PROPERTY OF THE STATE OF IDAHO

Form No. 300-W

WATERMASTER'S

DAILY RECORD

| Stream Werse River |
|--|
| Water District |
| Month of May June fully & Chyust 200 6 |
| RR |
| Watermaster |
| P. O. Address |

Ten days after the close of the Irrigation season the Watermaster must forward this book to

> DEPARTMENT OF WATER RESOURCES STATE HOUSE BOISE, IDAHO 83701

If this book is lost, the finder will please return it to the Watermaster of the district, as it contains valuable records.

MEASUREMENT OF WATER

Hydraulic Equivalents Which Will Be Found Useful To Irrigators

A cubic foot of water per second of time shall be the legal standard for the measurement of water in this state.

- 1. One Idaho Miner's inch equals approximately 1/50th of a cubic foot per second, or 9 gallons per minute.
- 2. A cubic foot per second equals approximately 50 miner's inches, or 450 gallons per minute.
- 3. One cubic foot per second for 24 hours equals approximately 2 acre feet.
- 4. One acre foot equals enough water to cover one acre exactly one foot in depth, or 43,560 cubic feet.
- 5. One miner's inch per acre for 100 days equals 3.97 feet deep on the land.
- 6. One miner's inch per acre for 150 days equals 5.95 feet deep on the land.
- 7. Five-eighths miner's inch per acre for 100 days equals 2.48 feet deep on the land.
- 8. Five-eighths miner's inch per acre for 150 days equals 3.72 feet deep on the land.

THE CIPPOLETTI WEIR

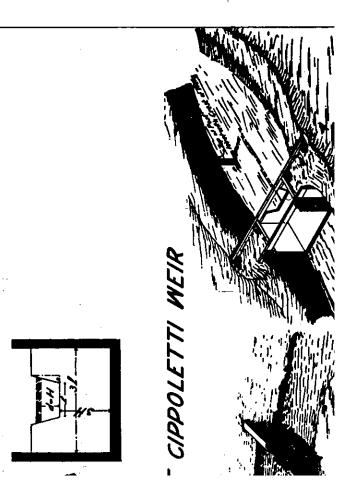
This form of measuring device is illustrated on page 5. It has a thin horizontal crest and thin sides; the weirs notch is wider across the top than at the bottom, the sides having a slope of one inch out to four inches up, or a 1:4 slope.

The essential requirements in setting, and the method of using the weir are as follows:

- 1. It should be set at the lower end of a stilling pool of sufficient length, width and depth to give an even, smooth current with a velocity of approach to the weir of not over one-half foot per second. This pool should be straight and of constant cross section, and the center line should pass through the middle of the weir crest.
- 2. The crest of the weir should be at right angles to the direction of the flow, and the face of the weir should be perpendicular.
- 3. The crest of the weir should be level so that the water passing over it will be of the same depth at all points along the crest.
- 4. The height of the crest above the bottom of the pool should be about three times the depth of the water flowing over it, and the sides of the pool, or box should be a distance from the sides of the crest at least twice the depth of the water passing over it.
- 5. The length of the crest should be at least three times the depth of the water passing over it, and of even feet, or multiples thereof, to conform to the accompanying tables.
- 6. The crest should be placed high enough to retard the flow above the weir to the required velocity; and so that the downstream water surface is far enough below the crest that air

Discharge of Cippoletti Weirs in Cubic Feet per Second
Discharge Computed for head in inches, and length of
crest in inches.

| I.E. | NGTH | OF W | EIR— | INCHES | LEI | GTH (| of WEI | R—IN | CHES |
|--|---|--------------------------------------|--------------------------------------|--|--|------------|----------------------|------------------------------|------------------------------|
| Head in Ins. | 12 | 18 | 24 | 36 | Head in Ins. | 12 | 18 | 24 | 36 |
| 1 11/8 11/4 | .08 .10 .11 | .12 .15 .17 | .16 .19 .23 | .24 .29 .34 | 6 | | 2.07 2.13 2.19 | 2.76 2.84 2.92 | 4.14 4.26 4.38 |
| 1 1/4 1 3/8 1 1/2 1 3/8 1 3/4 1 7/8 | .13 .15 .17 .19 | .22 .25 .28 .31 | .26 .30 .33 .38 .42 | .34 .39 .45 .50 .56 .62 | 7 7 1/8 7 1/4 7 3/8 | ********** | 2.25 | 3.00 3.08 3.16 3.25 | 4.50 4.62 4.74 4.87 |
| 2 | | .34 .38 .41 | .46 .50 .55 | .69 .75 .82 .89 | 7 ½ 7 ½ 7 ½ 7 ¾ 7 ¾ 7 ½ | | | 3.33 3.41 3.50 3.58 | 4.99 5.12 5.24 5.37 |
| 21/8 21/4 23/8 21/2 25/8 23/4 27/8 | .23 .25 .27 .30 .32 .34 .37 | .45 .48 .52 .55 | .59 .64 .69 .74 | .89 .96 1.03 1.11 1.19 | 8 | ********** | | 3.67 3.75 3.84 3.93 | 5.50 5.63 5.76 5.89 |
| 3 | .42 .45 | .63 .67 | .84 .89 .95 | 1.26 1.34 1.42 | 8 1/4 8 1/2 8 1/2 8 3/4 8 3/4 8 3/8 | | | 4.01 4.11 4.19 4.29 | 6.02 6.16 6.29 6.43 |
| 31/4 31/4 31/2 31/2 31/8 31/8 | .47 .50 .53 .56 .59 | .75 .80 .84 .88 | 1.00 1.06 1.12 1.17 | 1.51 1.59 1.68 1.76 | | | | 4.37 | 6.56 6.69 6.84 |
| 3 1/8 4 4 1/8 4 1/4 | .62 .65 .68 .71 | .97 1.02 | 1.24 1.29 1.36 | 1.86 1.94 2.04 | 991/4 991/4 991/4 991/4 991/4 991/8 | | | | 6.98 7.12 7.26 7.40 |
| 4 1/4 4 3/8 4 1/2 4 3/8 4 3/4 | .71 .74 .77 .80 .84 | 1.06 1.11 1.16 1.21 1.26 | 1.42 1.48 1.55 1.61 1.68 | 2.13 2.22 2.32 2.42 2.52 | 9 /8 10 10 /8 10 /4 | ********** | | | 7.54 7.69 7.84 7.97 |



| Month of | Month of 19 | | | | NOTE—Figures to be given in cubic feet per second for 24-hour periods, or 24-hour second feet. Give name of owner of water rights, not tenant. | | | | | | | |
|--------------------------|-------------|-----|--------------------------------|-----|--|-----|------------------|--|------------|--------------------------|------|------|
| Name of Present Owner | Address | No. | Amount Second Feet (cfs) | 1 . | 15 | 3/4 | Reg ⁴ | 13 | 5 / | Acres Culti- vated | Sec. | Twp. |
| Moddle Valley | 8'par | | | | 1.47 | | 0 | 7,5 | 8 | | | |
| allison fewel | | · | | | .40 | | | ,5, | 2 | | | |
| Cambridge Otal | 4 fut Par | _ | | | 129 | | / | 1,3, | / | | | |
| Bocon Valley | 18" par | | | | 1,25 | | /. | 2. | <u> </u> | | | |
| Mildle Fork | 4'ap | | | | 178 | | | 8/ | | | | |
| Haun Otch | 18" par | | | | ,00 | | - (| 00 | | | | |
| TJ Glenn | 18" par | | | | .08 | | | 32 | | | | |
| Os Bon - Groom | 3' cip | | | | .08 | | | 3 / | | | | |
| 1 1 1 | | | | | | | | | | | | |

| Month of | 19 | Right Ident. | NOTE—Figures to be feet per second for 24-24-hour second feet. G of water rights, not ter | given in cubic hour periods, or live name of owner nant. S OF MONTH | , | | |
|------------------------------|--|--------------|---|---|--------------------------|------|-------------|
| Name of Present 6 Owner 6 | 17/5 8 | 9 30 | 11 / 12 - | 543 - 31/ 15 | Acres Culti- vated | Sec. | Twp. |
| Middle Valley | 1.67 | 1.74 | 1.46 | 1.96 | | | |
| allison fewel | .93 | 1.00 | ,65 | .45 | | i | |
| Cambridge Ottet | 1./3 | 1.19 | ,56 | 1.06 | ÷ | | |
| Bocon Valley | 2.00 | 1.04 | .62 | 1,12 | | | |
| Mildle Fork | .79 | ,69 | 1,69 | ,80 | | | |
| Haun Oitch | ,63 | 136 | .40 | .39 | | | |
| T5 Glenn | . 75 | , 89 | ,49 | 1,10 | | | |
| Os Born-Groom | ,00 | .00 | 1,29 | 1.43 | | | |
| | | | 1 ad | | · · | | |

| Month of | 19 | Right Ident. | mount nount (cfs) | NOTE—Figures to feet per second for 24-hour second fee of water rights, not | t. Give name o | f owner | | , , | , | |
|--------------------|-------|-----------------|-------------------|--|----------------|---------|-----|--------------------------|------|------|
| Name of Present 16 | 15 Ca | susta | 20 | 21 3/22 | 23 | 24 | 25 | Acres Culti- vated | Sec. | Twp. |
| Addle Velley | 1.91 | | | 1.01 | | | | _ | | |
| allison fewel | ,43 | | | . 60 |) | | | | | |
| Cambrila Otal | 79 | | | 1.00 | 9 | | | | | |
| Ban U. Oli | 105 | | | 1.00 | | | | | | |
| Them vally | | | | 1000 | | | | 1 | | |
| Mildle Fork | ,85 | | | 175 | | | | | | |
| Haun Oitch | .64 | | | ,80 | | | . 4 | | | |
| T 5 Glenn | 41 | | . ,] | 178 | | | | | | |
| OSR H | 70 | | | 45 | | | | | | |
| 1 1 0 | 10 | | | | | | | | | |

| Month of | | 19 | | Right Ident. | nount ind Feet (cfs) | NOTI feet p 24-ho of wa | E—Figures to be given er second for 24-hour ur second feet. Give no ter rights, not tenant. DAYS OF | <i>i</i> | 3 | | |
|--------------------------|----|----|----|--------------|----------------------------|----------------------------------|---|----------|--------------------------|------|------|
| Name of Present Owner | 26 | 27 | 28 | 29 | 30 | 31 | Total in 24-hour Sec. Feet | REMARKS | Acres Culti- vated | Sec. | Twp. |
| Moddle Valley | | | | | | | | | | · | • |
| allison level | | | | | . ! | | | | • | | |
| (Valson OH) | | | | | | | | | · - | | |
| Camoung Vist. | | | | | | | | | | | |
| Bocon Vally | | | | | | | | | | | |
| Milaletok | | | | | | | | | | | |
| Mary Oth | | | | | | <u> </u> | | | | | |
| Haur Juce | | | | | | | | | : | | |
| T5 Glenn | | | | 1 | ' . | | | | <u>.</u> | | |
| O S Brin - Groom | | | | | | | | | | | |
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| Month of 19 | NOTE feet pe 24-hou of wat Ident. | .—Figures to be given in cubic or second for 24-hour periods, or ir second feet. Give name of owner er rights, not tenant. DAYS OF MONTH | , | | |
|---|-----------------------------------|---|-----------------|------|------|
| Name of Present | DESCRIPTION OF LAND | | Acres Culti- | Sec. | Twp. |
| Owner Subd | vision | | vated | Scc. | Twp. |
| Mildle Valley | | | | | |
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| Socon Valley | | | | | |
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Time of Water Master and Assistants

MONTH OF

| NAMES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
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THE SUBMERGED ORIFICE

This form of measuring device is illustrated on page 19. The submerged orifice may be used where physical conditions or lack of fall in ditch make it impracticable to use a weir. The essential requirements in setting and the methods of using the submerged orifice are as follows:

- 1. The front should be set at right angles to the direction of the flow and in a perpendicular position.
- 2. The orifice opening should be rectangular and have sharp edges. It should have an area of one square foot or 144 square inches, or an easy multiple thereof, to conform to standard discharge tables.
- 3. The depth of submergence (the distance from the water surface to the top of the orifice opening) should not be less than the height of the orifice opening, and more is desirable.
- 4. The bottom of the orifice opening should be not less than the height of the orifice opening above the grade of the ditch—to prevent silt from obstructing the opening.
- 5. With the orifice two gages are required, indicating the level of water on each side of the orifice opening. The difference between these two elevations is called the effective head, which should not be less than one inch.
- 6. Care should be taken at all times to see that the submerged opening is not obstructed by trash or silt.