DRAFT

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	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 28, 2006	G2-30379		

NAME
Wilkins Kaiser & Olsen, Inc.

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
P.O. Box 8	Carson	WA	98610-0008

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
Well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
	300	243

QUANTITY, TYPE OF USE, PERIOD OF USE

300 gpm; commercial and industrial manufacturing use to seasonally irrigate log storage decks; from April 15 to October 15

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL

The proposed well will be drilled in one of two locations, both situated in the SE ¼ of Section 17, Township 3 North, Range 8 East W.M., at an elevation of approximately 530 feet above mean sea level (MSL). The preferred well location is approximately 1100 feet west and 60 feet north of southeast corner of Section 17, T3N, R8E W.M., near an existing well. The alternate well location is approximately 1900 feet north of the preferred location.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SE 1/4 of SE 1/4	17	3	8E	29	Skamania

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

A tract of land located in the southeast quarter (SE ¼) of Section 17, Township 3 North, Range 8 East, W.M., described as follows: Beginning at the southeast corner of said section 17; thence south 89 degrees 30 minutes west along the south line of said section approximately 1250 feet; thence north along Wind River Highway approximately 2100 feet; thence north 89 degrees 30 minutes east approximately 492 feet; thence north approximately 600 feet; thence north 88 degrees 39 minutes west approximately 1705 feet; thence south 8 degrees 44 minutes west along the east line of said section to the point of beginning.

DESCRIPTION OF PROPOSED WORKS

The industrial water well will be used seasonally from April 15 to October 15th to irrigate log storage decks; a potential 800,000-gallon storage pond would be maintained to collect log yard run-off to recycle through sprinkler system.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
January 2010	June 2010	June 1, 2015

REPORT

BACKGROUND

Description and Purpose of the Project

The subject application was submitted to Ecology by Wilkins Kaiser & Olsen, Inc. (WKO) and assigned a priority date of October 28, 2006. WKO operates a lumber mill in Carson, Washington (Skamania County). The application is for appropriation of ground water to seasonally irrigate log storage decks on land owned by the applicant. The water will also secondarily serve as fire protection to the log storage area. The well and pump have not yet been installed. Figure 1 shows the location of the proposed well and the intended place of use.

Summary of WKO Water Rights

No groundwater or surface water rights are on record for WKO. Ground water permit No.G2-25264 was issued and subsequently cancelled. On November 19, 1979, WKO was granted a water right permit (G2-25264P) to appropriate groundwater from an existing well at a Qi of 500 gpm and Qa of 367 acre-ft/year for year-round industrial use and to seasonally apply water to log storage decks.

The well had been completed in July 1979 to a depth of 708 ft below ground surface (bgs) and pump tested at 223 gallons per minute (gpm). According to Charlie Allen (WKO), the well water never cleared up due to sediment and was, therefore, not used to the extent planned. Notes on the well driller's log indicated that both sand and surface water were entering the well. In apparent response to these problems, the well was pressure-grouted and then drilled out to 858 ft bgs in February 1983. The deepened well was again pump-tested, this time yielding only 20 gpm. The water from the deepened well was put to use for potable supply for the mill, industrial purposes (primarily boiler make-up water for log drying), and to keep a remote fire-protection reservoir full. The well continues to be used for these purposes. The well is not metered, but reportedly yields 50 to 60 gpm. Because the well does not supply adequate water for seasonal log sprinkling, water has never been used for this purpose.

Permit G2-25264P called for development to be complete and water to be put to beneficial use by August 1, 1983. However, neither a proof-of-appropriation nor a time extension was filed by WKO and the permit was eventually cancelled by Ecology. Current withdrawals from the well appear to be non-permitted.

Surface water permit S2-26386 submitted in June 1983 was also cancelled by Ecology. This application was for 0.67 cubic ft per second and 230 acre-ft per year to be withdrawn from the Wind River to spray logs from June thru October.

The preferred location for the proposed well under the current application (G2-30379) is close to the location of the existing well.

Legal Requirements for Application Processing

Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340 and RCW 90.44.060.

The following legal requirements must be met prior to processing a water right application:

- **Public Notice**—Public notice of the application was published in the Skamania County Pioneer newspaper on June 3rd and 10th.

- **State Environmental Policy Act (SEPA)**—The subject water right application is categorically exempt under SEPA WAC 197-11-305 and WAC 197-11-800(4) because the instantaneous quantity is less than the 2,250 gallons per minute threshold.

INVESTIGATION

This investigation included, but was not limited to, research and/or review of:

- Berri, D.A., and Korosec, M.A., 1983, *Geological and Geothermal Investigation of the Lower Wind River Valley, Southwestern Washington Cascade Range*. Washington Division of Geology and Earth Resources, Open File Report 83-5.
- Kennedy/Jenks Consultants, 2004, *Stabler Area Water Quantity and Quality Study Report, Skamania County, Washington*. Prepared for Skamania County, Stevenson, Washington.
- Korosec, M.A., 1987, *Geologic Map of the Hood River Quadrangle, Washington and Oregon*. Scale 1:100,000, Washington Division of Geology and Earth Resources, Open File Report 87-6.
- Sound Resolutions, Cascadia Consulting Group, and Advanced Planning Solutions, 2005, *Watershed Management Plan for Western Water Resource Inventory Area 29 (Western WRIA 29).* Adopted by the Western WRIA 29 Planning Unit.
- Waters, A.C., 1973, "The Columbia River Gorge: Basalt Stratigraphy, Ancient Lava Dams, and Landslide Dams"; In Beaulieu, J.D., *Geologic Field Trips in Northern Oregon and Southern Washington*. Oregon Department of Geology and Mineral Industries, Bulletin 77, p. 133-162.
- Yinger, M., 2004, *WRIA 29 Lower Wind River Aquifer Recharge Area*. Prepared for EnviroVision Corp. & WRIA 29 Planning Unit; Mark Yinger & Associates, Sisters, Oregon.
- Yinger, M., 2005, *Letter report on second test well installed for Carson Water System Improvement Project*. Letter report submitted to Brent Gruber of Wallis Engineering, Vancouver, Washington; Mark Yinger Associates, Sisters, Oregon.
- Yinger, M., 2006, *Hydrogeologic Assessment and Pumping Test Report, Industrial Park Well*. Prepared for Skamania County Public Utility District No. 1, Carson, Washington; Mark Yinger Associates, Sisters, Oregon.
- Records of water rights and well logs in the vicinity
- Notes from a site visit by Mark Dagel (SAIC) on November 8, 2007
- Topographic and local area maps, including the USGS 7.5-minute topographic map
- Documents, plans, and other information provided by the applicant
- Personal communication with Charlie Allen of WKO on March 11, 2009, and later dates
- Personal communication with Mark Yinger of Mark Yinger Associates on May 1, 2009
- Personal communication with Tom Vance of Skamania PUD on May 4 and 5, 2009

Geographic Setting of the Place of Use and Point of Withdrawal

The WKO lumber mill is located in Carson, Washington, in the lower Wind River valley, approximately 2 miles up-valley from the Wind River's confluence with the Columbia River (Figure 1). The lower part of the Wind River valley (the 14-mile section from the Columbia River up to the Carson fish hatchery) consists of a wide, nearly flat valley bottom rising in elevation from about 500 ft MSL at the Columbia River to about 1,000 ft MSL at the fish hatchery. Into this valley bottom, the Wind River has incised a steep, narrow gorge. In places such as at "High Bridge," located approximately 1.5 miles up-valley from the WKO site where the Wind River Highway crosses the river, the river gorge is incised about 300 ft into the valley bottom. The valley bottom is flanked by peaks and ridges of the Cascade Range that locally rise to elevations of up to about 3,000 ft MSL.

The proposed well will be drilled in one of two locations, both situated in the SE¼ of Section 17, Township 3 North, Range 8 East W.M., at an elevation of approximately 530 ft MSL (preferred location) to 550 ft MSL (alternate location) (Figure 1). The place of use is two log storage yards with elevations ranging from about 490 to 530 ft MSL. The proposed well depth will be approximately 250 feet bgs, according to WKO; the existing well log indicates that water-bearing zones exist between 276 and 324 ft bgs.

Purpose of Application

Ground water is requested for commercial and industrial manufacturing use in order to apply water to log storage decks between April 5 and October 15.

Hydrogeology

The discussion of geology and hydrogeology in this section is primarily based on information presented by Berri and Korosec (1983), Kennedy/Jenks (2004), Korosec (1987), and Yinger (2004, 2006), as well as observations from a field visit made on November 8, 2007, and on examination of topographic maps and water-well logs.

Basement rocks, exposed in the mountains flanking the valley and in places in the bottom of the river gorge, consist of heavily weathered and mineralized interbedded lavas, tuffs, and volcaniclastic deposits of the Oligocene-age Ohanapecosh Formation. The base of the Ohanapecosh Formation is not exposed in the area and is thought to be more than 1,000 ft thick. The deep weathering and hydrothermal alteration have generated clays and zeolites, which have significantly reduced the permeability of the Ohanapecosh Formation. Open fracture zones associated with recent or active faults locally result in increased permeability and control the groundwater (including hydrothermal) movement.

Along the valley axis, forming the flat valley bottom, is the Quaternary-age Trout Creek Hill basalt. This unit consists of an olivine basalt flow that partly filled the ancestral valley about 340,000 years ago, and which originated from the Trout Creek Hill volcano located approximately 11 miles up-valley (northwest) from WKO. The Trout Creek Hill basalt lies unconformably on the Ohanapecosh Formation and is up to approximately 400 ft thick. Individual basalt flows range from 5 to 75 ft in thickness. The tops and bottoms of the Trout Creek Hill basalt flows are vesicular and rubbly, and cinders constitute a significant portion of the total volume of the basalt. These features combined with blocky fracturing make the Trout Creek Hill basalt relatively permeable, although in some areas clays may fill pore spaces and reduce permeability.

Surficial Quaternary alluvial deposits occur along the valley margins and sporadically throughout the valley bottom where they directly overlie the Ohanapecosh Formation and the Trout Creek Hill basalt. These deposits are relatively thin, typically only a few tens of feet thick in the vicinity of the WKO site.

Groundwater in the Wind River Valley occurs primarily within relatively thin, discontinuous layers (interflows, flow tops and cinder zones) and fractures within the Trout Creek Hill basalt and Ohanapecosh Formation. A water well inventory conducted by Kennedy/Jenks (2003) that covered the lower portion of the Wind River drainage in an area north of the WKO site (from High Bridge up-valley to the Carson Fish Hatchery) found that, of the 79 wells in this area, 25 wells (32%) tap the Ohanapecosh Formation, 12 wells (15%) tap the Trout Creek Hill basalt, and 3 wells (4%) tap the alluvial deposits. Most of the remaining wells are open to both the Ohanapecosh Formation and the Trout Creek Hill basalt. The inventory indicated that groundwater yields for wells tapping each of the units are as follows:

Ohanapecosh Formation:	1.5 to 100 gpm, median 15 gpm
Trout Creek Hill basalt:	7 to 620 gpm, median 20 gpm
Alluvial deposits:	15 to 35 gpm, median 18 gpm

A hydrogeologic study of the lower Wind River Valley by Yinger (2004) revealed a few wells that were completed in the Ohanapecosh Formation, with the majority producing low yields. A group of deep wells in the northwest quarter of section 21 yields from 12 to 300 gpm. These wells were drilled for geothermal water to irrigate the Carson Hot Springs Resort golf course. The permeability of the Trout Creek Hill aquifer is considered to be high in comparison to the underlying Ohanapecosh Formation, which essentially forms an aquitard. The Trout Creek Hill aquifer is generally considered to be unconfined; however, in an area about 3.5 miles up-valley from WKO, this aquifer is semi-confined (Yinger, 2006). In addition, locally a thin zone of groundwater may be perched above the water table due to fine sediments (clays) deposited between lava flows.

The overall groundwater recharge and flow characteristics in the lower Wind River valley bedrock aquifers are not well studied or understood. Interpretations presented by Kennedy/Jenks (2004) suggest that these aquifers are recharged via infiltration of precipitation in the mountains flanking the valley and through loss of water from tributary streams (e.g., Panther Creek and Trout Creek). The boundary of the recharge area contributing to the Trout Creek Hill aquifer was defined by Yinger (2004) and encompasses approximately 2,043 acres south of the High Bridge along the lower Wind River Valley floor. Groundwater flow generally follows topography, moving laterally toward the Wind River and then down-valley toward the Columbia River. Some groundwater discharges into the Wind River in the lower parts of the valley.

Site Visit

On November 8, 2007, Mark Dagel of SAIC met Ron Schneider and Charlie Allen of WKO and visited the site, the place of use, and surrounding area. The visit included observation of the existing well, the proposed well location, and log storage yard. The place of use includes two log storage yards located east and south of the lumber mill. Current water usage for the property includes groundwater from the existing well and water piped in from the Skamania PUD. Water from the well is pumped to two 1000-gallon storage tanks and the PUD water is pumped to one of the tanks. Tank water is then pressure pumped to the plant and to the fire reservoir.

Well Information and Pumping Test Results

The driller's logs for the existing WKO well (the original 1979 log and the 1983 deepening/grouting log) suggest that the boring penetrates the surficial alluvial deposits to a depth of 52 ft bgs and the Trout Creek Hill basalt to a depth of 324 ft bgs. Below this are the interbedded basalt flows, tuffs, and volcaniclastic deposits of the Ohanapecosh Formation, which extend to the bottom of the well (stratigraphy based on Yinger, 2004, 2005). The proposed WKO well is expected to be drilled to about 250 ft bgs, or possibly to the water-bearing zones identified between 276 and 324 ft bgs, which will likely tap the lower part of the Trout Creek Hill aquifer.

The static water level for the original WKO well was 230 ft bgs, with a total well depth of 708 ft bgs. The original well casing extended to 375 ft bgs (open hole below that) and was perforated from 315 to 345 ft bgs. During the deepening process, these perforations were sealed, with pressure grouting extending from about 380 to 250 ft bgs. After the well was deepened to 858 ft bgs, the static water level was reported to be 375 ft bgs. This change in water level implies a strong downward vertical gradient at this location. The water temperature in the original 708-ft well is recorded as being 48°F, and as 75°F in the deeper well, indicating that some geothermal water had been encountered in the deepened well.

Short-term production pump testing was conducted on the WKO well following installation on July 24, 1979, by Murray Well Drilling of The Dalles, Oregon. The well was pumped for 4 hours at 223 gpm, producing a drawdown of 80 ft; this results in a specific capacity of 2.8 gpm/ft. Following deepening of the well, another short-term production test was conducted on February 9, 1983, by M-K Drilling Company of Dallesport, Washington. The well was pumped for 0.5 hour at 20 gpm, producing a drawdown of 110 ft. No recovery information was recorded following either pumping event.

Because WKO is considering installing a well to the depth of the upper interval of the initial well, the production pump test information for the original well is examined here. This limited pumping information is being utilized to estimate transmissivity using the Logan method (Logan, J., 1964, *Ground Water*, v. 2, no. 1, p. 35-37). It is assumed that the maximum drawdown of 80 ft was close to steady state under a pumping rate of 223 gpm after 4 hours. This method, correcting for unconfined drawdown, results in an estimate of 1,500 ft^2/day (7.8 gpm/ft) for aquifer transmissivity in the vicinity of the well.

The nearest longer-term pump testing took place in the Skamania County PUD test well #2, located on Rake Straw Road about 3,400 feet north of the WKO well location (Figure 1) The PUD well casing is perforated from 300 to 358 feet, within the lower Trout Creek Hill aquifer – similar to the original WKO well. The PUD well was pumped for 27.3 hours at an average rate of 88 gpm, with a maximum drawdown of 65.4 ft, resulting in a specific capacity of 1.3 gpm/ft. The last 21.5 hours of the test was pumped at a constant rate of 92.3 gpm. After 58 minutes of recovery, water levels had risen nearly 50 feet, or about 76 percent. The pattern of drawdown suggests an unconfined aquifer (Yinger, 2005). An analysis of Yinger's data using a Cooper-Jacob drawdown plot (corrected for unconfined late-time drawdown) yields an aquifer transmissivity value of 260 ft^2/day (1.3 gpm/ft). This and the WKO well transmissivity values are utilized below for impairment considerations.

Water Rights in the Vicinity of the WKO Well

The Department of Ecology Water Right Tracking System (WRTS) database was queried to identify senior water rights within one-half mile of the subject application. (Note that this half-mile search encompasses a large area that, based on results of the interference analysis presented below, is well outside the expected radius of influence of the WKO well.) The search indicated that there are no certified rights or water right permits in the half-mile radius area (Figure 1). The WRTS search indicated that there are ten water right claims that lie within one mile of the WKO well, although none of these could be located more precisely than within a single Section. Currently under Washington State law, there is no way to establish the true validity of a claim except via an investigation carried out as a result of a claimant submitting a change application, or through a basin-wide adjudication carried out in superior court. The area in which the WKO applicant has requested water has not been adjudicated; therefore, Ecology has no way of knowing the validity or ownership of claims that might be affected by the requested withdrawal. In addition, a search of the Ecology Water Well Report database revealed that there are two wells (in addition to the unused PUD test well) not associated with applications or certificates that may exist within a half-mile radius. These wells are probably exempt wells installed for domestic supply.

No certified groundwater rights are located within a half-mile of the proposed well sites; the nearest (G2-26403CWRIS) is located 1.5 miles north of the WKO well. The nearest water-supply well of any kind (owned by Neva Schupbach), presumably an exempt well, is located about 900 feet southeast of the WKO well (Figure 1). The Charles/Avis Coates well is 29 feet deep and yields from the alluvial aquifer.

There are no minimum instream flows and no surface-water closures established by rule in WRIA 29.

FINDINGS

Under state law the following four criteria must be met for an application to be approved:

- Water must be available
- There must be no impairment of existing rights
- The water use must be beneficial
- The water use must not be detrimental to the public interest

Water Availability

There are no surface-water regulatory closures or restrictions or other limitations affecting ground-water availability for the subject application; therefore, water is legally available for appropriation. Discussions with the Skamania County PUD and with Mark Yinger Associates indicate that it is difficult to find significant yields of groundwater in the Carson area south of the High Bridge. Wells screened in the Trout Creek Hill aquifer also may experience turbidity from clays in the water (e.g., the PUD test well; Yinger, 2005). The original WKO well was pump tested at 223 gpm for 4 hours. If the specific capacity for this test is applied to the applicant's Qi of 300 gpm, it would result in a drawdown of approximately 110 ft, and possibly more if the 4-hour test had not reached steady state.

If the pump test data and specific capacity for the PUD well are instead applied (because it was based on more rigorous testing), then a Qi of 300 gpm would result in a drawdown of approximately 220 ft. Considering that the static water level in the WKO well is about 230 feet bgs, then drawdown of 110 to 220 feet would bring the water level in the well to below the bottom of the water-bearing zones near the base of the Trout Creek Hill aquifer. This will need to be taken into consideration when considering the total depth and perforated interval of the WKO proposed well.

Therefore, based on the aquifer yield at the location of drilling and the proposed depth of the WKO well, it may not be physically possible to extract groundwater for a significant length of time at 300 gpm, and turbidity in the water may also become a concern. WKO initially produced water from their well at a yield of 223 gpm for 4 hours. However, this water apparently had turbidity/sediment problems and was thus not used to the extent planned. Although the proposed Qi of 300 gpm may not be achievable in this portion of the Trout Creek Hill aquifer, this will not be determined until the well is installed and long-term pump testing is completed.

Impairment Considerations

As mentioned above, the nearest well to the WKO well is the Schupbach well, which is located approximately 900 ft to the southeast and was drilled in September 2005. The Schupbach well appears to be completed in the same aquifer as the proposed WKO well, with a total depth of 290 feet and casing perforations from 240 to 290 feet bgs. The static water level is listed on the well log as 215 ft

deep. Due to its proximity and generally similar depth of perforations and water level as the WKO well, the Schupbach well is being used as the "worst-case" situation for the evaluation of pumping interference. No pumping data are available for the Schupbach well. However, because this well yields groundwater from about the same depth as the original WKO well and the PUD test well, it is assumed that the range of transmissivity and pumping data described above for these two wells will apply also to the vicinity of the Schupbach well.

In order to determine the approximate radius of the cone of depression for these wells, the range of values for aquifer transmissivity listed above (260 to 1,500 ft^2/day) will be used in calculations. Applying the standard Jacob equation, and assuming a storage coefficient of 0.1 for an unconfined aquifer, then solving for the approximate radius of the cone of depression, results in the following equation: $r^2 = (2.25*T*t)/S$, where r is the drawdown radius from the pumping well, T is the transmissivity, t is the test pumping period, and S is the storage coefficient.

Knowing that the storage coefficient for an unconfined aquifer does not vary significantly, this equation can be used to estimate the radius of influence of the test case. It is recognized that this estimate is very approximate because the tests were not run to steady-state equilibrium conditions and a longer pumping time would generate a larger cone of depression. Nonetheless, the resultant radius of influence distances are calculated to be quite small, ranging from 75 to 81 ft. Short distances such as these are expected from an unconfined aquifer with relatively low transmissivity values, and are approximate due to the derivation method and possibly the overestimation of storage coefficient. About 3.5 miles up the Wind River valley, where transmissivity and yield are much higher, S is calculated at 0.001 to 0.002 and the aquifer in that vicinity is considered to be semi-confined (Yinger, 2006). These semi-confined values of S would yield a calculated radius of influence that is significantly wider; but the aquifer in the vicinity of WKO is considered to be unconfined, with a much larger S value.

These calculations reveal that the cone of depression from the proposed WKO well is likely to be relatively small under the stated conditions in this portion of the aquifer. Although pumping longer or at a greater pumping rate (if attainable) in the WKO well would expand the cone of depression, the calculated radius of influence is significantly smaller than the distance from the proposed WKO well location to the nearest well (Schupbach, 900 ft distance). In conclusion, the radius of influence is very unlikely to approach even halfway from the WKO site to the Schupbach well. Therefore, impairment to groundwater yield from other wells in the region appears to be unlikely.

Beneficial Use

Commercial and industrial manufacturing use is considered to be beneficial under RCW 90.54.020(1).

Public Interest Considerations

No potential for detriment to the public interest could be identified during the investigation of this application for operation of the WKO well.

DISCUSSION

The subject application, as submitted, requested a maximum annual withdrawal (Qa) of 243 acre-ft/year for industrial use. If the authorized Qi of 300 gpm were pumped 24 hours per day from April 15 to October 15 (183 days) the annual use of water for log deck spraying should not exceed 243 acre-ft/year. Because a new WKO well has not yet been installed and has not been pump tested or sampled, it is not possible to know if this well will meet the requested quantities of groundwater. Thus, the information and conclusions presented above are dependent on the final outcome of this well installation and testing, in order to determine if the well yield will meet the intended purpose presented in the application.

RECOMMENDATIONS

Although a new well has not been installed and tested, based on the above investigation and findings, there does not appear to be any adverse impairment or detriment to installation and use of the proposed well. Therefore, it is recommend that the request for a groundwater permit be approved in the quantities and within the limitations listed below and the provisions listed elsewhere.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

- 300 gallons per minute (Qi)
- 243 acre-feet per year (Qa)
- For industrial use from April 15 to October 15

Point of Withdrawal

SE¼, Section 17, Township 3 North, Range 8 East, W.M.

Place of Use

A tract of land located in the southeast quarter (SE ¼) of Section 17, Township 3 North, Range 8 East, W.M., described as follows: Beginning at the southeast corner of said section 17; thence south 89 degrees 30 minutes west along the south line of said section approximately 1250 feet; thence north along Wind River Highway approximately 2100 feet; thence north 89 degrees 30 minutes east approximately 492 feet; thence north approximately 600 feet; thence north 88 degrees 39 minutes west approximately 1705 feet; thence south 8 degrees 44 minutes west along the east line of said section to the point of beginning.

CONCLUSIONS

In accordance with chapters 90.03 and 90.44 RCW, it is concluded there potentially is water available from the source in question, the purpose of use is beneficial, there will be no impairment of existing rights, and there will be no detriment to the public interest.

Prepared by:

_____ _____

Thomas Dubé, LHG Date
Science Applications International Corporation

Licensed Geologist/Hydrogeologist No. 986, expires 11/17/09

Reviewed by:

_____ _____

Phil Crane Date
Washington State Department of Ecology
Water Resources Program

PROVISIONS

- An approved measuring device shall be installed and maintained for each well identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

- Water use data shall be recorded monthly. Data shall be maintained by the property owner and promptly submitted to Ecology upon request. Recording and retention of data by the water right holder are required to inform the water users about how much water is used, when the water is used and to assist users in efficient water management.

- WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

- Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

- All water wells constructed within the State shall meet the minimum standards for well construction and maintenance as provided under WAC 18.104, Washington Water Well Construction Act of 1971, and WAC 173-160, Minimum Standards for Construction and Maintenance of Wells.

- Installation and maintenance of an access port as described in WAC 173-160-291 is required. An air line and gauge may be installed in addition to the access port.

- A certificate of water right will issue for only that quantity of water that has been withdrawn and applied to actual beneficial use. Such quantity applied to actual beneficial use shall not exceed the quantity specified in this report of exam and will be calculated based on the best information available to Ecology, including metering data and/or water duty analysis.

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

FINDING OF FACT AND ORDER

Upon reviewing the investigator's report, I find all facts relevant and material to the subject application have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question, the purpose of use is beneficial, there will be no impairment of existing rights, and there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G2-30379, subject to existing rights and the provisions listed above.

You have the right to appeal this Order to the Pollution Control Hearings Board. Pursuant to chapter 43.21B RCW, your appeal must be filed with the Pollution Control Hearings Board, and served on the Department of Ecology, within thirty (30) days of the date of your receipt of this document. To appeal this action or decision, your notice of appeal must contain a copy of the Ecology order, action or decision you are appealing.

Mail your appeal to:
Pollution Control Hearings Board
PO Box 40903
Olympia, Washington 98504-0903

OR

Deliver your appeal to:
Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, Washington 98503

AND MAIL TO BOTH ADDRESSES BELOW

Mail your appeal to:
Department of Ecology
Appeals Coordinator
PO Box 47608
Olympia, Washington 98504-7608

AND

Mail your appeal to:
Daniel Swenson, Section Manager
Department of Ecology
Water Resources Program
3190 160th Avenue SE
Bellevue, WA 98008

Signed at Lacey, Washington, this _____ day of _____ 2009.

_____
Thomas Loranger, Section Manager
Water Resources Program
Southwest Regional Office

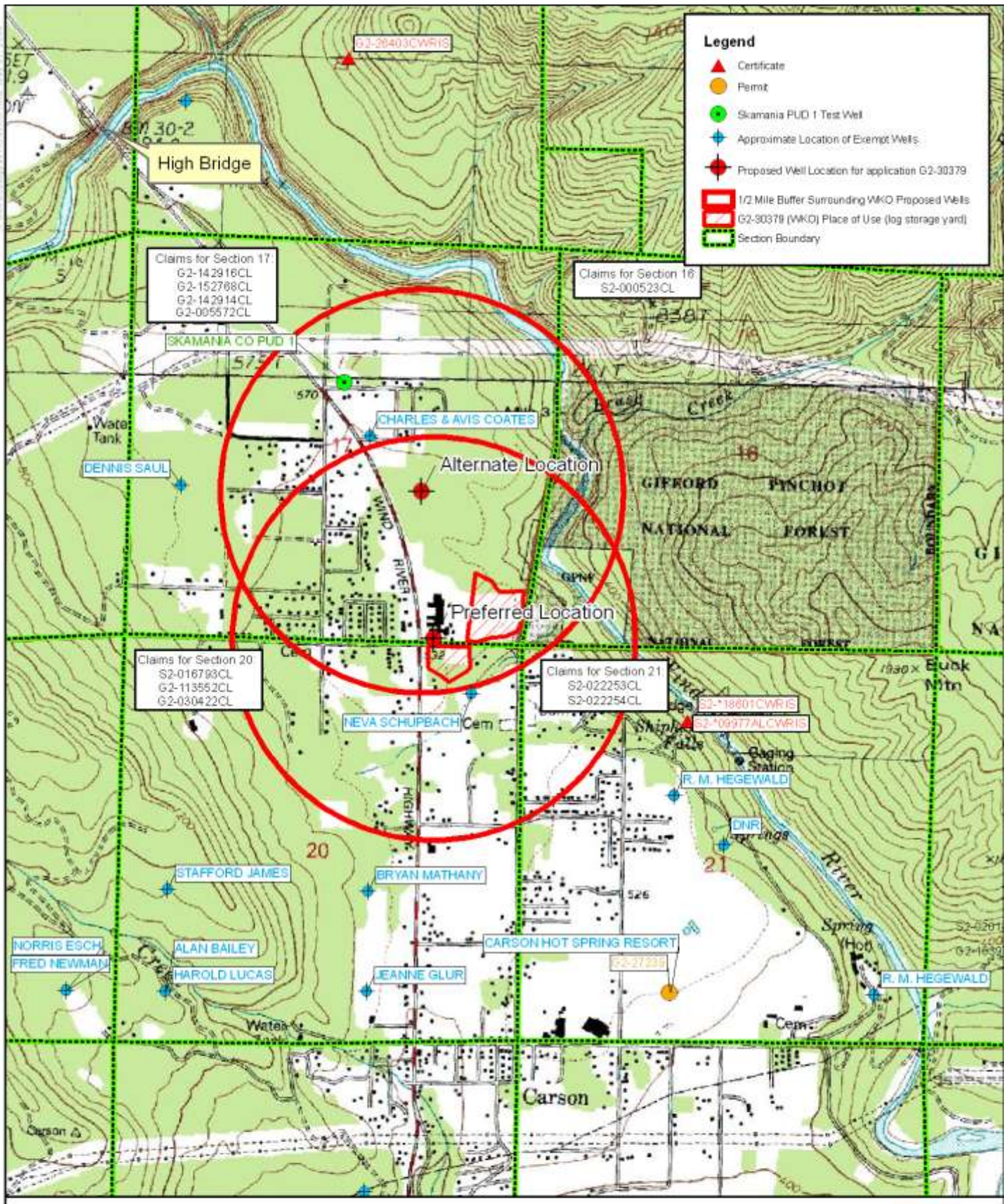

Figure 1

Location of Senior Water Rights
near G2-30379 (WKO) Application