

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION  
PROOF OF APPROPRIATION  
OF WATER

Surface Water

Ground Water

547-4017

PRIORITY DATE FEB. 3, 1985	APPLICATION NUMBER 63-27940	PERMIT NUMBER 63-27940P	CERTIFICATE NUMBER
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NAME **PETERSEN LAND & LIVESTOCK**

ADDRESS (STREET) **1995 SO. HANSON LOOP** (CITY) **PASCO** (STATE) **WA** (ZIP CODE) **99301**

PUBLIC WATERS APPROPRIATED

SOURCE **A WELL**

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 1200	MAXIMUM ACRE-FEET PER YEAR 744
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QUANTITY, TYPE OF USE, PERIOD OF USE  
**same as permit less domestic supply.**

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL  
**same as permit**

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) <b>W/2 NW/4</b>	SECTION <b>14</b>	TOWNSHIP N. <b>7</b>	RANGE (E. OR W.) W.M. <b>31 E</b>	W.R.I.A. <b>32</b>	COUNTY <b>WV</b>
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS USED

**same as permit**

**- Well Log ATTACHED**

**10-3-86**

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION  
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE <b>February 9, 1985</b>	APPLICATION NUMBER <b>G3-27940</b>	PERMIT NUMBER	CERTIFICATE NUMBER
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NAME <b>PETERSEN LAND &amp; LIVESTOCK</b>			
ADDRESS (STREET) <b>1995 S. Hanson Loop</b>	(CITY) <b>Pasco</b>	(STATE) <b>Washington</b>	(ZIP CODE) <b>99301</b>

PUBLIC WATERS TO BE APPROPRIATED

SOURCE <b>a well</b>
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE <b>2000</b>	MAXIMUM ACRE-FEET PER YEAR <b>746</b>
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QUANTITY, TYPE OF USE, PERIOD OF USE  
**2000 gallons per minute, 744 acre feet per year, from January 1 to December 31, each year, for the irrigation of 160 acres; 10 gallons per minute, 2 acre feet per year, continuously, for domestic supply.**

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL  
**500 feet north and 150 feet east from the W $\frac{1}{2}$  corner of Sec. 14**

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) <b>W<math>\frac{1}{2}</math>NW<math>\frac{1}{4}</math></b>	SECTION <b>14</b>	TOWNSHIP N. <b>7</b>	RANGE, (E. OR W.) W.M. <b>31 E</b>	W.R.I.A. <b>32</b>	COUNTY <b>Walla Walla</b>
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

**NW $\frac{1}{4}$  of Sec. 14, T. 7 N., R. 31 E.W.M.**

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DESCRIPTION OF PROPOSED WORKS

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Pump, pipeline and sprinklers.

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DEVELOPMENT SCHEDULE

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BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Started	April 1, 1987	April 1, 1988

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REPORT

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**BACKGROUND**

An application to appropriate public ground water was submitted by Petersen Land & Livestock to the Department of Ecology on February 9, 1985. The application was accepted and assigned Ground Water Application No. G3-27940. The applicant proposes to withdraw water from a well in the amount of 2000 gallons per minute for the irrigation of 160 acres and domestic supply. The proposed point of withdrawal is to be located within the W $\frac{1}{2}$ NW $\frac{1}{4}$  of Sec. 14, T. 7 N., R. 31 E.W.M.

A notice of application was duly published in accordance with RCW 90.03.280; no protests or objections were received. A letter of concern was received from the Wallula Water District.

This application is categorically exempt from the provisions of the State Environmental Policy Act (SEPA) of 1971, Chapter 43.21C RCW. A permit issued under this application would be classified as a Family Farm Permit under the Family Farm Water Act of 1977, Chapter 90.66 RCW.

**INVESTIGATION**

The field examination was made by Harold Hanson on May 8, 1985. The project is located north and adjacent to Wallula, Washington.

There are no irrigation water rights appurtenant to the proposed place of use.

The applicant intends to install a 125 H.P. pump and solid set irrigation system.

The well is to be located more than 1000 feet east of the McNary Pool. Applying the present guide lines to determine if the proposed withdrawal is in significant hydraulic continuity with the McNary Pool and finds that because of the distance separating the well from the pool the hydraulic continuity is considered not to be significant. Therefore, the withdrawal will not be subjected to the Columbia River Instream Protection Program.

Wells in this area generally range in depth from 50 to 150 feet in depth and obtain their water from the gravel and sand aquifer. The specific capacity of the wells range from 30 to 100 gallons per minute per foot of drawdown and generally is directly related to the type of well construction techniques used by the driller.

On July 25, 1985, a letter of concern was received from the Wallula Water District. The district is concerned about the recent withdrawals from the ground water source which is used by them for their municipal water supply.

The district appropriates water under authority of Ground Water Certificate No. G3-23227C. This right is for 450 gallons per minute for a municipal and manufacturing water supply from two (2) wells. The right is conditioned in a manner which limits the withdrawal of ground water under Ground Water Certificate No.s 2613-A, 1822-A and G3-23227C to 450 gallons per minute, 730 acre feet per year.

There are four (4) irrigation wells located between 1500 and 3000 feet from the district's wells. These wells have been in operation since the mid 1970's, about 10 years. They are pumped at a rate of 500 to 800 gallons per minute and there has been no known affect upon the districts wells. There are two (2) wells south of Wallula in Sec. 23. These wells were drilled in 1984. They were test pumped and developed at variable withdrawal rates which ranged from 1000 to 2000 gallons per minute. These tests indicate that the specific capacity of the wells was related to the types of material in the immediate vicinity of the wells as these materials dictated the size of the screen and therefore the ability of the wells to produce water.

A review of the well construction reports indicates that the water bearing material is composed of sand, silt and gravel, which overlies a basalt formation. All of the water withdrawn in the Wallula area comes from this unconfined aquifer. The water levels within this unconfined aquifer are maintained and supported by the water stored in Lake Wallula. Water levels in wells constructed prior to the establishment of Lake Wallula were 20 to 30 feet lower than they are at the present time. The ground water level in the area of Wallula is maintained at an elevation of approximately 346 feet above mean sea level which is about the same elevation as Wallula Lake. Because Wallula Lake may fluctuate about 10 feet each year, it would be expected that the ground water level could fluctuate about the same amount.

In view of the very high specific capacity that can be obtained from wells constructed into the unconfined aquifer it is apparent that the transmissivity is very high, on the order of 100,000 gallons per day per foot or more, and the storage is probably very close to .2 and almost certain to be in the range of .1 to .3.

All of the test data that are available was obtained to specifically size the pumps that are set in the wells and is not generally representative of the aquifer parameters. However, using a rule of thumb and the specific capacity of the wells a conservative estimate of the aquifer transmissivity is 100,000 gallons per day per foot and a storage coefficient of .2. The maximum drawdown as a result of this proposed withdrawal at the districts well, would be one foot.

The water levels in the districts wells could not be measured with either an electric tape or steel tape. Well No. 1 is equipped with an air line and pressure gage. The pressure gage appears to be inoperative as it registers a constant 40 PSI and the length of the airline is unknown and could not be established by questioning a member of the water district board that was present. On July 30, 1985, the air line was pressurized (charged) to a pressure of 80 PSI which indicated a differential pressure of 40 PSI. If it can be assumed that the air line is submerged in the well to the same depth as the pump, then there was 92 feet of water over the pump which, based upon the specific capacity of other wells in the aquifer, would be more than sufficient for the 450 gallons per minute that the district has a water right for.

Washington State University Agriculture Department Circular No. 512 is used as a guide for determining seasonal amounts of irrigation water by geographic location. These amounts are calculated on a 70% system efficiency from the two year frequency table and for maximum irrigation water requirement. Based upon data in this circular a maximum water duty for this area is 55.8 inches per acre, for an annual allotment of 744 acre feet for domestic use and irrigation of 160 acres. Two (2) acre feet per year is adequate for a single domestic supply.

#### CONCLUSIONS AND RECOMMENDATIONS

It is the conclusion of this examiner that: public ground water is available for appropriation for a beneficial use; that irrigation is a beneficial use; that the appropriation of such water will not impair existing rights or be detrimental to the public welfare.

It is recommended that this application for a public ground water permit be approved in the amount of 1990 gallons per minute, 744 acre feet per year, for the irrigation of 160 acres and 10 gallons per minute, 2 acre feet per year, continuously, for single domestic supply, subject to the following provisions:

"The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required for the actual crop grown on the number of acres and the place of use specified."

"This authorization to make use of public waters of the state is subject to existing rights, including any existing rights held by the United States for the benefit of Indians under treaty or otherwise."

"A certificate of water right will not be issued until a final examination is made."

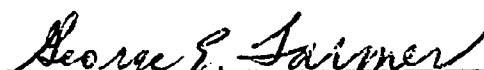
"Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An airline and gage may be installed in addition to the access port."

"All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells)."

"A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well in addition to any pump test data shall be submitted as it is obtained."

"That portion of this authorization relating to irrigation is classified as a Family Farm Permit in accordance with Chapter 90.66 RCW (Initiative Measure No. 59). This means the land being irrigated under this authorization shall comply with the following definition: Family Farm - a geographic area including not more than 2,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 2,000 acres of irrigated agricultural lands in the State of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm."

Signed at Spokane, Washington  
this 29th day of January, 1986

  
GEORGE E. FARMER, DISTRICT SUPERVISOR  
Resource Management Division  
Department of Ecology