

BEFORE THE WATER RESOURCES DIRECTOR OF OREGON

MARION COUNTY

IN THE MATTER OF APPLICATION FOR )  
 EXTENSION OF TIME IN WHICH TO )  
 COMPLETE CONSTRUCTION WORK AND/OR ) ORDER  
 MAKE COMPLETE APPLICATION OF WATER )  
 UNDER CERTAIN PERMITS )

The owners of the following water permits issued by the Water Resources Director have submitted applications for extensions of time limits within which to complete the construction work and/or make complete application of water to beneficial use under their respective permits.

The Water Resources Director is authorized under the provisions of ORS 537.230 to grant extensions of time for good cause shown, within which to complete work to perfect a water right under a permit;

The statements in the applications for extensions filed regarding completion of the projects indicate that each has shown such reasonable diligence as entitles them to an extension of time; and

No protest or objections to the granting of an extension under any of the following permits have been filed by any subsequent permit holders;

NOW, THEREFORE, it is hereby is ORDERED that extensions of time are granted as follows:

<u>PERMITTEE</u>	<u>APPL. NUMBER</u>	<u>PERMIT NUMBER</u>	<u>BASIN NUMBER</u>	<u>NEW TIME LIMITS TO:</u>	
				<u>COMPLETE CONST.</u>	<u>APPLY WATER</u>

PERMITS TO USE GROUNDWATER:

ROCKWOOD WATER DISTRICT	G-7217	G-6639	3	10-1-97	10-1-97
ROCKWOOD WATER DISTRICT	G-8585	G-8719	3	10-1-97	10-1-97
HAROLD A. BROWN	G-10366	G-9974	13	10-1-93	
HAROLD A. BROWN	G-11234	G-10326	13	10-1-93	
WALTER HULDEN & DARRELL HANAN	G-10385	G-9579	6	10-1-93	10-1-93

PERMITS TO USE SURFACE WATER:

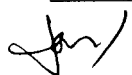
GRAND RONDE DOMESTIC WATER ASSOCIATION	52769	41436	2	10-1-97	10-1-97
GRAND RONDE DOMESTIC WATER ASSOCIATION	52770	41437	2	10-1-97	10-1-97
WALTER MCEWEN	64734	47505	11		10-1-93
EDWARD G. & MARILYN G. LIVINGSTON	69108	50234	14		10-1-92
EDWARD G. & MARILYN G. LIVINGSTON	69108	50234	14		10-1-93
KIRPAL LIGHT SATSANG	69263	50121	16		10-1-93
FISCHER RANCH	69527	50666	6		10-1-93
RUSSELL S. FRASER	69550	50529	17	10-1-93	10-1-93

TRANSFERS

GRAND RONDE COMMUNITY		
WATER ASSOCIATION T-3379	2	10-1-97
CIRCLE BAR RANCH T-6226	10	10-1-93
JEANNINE BETTENCOURT T-6427	10	10-1-93
CITY OF WASCO T-6472	5	10-1-97
CITY OF WILLAMINA T-6752	2	10-1-97

Dated at Salem, Oregon this 23 day of September, 1993.

  
A. REED MARBUY

  
Martha O. Pagel  
Director

BEFORE THE WATER RESOURCES DEPARTMENT OF OREGON

IN THE MATTER OF THE VIOLATION OF ) CP 93-3  
ORS 537.747(7) AND OAR 690-220-030 ) FINAL ORDER  
BY OTTO KELLER, LIC. #462, )  
)  
RESPONDENT. )  
\_\_\_\_\_ )

On review of the record made at the hearing held in the above-captioned matter on August 25, 1993, a Proposed Order was issued on September 20, 1993. Respondent notified the Department by telephone on September 24, 1993, that he did not intend to file exceptions to the proposed order and wished to waive the 30-day period for filing exceptions. Respondent further requested that the Department issue the Final Order so that the 45-day license suspension would begin. By respondent's signature on this Order, Respondent waives the 30-day period for filing exceptions and this Final Order is now issued.

STATEMENT

This enforcement action was initiated based on the alleged well construction violations by Respondent Otto Keller, dba Keller Well Drilling, relating to the misconstruction and improper partial abandonment between December 28, 1992 and January 23, 1993 of a well drilled for Michael Conner on the Conner property located at 33726 SE Wildcat Road, Eagle Creek, Oregon in Section 4, T3S, R4E, W.M, in Clackamas County, Oregon.

Notice of Intent to assess civil penalties and opportunity to request hearing was served on Otto Keller on May 10, 1993. The Notice set out the following charges:

1 violation of ORS 537.747(7), for material misstatement of fact on the well log submitted by Otto Keller for the Conner well; and

1 violation of OAR 690-220-030 for improper construction or partial abandonment of the Conner well by filling the bore hole below 97 feet with sand, a permeable material improper for abandonment or construction, and 3/4-inch bentonite chip, an improper material for either abandonment or construction unless approved by the Department on a request for special construction standards prior to placement.

For the violations charged, the Department proposed to:

1. Require repair or abandonment of the well in a manner consistent with the Commission's Minimum Well Construction Standards in OAR Chapter 690 Division 220 under the supervision of Department personnel;

2. Assess civil penalties of \$500 for violation of OAR 690-220-030 (improper abandonment) and \$500 for violation of ORS 537.747(7) (material misstatement of fact on well construction report); and

3. Suspend Otto Keller's well constructor's license #462 for a minimum of 90 days.

On May 13, 1993, Otto Keller submitted a letter admitting the violation of ORS 537.747(7) and acknowledging the potential for assessment of up to \$1,000 in civil penalties, but challenging the charged violation of OAR 690-220-030, asserting that the well was not improperly constructed or abandoned and that the well did not meet the definition of abandonment as the upper 97' feet had a pump and was being used as a domestic well.

On May 19, 1993, Otto Keller filed a request for hearing, to which was attached a copy of his May 13, 1993 letter reciting his grounds for disagreement with the Department's enforcement action regarding the charged violation of OAR 690-220-030. In the request for hearing, Otto Keller stated that he did not agree with the Department's procedures for repair of the Conner well and questioned whether any repair is necessary.

In the May 13, 1993 letter accompanying the request for hearing, Otto Keller asserted that he did not believe the well was improperly constructed or abandoned, that he did not agree that OAR 690-220-030 was violated or that "backfilling" the bottom 253 feet of the borehole with sand can be considered abandonment as the upper 97 feet of the well has a pump in it and is being utilized for domestic purposes and there is no vertical movement of water in the well, and that the procedure he used in "backfilling" was superior to the method directed by the Department's NW Region Well Inspector. In support of his assertions Otto Keller submitted a well log from another well not involved in this proceeding.

Otto Keller stated further in the materials submitted in support of his request for hearing that he admitted to violation of ORS 537.747(7) in that he made a misstatement on the Conner well log by reporting placement of cement grout rather than sand and 3/4" bentonite chips in the bottom 253 feet of the borehole.

Pursuant to Notice of Hearing served on Otto Keller on June 18, 1993, the matter came on for hearing before Weisha Mize, Administrative Law Judge, on August 25, 1993, at the offices of the Water Resources Department in Salem, Oregon.

Testifying as witnesses for the Department were Richard Edwards, Tom Paul and Rob Carter. Testifying as witnesses for Otto Keller were Mr. Keller and Rick Wallaert. The entirety of the Department's files relating to this matter were entered into the record.

### Findings of Fact

1. Otto Keller stipulated on the record to his violation of ORS 547.747(7) and to the proposed penalty for that violation.
2. Otto Keller placed sand in the borehole of the Conner well from the bottom of the borehole at 350 feet below land surface to between 110 and 100 feet below land surface.
3. Otto Keller placed 3/4-inch bentonite chips on top of the sand to 97 feet below land surface.
4. Water was first encountered at 40 feet below land surface, within the water-bearing zone composed of cemented gravel extending from 24 to 65 feet below land surface.
5. The static water level rose to and remained at 35 feet below land surface, indicating that the well was artesian.
6. The next geologic layer encountered below the water-bearing zone was composed of blue clay, a permeable, minimally transmissive unconsolidated material, extending from 65 to 241 feet below land surface.
7. Hard brown shale was reported on the well report from between 241 and the bottom of the borehole at 350 feet. Hard brown shale is considered a consolidated formation but can, if fractured, yield water.
8. Hard brown shale is similar in appearance to hard brown clay. Hard brown clay is considered an unconsolidated formation.
9. A second water-bearing zone of indeterminate transmissivity and bearing a limited amount of water was encountered between 241 and 300 feet within the hard brown shale layer. This zone produced water at a rate of 2 gallons per minute for approximately one hour, after which the flow ceased or, from all appearances, disappeared.
10. Testimony was contradictory on whether water was also encountered at the 180-foot level in the blue clay as well as in the 241-300 feet level in the shale layer, or whether water was only encountered in the 241-300-foot level.
11. It is probable that the water encountered in this lower shale zone, as evidenced by its flow characteristics, was water collected in a pocket-type formation within the shale. It is likely that the shale represents a larger water-bearing formation of quite low yield and transmissivity.
12. Other well reports for wells drilled in the area of the Conner well also report encountering small amounts of water at the 241-300 foot depth.

13. The well was cased down to 97 feet below land surface. The casing was landed on the sand and bentonite chips and a proper cement seal was placed from land surface down to 30 feet. A pump placed in the well draws water from the water-bearing zone between 24 and 65 feet.

14. The water in the upper water-bearing zone is contaminated by total coliform and iron bacteria. The local well-drilling community generally considers this entire aquifer to be contaminated.

15. Total coliform would enter the aquifer by surface water entering the aquifer, via general percolation or by way of improperly constructed and sealed wells and by improperly abandoned wells. The original source of contamination is unknown but cannot be attributed to this well, as the reports of contamination precede the drilling of this well.

16. It is common practice in the well-drilling profession to drill some distance below the first water-bearing zone encountered in search of a more productive water-bearing zone. Where no further or better water-bearing zones are encountered below the initial zone, it is also common and allowable practice to "backfill" the lower, unproductive portion of the borehole with an impermeable material.

17. Impermeable materials allowed for backfilling under the minimum well construction standards are cement grout, or bentonite slurry if requested and approved as a special standard.

18. Where four different geologic units are penetrated, the second of which is clearly water-bearing, the third permeable and the last demonstrating some water-bearing capacity transmissivity, there is a potential for intermingling of water between the different zones. The requirement to use impermeable materials in backfilling is designed to minimize or eliminate that potential.

19. Sand is highly permeable and transmissive and provides no barrier to commingling of waters between different aquifers, to vertical movement of water in the wellbore, or to entry of surface water into any water-bearing zone in which the sand is placed.

20. Under the minimum well construction standards, sand is not a permissible construction, abandonment or backfill material under any circumstance.

21. Use of 3/4" bentonite chips is not an allowable material for placement in construction or abandonment of any production well unless special well construction standards have been requested and authorized by the Department.

22. No special standard for the use of 3/4" bentonite chips in this well was made by Otto Keller or approved by the Department.

23. Abandonment is defined in OAR 690-22-030 as removing a well from service by completely filling it in such a manner that vertical movement of water within the well bore and in the annular space surrounding the well casing is effectively and permanently prevented.

24. The only allowable abandonment material under the minimum well abandonment standards is cement grout, an impermeable material.

25. Where only the lower portion of the borehole has been taken out of service by backfilling, it is the policy and practice of the Department to consider the lower portion of the borehole as being permanently abandoned and removed from service.

26. Partial abandonment, or abandonment of the lower portion of the borehole, does not preclude the remaining upper portion of the borehole from being remaining in service.

27. The facts regarding the water-bearing zones encountered, the depth of casing, the manner of sealing and placement of the sand and bentonite in the bottom 253 feet of the borehole lead to the reasonable inference that there was no intent to utilize any water-bearing zone below that encountered at between 24 and 65 feet and that the bottom 253 feet of the borehole was removed from actual or possible service.

28. Given that Otto Keller reported use of cement grout as a backfill material, rather than sand and 3/4" bentonite chips, it is reasonable to infer that Otto Keller was aware that sand and 3/4" bentonite chips were not allowable backfill materials under the minimum well construction and abandonment standards.

#### CONCLUSIONS OF LAW

1. Backfilling the bottom of the wellbore with an impermeable material constitutes permanent abandonment of the portion of the wellbore so filled.

2. The bottom 253 feet of the wellbore was permanently abandoned in a manner inconsistent with the minimum well abandonment standards in OAR 690-220-030.

3. Under the minimum well construction and abandonment standards, it is unnecessary for vertical movement within the borehole to actually occur before a violation of OAR 690-220-030 will be found.

4. It is the use of improper, disallowed abandonment materials, rather than the occurrence of an event that the rules are designed to prevent, which constitutes the violation of OAR 690-220-030.

5. Otto Keller's placement of sand and 3/4" bentonite in the bottom 253 feet of the borehole of the Conner well is a violation of OAR 690-220-030.

6. As stipulated, Otto Keller's reporting of placement of cement grout in the bottom of the borehole was untrue and was a violation of ORS 537.747(7).

FINAL ORDER

NOW, THEREFORE, it is ORDERED civil penalties in the amount of \$500.00 are assessed against Respondent Otto Keller for failure to properly abandon a well in violation of OAR 690-220-030.

It is FURTHER ORDERED that civil penalties in the amount of \$500.00 are assessed against Respondent Otto Keller for making a material misstatement of fact on a well report in violation of ORS 537.747(7).

It is FURTHER ORDERED that the well drilled for Michael Conner by Respondent Otto Keller is to be repaired or properly abandoned by Otto Keller in accordance with the minimum well construction, repair and abandonment standards in OAR Ch. 690 Divisions 210 - 220, under the direct supervision of and in a manner approved in advance by the Department, within 10 days from the date of the Final Order in this matter. Two days advance notice must be provided to the Department before repair or abandonment is initiated.

It is FURTHER ORDERED that Respondent Otto Keller's Well Constructor's license #462, expiration date 6/30/98, shall be suspended for a minimum period of 45 days from the date of the Final Order in this matter, or until such time as the requirements of this Order are satisfied, whichever is longer.

It is FURTHER ORDERED that the civil penalties are due and payable as of the date of the Final Order. Failure to pay the penalty assessed within 10 days of the date of the Final Order may result in the filing of the Order with the Clackamas County Clerk, or the clerk of any other county in Oregon, to be recorded in the County Clerk Lien Record, with the circuit court for further enforcement and collection, or referral for collection to the Oregon Department of Revenue.

Signed and Placed in the U.S. Mail this 30<sup>th</sup> day of September, 1993.



WEISHA MIZE  
Administrative Law Judge

I have reviewed the Final Order. By my signature hereunto affixed, I waive the time for filing of exceptions and consent to the issuance of this Final Order on this date. A copy of the Final Order with my signature has been provided to me.

  
\_\_\_\_\_  
OTTO KELLER, Lic. #462

9/29/93  
\_\_\_\_\_  
Date



**NOTICE:** You are entitled to judicial review of this Order. Judicial review may be obtained by filing a petition for review within 60 days from the date of service (date of mailing) of this Order. Judicial review is pursuant to the provisions of ORS 536.075.

CP 93-3 Final Order

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