

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 283, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE February 13, 1989	APPLICATION NUMBER G2-27492	PERMIT NUMBER	CERTIFICATE NUMBER
NAME Pope Resources			
ADDRESS (STREET) 781 Walker Way	(CITY) Port Ludlow	(STATE) Washington	(ZIP CODE) 98365

PUBLIC WATERS TO BE APPROPRIATED

SOURCE Well No. 14 (AAB 867) well #16		
TRIBUTARY OF (IF SURFACE WATERS)		
MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 300	MAXIMUM ACRE-FEET PER YEAR 161 Supplemental
QUANTITY, TYPE OF USE, PERIOD OF USE 161 acre-feet per year Supplemental	Community domestic supply Supplemental to existing rights for 1414 services plus other water uses as listed in the report of exam	As needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL
400 feet west and 450 feet north of the southeast corner of Section 21.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) SE $\frac{1}{4}$ SE $\frac{1}{4}$	SECTION 21	TOWNSHIP N. 28	RANGE, (E. OR W.) W.M. 1E	W.R.I.A. 17	COUNTY Jefferson
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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

Area served by the Ludlow Water Company. All within Sec. 8, 9, 16, 17, 20 and 21 of T. 28 N., R 1 E.W.M in Jefferson County.

Well #16 added
through
Showing of Compliance
received 9-23-2005
MP

DESCRIPTION OF PROPOSED WORKS

Well No. 14: 8-inch x 526 feet. The well will fill a 200,000 gallon storage tank and distribute through 8-inch mains.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Started	August 1, 1991	August 1, 1992

REPORT

BACKGROUND:

The priority date of this application is February 13, 1989. On that date Pope Resources of Port Ludlow, Washington, filed for a permit under the provisions of Chapters 90.03 and 90.44, Revised Code of Washington (RCW), to appropriate public ground water from a well in the amount of 300 gallons per minute (gpm) for community domestic supply.

A legal notice of the applicant's proposed appropriation was prepared by staff and mailed to the applicant with publication instructions. Public notice was published on March 29 and April 5, 1989, and appeared in the "Port Townsend/Jefferson County Leader" newspaper. No formal objections were received as a result of the public notice. However, concerns about seawater intrusion, as a result of pumping this well, have been informally expressed by the water commissioners for the Jefferson Co. Water District No. 1 well.

INVESTIGATIONS:

I conducted a field examination of this project on April 26, 1990. The applicant was not present during the site visit.

Previous water rights exist for several other wells which are part of the water system serving the Port Ludlow community. The water right history is as follows.

Well No. 2, water right No. G2-00194, is for 150 gpm and 120 acre-feet per year.

Well No. 3, water right No. G2-00193, is for 110 gpm and 88 acre-feet per year.

Well No. 4a, water right No. G2-21542, is for 23 gpm and 30 acre-feet per year.

Well No. 9, water right No. G2-21543, is for 46 gpm and 70 acre-feet per year.

Well No. 4N, water right No. G2-25627, is for 150 gpm and 122 acre-feet per year.

Well No. 1, water right No. G2-25627, was for 50 gpm and 5 acre-feet but was CANCELLED January 13, 1986.

Well No. 12, water right No. G2-25817, was for 180 gpm and 30 acre-feet, but was CANCELLED January 13, 1986.

Well No. 13, water right No. G2-25816, is for 175 gpm and 35 acre-feet per year primary supply and 45 acre-feet per year supplemental to existing rights.

Surface water right No. S2-00926 is for diversion of 1.2 cubic feet per second and 308 acre-feet for irrigation of a golf course during the irrigation season of May 1 to October 1. This surface water right is not related to the other wells for domestic supply.

The current certificates allow for a total of 654 gpm and 465 acre-feet per year for domestic supply which is enough to supply 1384 services when calculated at 300 gallons per day per service.

Well No. 14, water right No. G2-27492, is the well in question under this application.

The project site is located two miles southeast of Port Ludlow, Washington. The Hood canal is approximately 5150 feet to the east with Paradise View Estates housing community along the shore. Land immediately around the site is undeveloped. Jefferson County maintains a well for the Paradise View Estates that is Approximately 4200 feet away.

Well site No. 14 is on top of a hill with a land elevation of 440 feet above sea level. The well in question (well No. 14) is completed to a depth of 87 feet below sea level. The top of the well screens are 67.6 feet below sea

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level, and when pumping well No. 14 at 300 gallons per minute, a pumping water level of about 19 feet below sea level is achieved.

The well nearest to well No. 14 on this system is well No. 13 which is approximately 790 feet away. Well No. 13 was completed to a depth 66 feet below sea level.

The results of a 7-day aquifer test show that Wells 13 and 14 are definitely pulling from the same source and interfere with one another. During that aquifer test well 13 was pumped at a rate of 135 gpm. At the end of the test, well 14 experienced a draw down of 0.38 feet. From an evaluation of the area geology, well logs, and the use of determination methods described in Groundwater Pumping Tests, W.C. Walton, 1987; I find that the Jefferson County well to the southeast is also located in the same aquifer as wells 13 and 14. If well 14 is pumped at 300 gpm over a six month period the Jefferson County well will experience a drawdown of approximately one foot.

Because of the depth, amount of water to be withdrawn, and proximity of Well 14 to sea water and other wells, I am concerned about sea water intrusion, especially in the Jefferson County well.

To reduce the impact of sea water intrusion I recommend this well and the Jefferson County well be tested for chloride concentration once every three months. If the chloride concentration exceeds 125 mg/l in either well, the withdrawal rate must be reduced to lower the chloride level to below 125 mg/l.

To predict the amount of water needed on a yearly basis for the community of Port Ludlow I used both established figures used by Ecology, and actual levels as described on pages 12-18 in the "Water System Plan for Ludlow Water Company" by Klohn Leonoff Inc., to determine yearly maximum water quantities. The following table is the average daily water requirements for Port Ludlow through the year 1998.

USE	NUMBERS AND RATES	GALLONS PER DAY
Single/Multi family houses	1414 x 200 gpd	282,800
Rental Condos	64 x 150 gpd	9,600
Harbor Master Rest.	3 x 290 seats x 12 gpd	10,440
Golf Club and Pro Shop	3 x 60 seats x 12 gpd 10 employees x 15 gpd	2,160 150
Offices	180 employees x 15 gpd	2,700
Beach Club	3 x 200 seats x 12 gpd 7 employees x 15 gpd	7,200 105
Indoor Pool	24,900 cf/y	511
Outdoor Pool	11,390 cf/y	234
Hotel	125 rooms x 50 gpd	6,250
RV Park	40 units x 150 gpd	6,000
Marina	300 slips x 15 gpd	4,500
Conference/Community Centers	51,000 s.f. x 0.15 gpd	7,650
Total		340,300 gpd
Total acre-feet per year is 381		

In addition, there are 15 acres at the Harbor Master Restaurant and Beach Club that need irrigating and will be allowed 30 acre-feet at 2 acre-feet of water per acre during the irrigation season of May 1 to October 1. The total annual water requirement amounts to 411 acre-feet of water.

The water requirement for a community domestic system of this nature should not exceed average daily us as listed in the table above and should not exceed 411 acre-feet of water per year.

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Because the Ludlow Water Company already has been allowed 465 acre-feet of water per year under existing water rights, the amount of water withdrawn by the entire system may not exceed 465 acre-feet. Therefore, Well No. 14 is not appropriated any additional or primary water rights, but may provide supplemental water to the system. Based on an average of 8 hours per day that Well No. 14 will operate, the maximum amount of water this well can supplement the system is 161 acre-feet per year.

CONCLUSIONS

In accordance with Chapters 90.03 and 90.44 RCW, I find there is water available for appropriation from the source in question, the appropriation is a beneficial use and will not impair existing rights or be detrimental to public welfare.

RECOMMENDATIONS

I recommend approval of this application and issuance of a permit to allow appropriation of 300 gpm from well No. 14 for community domestic supply. The period of use is year round as needed. The total annual withdrawal shall not exceed 161 acre-feet supplemental to existing rights.

Approval is subject to the following provisions:

Well No. 14 and the Jefferson County Water District No. 1 well (Water Right No.G2-26422) shall be tested for chloride concentration once every three months. If the chloride concentration exceeds 125 mg/l in either well, the withdrawal rate at Well No. 14 shall be reduced to lower the chloride level to below 125 mg/l.

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

The use of the waters to be appropriated under this application will be for a public water supply. The State Board of Health rules require every owner of a public water supply to obtain written approval from the Office of Water Supply, Department of Health, Mail Stop LD-11, Building 3, Olympia, Washington 98504, prior to any new construction or alterations of a public water supply.

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

The Water Resources Act of 1971 specifies certain criteria regarding utilization and management of the waters of the state in the best public interest. Favorable consideration of this application has been based on sufficient waters available, at least during portions of the year. However, it is pointed out to the applicant that this use of water may be subject to regulation at certain times, based on the necessity to maintain water quantities sufficient for preservation of the natural environment.

Historical water use and water level data for all wells owned and operated by Ludlow Water Company shall be submitted to Ecology by July 1, 1991. Thereafter, monthly summaries of water use and water level data shall be submitted to Ecology on an annual basis during the month of January. Please send meter summaries, water levels, and results of chloride concentration to the following address: Department of Ecology, 7272 Cleanwater Lane, Olympia, Washington, 98504-6811.

Under RCW 90.03.005 and 90.54.020(6) conservation and improved water use efficiency must be emphasized in the management of the state's water resources, and must be considered as a potential new source of water. Accordingly, as part of the terms on this permit, the applicant shall prepare and implement a water conservation plan approved by Ecology before Ecology issues a water right certificate. The standards for such a plan are available from the Departments of Health and Ecology.

REPORTED BY: *Eric Schell* DATE: February 5, 1991

The statutory permit fee for this application is \$20.00.