2 328			

Pasture
Max. 57° Reset 54°
Min. 11° " 53°

20	63	31		SE	clr
			#1 423		
			2 413		
21	60	31		SE	clr
			#1 524		
			2 —		
22	59	33		NW	clr
			#1 654		
			2 665		
23	50	31		NW	clr
			#1 772		
			2 803		

May 24 60 32 NW clr
#1 853
2 891

25 61 34 SE clr
#1 960
2 964

26 66 31 SE clr
#1 56
2 132

Pasture Max. 65° Rest 63°
Min. 30° " 62°

27 65 34 Shower T SE clr
8pm-9pm
#1 145
2 235

28 64 40 0.14 SE Pt cldy
DN-DN
2pm-4pm
#1 214
2 309

29 61 36 SE Pt cldy
#1 284
2 390

30 57 34 NW clr
#1 372
2 500

31 53 37 0.20 NW Stormy
DN
#1 460
2 590

Weather Record

June 1 53 38 0.21 NW clr
off and on
#1 571
2 705

2 49 25 0.151 Snowfall 3/ NW Stormy
off and on
#1 703
2 802

Pasture Max. 64° Past 35°
Min. 35° - 34°

3. 52 24 0.64 Snowfall 3/ SE clr
DN
#1 830
2 965

4 65 33 SE clr
#1 913
2 70

5 66 35 SE clr
#1 990
2 155

6 68 36 NW clr
#1 80
2 244

June 7 71 41 SE clr
#1 164
2 329

8 70 34 NW clr
#1 277
2 472

9 51 35 0.32 NW Stormy
2am-3pm
#1 380
2 590

Pasture
Max. 68° Past 39°
Min. 23° 38°

10 59 36 NE Pt cldy
#1 420
2 633

11 66 36 SE clr
#1 490
2 716

12 64 38 NW clr
#1 580
2 843

13 58 31 N clr
#1 682
2 ——

June 14 53 31 N Pt cldy
#1 754
2 65

15 43 29 Snow N Pt cldy
Began 9 pm Ended DN
#1 857
2 169

16 42 29 0.04 N cldy
Began 4 pm
#1 950
2 250

Pasture
Max. 64 Reset 41
Min. 29 " 40

17 49 32 N Pt cldy
#1 30
2 350

18 55 31 NW Pt cldy
#1 95
2 431

June 19 54 36 NW clr
#1 190
2 534

20 54 34 NW Pt cldy
#1 265
2 626

21 53 30 T NW Pt cldy
Showers
Began 4:30 Ended 4:40
#1 341
2 710

22 61 34 SE clr
#1 393
2 846

23 66 43 SE Pt cldy
#1 570
2 30

Pasture Max. 62° Rainfall 56.2°
Min. 29° " 57°

24 61 34 Showers NW clr
Began 1:30 pm
#1 640
2 115

June 25	69	41	Showers Began 4 pm	SE	clr
		#1	734		
		2	228		
26	64	41		NW	Pt cldy
		#1	810		
		2	—		
27	72	42		NW	clr
		#1	890		
		2	394		
28	76	49		SE	clr
		#1	920		
		2	530		
29	77	45		SE	clr
		#1	102		
		2	626		
30	75	42		SE	clr
		#1	200		
		2	735		

Pasture Max 75 Reset 34

Min 71 ? " 70 Column broken.

Sunday July 2

At Elko-Lamoille June 27-July 1 inspecting wells and rivers. Visited U.S.R.S. station at Hylton to get it reestablished.

Busses overcrowded June 30 and morning of July 1. 50 tons train. Three days late at Soda Springs.

Soda Springs

July 2, 1894 - my wedding day. 50 years.

Two bus loads today. Reservations now being inaugurated by the Greyhound Co. Enjoyed the jump seat.

Dammen Lake full. Harry Dunes has promised me data for forecasting its rise.

Lake Norden looks as shimmering as Damen and as full.

10:30 a.m.

Barograph and triple register perfect.

Dick Landis and John Carl saw me from hotel window and came over to visit. Dick could not get into marines. Too much silver in his broken leg. But he is repairing ships at Treasure Island and John is in a ship yard.

Just had to come home to the mountains for the Fourth.

Recharging Gages

Hotel -

Calcium solution for 5 gages.

5 1/4 # (U.S.W.B. scale) Calcium

7 3/4 m water

a cap of No. 10 oil for each gage.

H-T 68°F ; temp. 68.6°F
Cleaned temp. pen of H-T.

No. 1 -

Stevens S W. 17.54 in
a bit heavy to lift. Bumps in
ring in light barge.
Needs truing to vertical.
Traces of black paint (?) floating on
liquid.
Recharged W. 6.88 in D. 3.2 in.

Plastic Collar W. 14.93 (3.93) in D. 13.7 in
Recharged W 3.24 in D. 2.6 in

No. 2 Stevens W
Perfect.
Pen 9.11 = 18.22 in precip.
No visible movement of pen from
heat on metal.
Inst. still ½ barrel. Where is bottle?
Weight almost at right end of bar.

No. 3 Army Eagle D. 26.7 in.

No. 4 W. 15.67 D. 14.5 in.
Recharged W. 2.85 in D. 2.2+ in.

Redmen Eagle D. 10.4 in.
No recharge.

Prestone-Nit
W. 13.47 in D. 12.7 in
Decided not to recharge.

No. 5 Fritz
Recently recharged.
Pen at bottom of sheet.

Lunch at Donner Summit Lodge.

Pastures

2:30 p.m.

No. 7 Stevens Q !
Cylinder sheave loose and tilted, pen and movable pen arm gone, cover of damping tank half off, oil spilled over the floor, bucket shifted on its shelf, loose objects much out of place.

Guy lines sagging, but no visible line showing oscillation of pen on sheet.

Plainly a case of sudden and violent collision of horse against a guy wire - just after my [illegible] visit.

The fan with its halo has gone like a fan dream. No monument for it or its wire. Was there ever such a fan? It can not be found in the case. The door is tight and has been kept locked. I'll search some more in the grass. It may possibly have fallen out when the door was opened.

We need angle iron braces in place of guy lines, but Boardman considers guy lines far superior in rigidity and precision. A fan might reduce the passenger area too greatly.

See letter of suggestions to Stevens July 3.

No.6 W. 14.51(3.51)in D. 13.4 in.
Recharged W. 2.43 in D. 2.0 in.

No.8 W. 13.03 in D. 12.0 in.
Recharged 2.55 in D. 2.0 in.

No.9 W. 17.50 in D. 15.4 in.
Recharged W. 2.76 in. D. 1.8 in.
The 3-ft can is almost too heavy and bulky to lift from cradle at present depth of liquid.

No.10 W. 19.15 in D. 16.5 in
Recharged W. 3.44 in D. 2.2 in.

→ The measuring stick can be read better if in oil than in water. The line is more visible and perhaps more precise.

In well measurements, blue chalk on steel tape reveals the water-line readily.

A wiping cloth should be part of measuring equipment.

4:30 pm.

No time to copy Weather Record for June.

Dennis Jones has a bill from P.G.+E. for electricity against Filling Station from December till June. amount $55.00. Will forward bill to Station for reimbursement; He has paid it.

ask P.G.+E. to inspect water heater. It is too hot and too much.

Reno by S.P. train 5:10 p.m. Seat available!

Weather Record

July 1 72 40 SE clr
#1 320
2 870

2 72 40 SE clr
#1 404
2 960

3 72 39 SE clr
#1 490
#2 —

July 4 70 42 SE clr
#1 580
2 185

5 71 37 SE clr
#1 660
2 270

6 73 46 SE clr
#1 770
2 387

7 72 42 SE clr
#1 862
2 475

Pasture Max. 71 Reset. 67
Min 44 " 66

8 69 41 SE clr
#1 950
#2 —

9 66 31 NW clr
#1 40
2 760

10 71 43 SE clr
#1 126
2 820

July 11 75 45 SE clr
#1 220
2 913

12 76 44 SE clr
#1 290
2 990

13 77 48 SE clr
#1 390
2 110

14 78 52 Shower SE Pt cldy
Hail
Began 4:15pm End 6pm
#1 481
Pasture Max 76° Rust 73° 2 237
*Min 90! " 34° 13°
*Defective.

15 73 49 0.26 SE cldy
#1 560
2 323

16 79 42 Showers SE Pt cldy
Began 4:30pm End 5:30pm
#1 650
2 410

July 17 81 47 T SE clr
#1 740
2

18 76 46 SE clr.
#1 817
2 581

19 72 39 SE clr
#1 883
2 665

20 75 37 SE clr
#1 970
2 752

21 74 39 SE clr
#1 63
2 840

Pasture Max 79 Reset 72
Min X X

22 72 40 SE clr
#1 140
2 930

July 23 73 38 SE clr
#1 220
2 30

24 72 39 Showers SW clr
began 6 pm End 9 pm
#1 280
2 107

25 74 40 0.02 NW Pt cldy
#1 390
2 200

26 71 45 0.05 NW Pt cldy
began 4 pm End 5:30 pm
"Rained hard"
#1 420
2 —

27 68 41 0.02 W clr
#1 500
2 —

28 71 39 NW clr
#1 590
2 430

29 71 39 NW clr
#1 663
2 516

30 68 39 NW clr
#1 740
2 593

1 67 40 S clr
#1 825

FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State California

Drainage Basin South Yuba River

Snow Course Soda Springs No. 1

Party J. E. Church

Date May 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	35	33	66	84	18		Water in ice.
		-.2	-.2					
	2	41	37	66.5	86.4	19.9		Wet
			+1.6					
	3	39	37.5	66	86	20		Wet
	4	39	37.8	66	86.8	20.8		Water runs out
	5	33.5	32.5	66.4	84	17.6		
	6	38.5	35	66.5	88	21.5		Water running
			+2					
Cores –		Most	[illegible]					
[illegible] Dyed		Bottom [illegible]						

*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 J. E. C. Checked by

From Notebook 15, May 2, 1944

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COOPERATIVE SNOW SURVEYS

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*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	40	37	66	87.8	21.8		Water drips
			+2					Green tender sprouts
	8	39.5	38.2	66	84.6	18.6		Dripping soil
		-1	-1					
	9	42	40	66.5	87	20.5		Very wet
	10	39.7	35.7	66.5	86.8	20.3		Water, capillarity [illegible]
			+1.5					
	11	38.5	36.7	66.2	85	18.8		Water runs
	12	36.8	36.5	66.5	84	17.5		Frozen soil partially melted
		-.5	-.5					[illegible]
Av. 1-10		38.6				19.9	51.6	[illegible]
				Loss since Apr 29				2.6 in.

*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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.....of.....sheets. Comp. by..... Checked by.....

1942-43 — Army Corps

depth of solution

depth of can 59 3/8

depth surface of solution 55 3/8

depth of solution 4 in.

= 28.65 in.

(Found loose in box)

FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State California

Drainage Basin South Yuba

Snow Course Soda Springs No. 1

Party J. E. Church

Date May 6 — 11:30 am 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	19	17.2	66.4	75.9	9.0		
	2	26 -2	25 -2	66.4	79	12.6		Dripping soil
	3	27 -1	25.7 -1	"	80	13.4		"
	4	26.5	24.3	66.5	81.2	14.7		Wet bottom
	5	21	20.8	"	77.2	10.7		"
	6	28.3	23	"	79			"
	6a	28	25.6 +1.3	"	82	15.5		Very wet
	7	27.4	26.1	66	80.2	14.2		"

*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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From notebook 15 May 6, 1944

FEDERAL AND STATE

COOPERATIVE SNOW SURVEYS

State California

Drainage Basin South Yuba

Snow Course Soda Springs

Party J. E. Church

Date May 6, 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
	8	26.3	23.6	66.4	78	11.6		Very wet
	9	29	27.2	"	81.5	15.1		"
	10	26	23.4	66.2	79			"
	10a	25	24.8	66.4	81	14.6		spill 1"
	11	21.5 -1	20.8 -.5	66.4	77	10.6		Moist
	12	26.7 -.8	26.5 -.8	"	79.2	12.8		"
	Finished							1 pm
	Water over spillway							
Av. 1-10		24.2				13.1	54.1	%

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

Stevens Q No. 7

Nov.	1	5.25 in
"	18	5.40
Dec.	1	7.75
"	6.	7.80
Jan	1	10.68
"	17	14.95
Feb	3	20.40
"	4	21.04
"	10	22.55

From notebook 15, May 7, 1944
"Reweighing Gages"

Normal - Nov - Wab
Soda 5 pg No 1

12.81 - 8.19 = 4.62

8.77 - 1.97 = 6.80

13.16 - 4.07 = 9.09

8.41 - 0.49 = 7.92

2.42 + 5.13 = 7.55

35.98

Nov – Wah | 41.82

35.98) 15.050
14392

39.10

38.6

Dec. - Mch

35.98

4.62 (41.80

31.36 13.11

15.05

1.94

13.11

16.76
10.55
1.21

10.14
8.77
1.37

20.45
19.70
0.750

5.25) 0.750 (1.428
525
2250
2100
1500
1050
4500
4200

1943-44- Solfeggio NB, 1

Nov. 1.94 Feb 1 48.7 12.2

2.44 25.0

6.44

4.23

15.05

1.35	Feb 1	47
1.15	2	53
1.30	3	62
.06	4	61
2.86	5	60
	6	58
	7	57
1.24	8	60
3.75	9	60

12.2

15.95

.13

16.08

wt.

48.7	12.2	25.0 %
57.5	18.1	31.5 %

FEDERAL AND STATE
COOPERATIVE SNOW SURVEYS

State California
Drainage Basin South Yuba River
Snow Course Soda Springs No. 1
Party J. E. Church
Date May 7, 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	10.8	8.3 +2.3	66	71.4	5.4		Core mealy moist - 8½
	2	22.5	20.8 +1.8	66.5	79	12.5		Very wet
	3	24.5	23	"	79.5	13.0		Drips
	4	23	20.8 +1.8	"	80	13.5		"
	5	19	16.2 +2.3	66.2	76.8	10.6		Wet
	6	24.7	22.2 +2.3	"	81	14.8		Drips
	7	25.5	24.6	66.5	80.4	13.9		Moist
	8	21.8	21.8	66.2	76.9	10.7		"

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From notebook 15, may 7, 1944

FEDERAL AND STATE
COOPERATIVE SNOW SURVEYS

State California
Drainage Basin South Yuba River
Snow Course Soda Springs No. 1
Party J. E. Church
Date Sunday, May 7, 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
	9	26.5	23.8 +1.5	66.5	81.6	15.1		Wet Capill. 2.8
	10	23.8	20.8 +1.3	66.5	79.6	13.1		Drips
	11	22.6 −.3	21.8 −.7	66.5	77.9			Wet
	12	23.7	22.8	66.5	78			Wet
		Finished 11:15 a.m.						
Av. 1-10		23.2				12.3	55.4	

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

FEDERAL AND STATE
COOPERATIVE SNOW SURVEYS

State California
Drainage Basin South Yuba River
Snow Course Soda Springs No. 1
Party J. Eaton
Date May 9, 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	12.8	12.8	66	71.6	5.6		Soil drifting
	2	16.5 −1.5	16.5 −1.5	66	74 −.5	7.5		Soil on bottom
	3	17 −1.3	16.5 −.8	66	74.2	8.2		Soil wet
	4	17.5	17.5	66	77.4	11.4		Water
	5	12.7	12.5	66	73	7.0		Drifts
	6	19.3 −.3	19 −.3	66	76.5	10.5		Drifts
	7	18.5	17.8	66.5	75.8	9.3		Wet

*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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From notebook 15, May 9, 1944

FEDERAL AND STATE
COOPERATIVE SNOW SURVEYS

State California
Drainage Basin South Yuba River
Snow Course Soda Springs No. 1
Party J. Eaton
Date May 9, 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
	8	15	15.3	66.5	73.6	7.1		Mostly moist
	9	20.5	19.8	66.5	78	11.5		Wet Capill. 2"
	10	16.3	16.3	66.2	75.2	9.0		Wet
	11	12.3	11.8	66.4	72.2			"
	12	15.7	15.7	66.4	74			"
av. 1-10		16.3				8.7	53.4	

*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 Yuba River

Snow Course Soda Springs No. 1

Party J. Schmidt

Date May 12, 1944 12 Noon to 12:30 pm

*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	0				0		
	2	0				0		
	3	0				0		
	4	0				0		
	5	0				0		
S. of Tent	6	7.5	7.5	66	70.2	4.2		
	7	6.5	6.3	66	69.0	3.0		
	8	6.0	6	66	69.0	3.0		
	9	8.3	8.3	66	71.0	5.0		
	10	5.0	5.0	66	69.0	3.0		
	11	6.8	6.8	66	70.0	4.0		
	12	5.5	5.5	66	68.0	2.0		
Av. 1-10		3.3				1.8	54.5	

*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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From notebook 15, May 12, 1944