

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF WATER RIGHTS

PT EXHIBIT 12

REPORT OF INSPECTION

Filing Data

APPLICATION: 15679 FILING DATE: Jan 11, 1954

NAME : Masonite Corporation  
ADDRESS : 300 Ford Road, Ukiah, CA 95482  
SOURCE : Russian River Underflow  
PT. OF DIV. : Three points within NW¼ of SW¼ of Sec 9, T15N, COUNTY: Mendocino  
AMOUNT : 5.9 cfs R12W, MDB&M  
PURPOSE : Industrial  
SEASON : Jan 1 to Dec 31

LICENSE PERMIT NO. : 5763 DATE ISSUED: June 30, 1959 EXPIRES:

Date of Inspection July 29, 1985 Inspected by Anthony Caruso  
Accompanied by Ed Henderson, Plant Engineer  
Persons interviewed Ed Henderson  
Reason for inspection Verification of compliance with license terms and conditions

Recommendation SEE ADDENDUM

License  Extension  to 19\_\_\_\_ No action  Revoke

Changes or corrections None   
(Indicate by an "X" the items that need change from permit or license and show correctly below)  
Owner  Address  Amount  Season  Purpose  Point of diversion  Place of use

Remarks (Explain basis for recommendation) See Addendum

Source

Name Russian River Underflow Who measures flow? USGS  
Tributary to Pacific Ocean Is supply natural flow? \_\_\_\_\_  
From (direction) East Estimated minimum flow \_\_\_\_\_  
During what portion of year does minimum flow occur? Summer  
Measured or estimated flow at time of inspection \_\_\_\_\_

Diversion System

Is point of diversion at location specified in permit, license, or order? Yes, in part  
If not, when will petition be submitted? \_\_\_\_\_  
If diversion point has been moved, roughly describe present location with respect to authorized location Well No. 4 has been abandoned  
Would change cause any injury? No  
Is diversion by gravity or pumping? Pumping  
Is diversion system complete? Yes If not, briefly explain what remains to be done \_\_\_\_\_  
If not complete, does it appear to have been pursued with reasonable diligence? \_\_\_\_\_  
What is the capacity of the limiting section? 2700 gpm How determined? By tests in 1959  
Explain briefly manner of determining above capacity See Staff report dated 1959

*See*  
3/18/86

### Place of Use

Name of place of use (if there is one in local usage) Masonite Plant, Ukiah

Briefly describe any changes from place of use as described in license or order None

Is petition required? If so, indicate when it will be submitted

Does licensee own or control all of the land covered under license?

### Use of Water

Briefly describe method of applying water to each of the uses described in license See Addendum

Does season of use conform to season shown on license? If different, describe

List approximate acreage of each individual crop served in each of the past three seasons (If use is other than irrigation list applicable units served or if storage is involved state whether or not reservoir filled each year and give approximate withdrawal)

Give approximate rate of use during maximum period and briefly describe manner of computing same See Addendum

If rate of use is less than amount shown in license, state reason for reduction in use and whether or not it will be the normal situation in the future See Addendum

ADDENDUMCOMMENTS

The project covered by Application 15679, License 5763, the Masonites Corporation plant in Ukiah, was inspected by Anthony Caruso on July 29, 1985.

The purpose of the inspection was to verify that the use of water is in conformance with the terms and conditions of the license. Mr. Ed Henderson, plant engineer, was present.

At the time the license was issued water was diverted from Russian River underflow via three offset wells, well N. 3, Well No. 4, and well No. 5, each of which is described as a separate point of diversion. Since then Well No. 4 has been abandoned and Russian River underflow is taken only via Well No. 3 and Well No. 5. Furthermore, an additional deep well (there were two at the time of licensing), situated about 1500 feet from the river, has been drilled and supplies water to the plant from ground water.

Also a water treatment facility has been installed which allows re-use of water originally pumped from the river and ground water.

It appears that the abandonment of Well No. 4 (Russian River underflow), the increased diversion from ground water and the treatment and re-use of water has resulted in a reduction of water diverted under the license. Since water diverted from the river is commingled with water pumped from groundwater, presently it is not possible to determine the magnitude of the river diversion. Consequently Mr. Henderson was informed that a flow measuring device would be required to be reinstalled (a Hays-Penn flowmeter of the orifice type was installed at the time of licensing but has since been removed) in the main conveyance line so that the river diversion can be monitored and the data provided to the Board with the licensee reports. Mr. Henderson commented that a meter would be in place within the next 90 days.

The place of use, purpose of use and season of use are generally as stated in the license.

RECOMMENDATION

The license should be amended by deleting the point of diversion pertaining to Well No. 4.

It is anticipated that flow records will indicate a reduction in diversion from the Russian River. To the extent that the reduction is due to increased

ground water extraction, the license amount should be reduced. The reduction in river diversion resulting from recycling of water is considered a beneficial use under Section 1010 of the Water Code and does not reduce the water right.

In order to accurately determine the amount of water diverted under the license the following data is required:

- a - Amount of water presently diverted from the river (Rp)
- b - Amount of water pumped from well (w)
- c - Amount of water recycled (re-used) (Tf)

A proposed model follows:

Water presently diverted from the river (Rp) is combined with water pumped from wells (w) and is delivered to the plant for various uses. Some water is consumed (c) and some leaves the plant for treatment (Ti). Most of the treated water is reusable (+F) but some is discharged (d) as unusable.

Given the above premise the amount of water used under the license (R1) is approximately equal to the total water used less the water pumped from wells less the recycled water attributed to well water. The mathematical expression of this premise is:

$$(1) \quad R1 = Rp + W + Tf - W - \left( \frac{W}{Rp + W} \right) Tf$$

An equivalent form of the above equation is:

$$(2) \quad R1 = Rp + \left( \frac{Rp}{-Rp + W} \right) Tf$$

The above equation states the license amount (R1) is equal to the present river diversion (Rp) plus the portion of recycled water attributed to the present river diversion  $\left( \frac{Rp}{-Rp + W} \right) Tf$ . Equation 2 can be solved directly but the solution would only be approximate in that the portion of recycled water attributed to the river diversion should be correlated to R1 rather than Rp as follow:

$$(3) \quad Rl = Rp + \left( \frac{Rl}{Rl + W} \right) Tf$$

An exact solution of Equation (3) for Rl requires a level of mathematics beyond the scope of this report. A more practical approach would be an iterative trial and error solution using a computer.

The solution procedure is as follows:

- 1) Assume a value for the license amount (Rl) greater than Rp.
- 2) Substitute into Equation (3) and solve for Rl.
- 3) Plot Rl (Solved) Versos Rl (Assumed) until a defined curve evaluates which crosses a line emanating from the origin having a slope equal to 1.
- 4) The point of intersection satisfied the equation and a solution is obtained.

In conclusion, the licensee should be contacted and asked to provide the following data for one year:

- a) The amount of water presently diverted from the Russian River. The arifice and recorder installation will provide this data.
- b) The amount of water pumped from ground water (all wells). Electric energy records and pump tests will provide this data.
- c) The amount of water that is treated and recycled. Treatment plant records will provide this data.