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DEPARTMENT OF ECOLOGY

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July 10, 2012

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Sent To: AVISTA CORPORATION
ENVIRONMENTAL AFFAIRS
Street, Apt. No.; or PO Box No.: MS. LINDA KIEFER
PO BOX 3727 MSC-1
City, State, ZIP+4: SPOKANE WA 99220-3727

PS Form 3800, August 2006 — See Reverse for Instructions

Avista Corporation
Environmental Affairs
Ms. Linda Kiefer
PO Box 3727 Msc-1
Spokane WA 99220-3727

Re: Water Right Application No. G3-30632

Dear Ms. Kiefer:

Enclosed is a copy of the Department of Ecology's *Report of Examination*. This report contains our decision regarding your application.

Your application has been approved.

You have a right to appeal this action to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this document. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do the following within 30 days of the date of receipt of this document:

- File your appeal and a copy of this document with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this document on Ecology in paper form - by mail or in person. (See addresses below.) Email is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW Suite 301 Tumwater , WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov . To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser .

If you have any questions, please contact Kevin Brow

Sincerely,

Keith L. Stoffel
Section Manager
Water Resources Program

KLS:KB:ka
Enclosures: Report of Examination
Your Right To Be Heard
Focus on Water Right Relinquishment

By Certified Mail 7011 0110 0000 7276 2043

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
AVISTA CORPORATION
ENVIRONMENTAL AFFAIRS
MS. LINDA KIEFER
PO BOX 3727 MSC-1
SPOKANE WA 99220-3727

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File NR G3-30632
WR Doc ID 4709977

DEPARTMENT OF
ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

PRIORITY DATE	WATER RIGHT NUMBER
12/20/2010	G3-30632

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
AVISTA CORPORATION ENVIRONMENTAL AFFAIRS 1411 EAST MISSION MSC-1 PO BOX 3727 SPOKANE WA 99220-3727	

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
800	GPM	566.1

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Commercial/Industrial Fire Protection as needed	800		GPM	566.1		01/01 - 12/31

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
STEVENS	GROUNDWATER		61-UPPER LAKE ROOSEVELT

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Up to six wells	8000997		36N	37E	14	SW¼NE¼		
	1701700		36N	37E	14	NW¼SE¼		

Datum: WGS84

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

All that part of the NE¼ of Section 14, Township 36 N., Range 37 E.W.M., in Stevens County, Washington, being further described as follows: Beginning at the East ¼ corner of said Section 14, said point being marked with a 1-inch pipe; thence along the South line of the NE¼ of said Section 14, S 87°47'49"W a distance of 402.32 feet to a point on the westerly right of way line of U.S. Highway No. 395, and the true Point of Beginning of the tract to be described: thence along the westerly right of way of said Highway No. 395 the following five courses and distances: N 34°21'43"W 1138.06 feet; N 45°40'19"W 101.98 feet; N 34°21'43"W 700.00 feet; N 17°39'46"W 104.40 feet; N 34°21'43"W 211.28 feet; thence S 55°38'17" W a distance of 206.31 feet to a point on the easterly right of way line of the Burlington Northern Railroad; thence along the easterly right of way line of said Railroad the following three courses and distances: S 13°33'30"W 564.00 feet; N 76°26'30"W 30.00 feet; S 13°33'30"W 906.16 feet; to the beginning of the tangent curve concave to the left of 2814.70 feet radius; thence continuing along said right of way line along said curve a distance of 396.16 feet to a point on the South line of the NE¼ of said Section 14; thence N 87°57'49"E a distance of 1872.13 feet to the true Point of Beginning.

That part of the NW¼ of the SE¼ of Section 14, Township 36 N., Range 37 E.W.M., in Stevens County, Washington, lying East of the right of way for the Great Northern Railway Company.

The N½ of the NE¼ of the SE¼, the SW¼ of the NE¼ of the SE¼ and the N½ of the SE¼ of the NE¼ of the SE¼ of Section 14, Township 36 N., Range 37 E.W.M., in Stevens County, Washington, EXCEPT right of way for Primary State Highway No. 3, Meyers Falls to Kettle Falls bridge, conveyed to State of Washington, by deed recorded in Volume 104 of Deeds, page 538, and deed recorded under auditor's file No. 499697. EXCEPT that portion of the N½NE¼SE¼ lying North and East of Primary State Highway No. 3.

Proposed Works

Up to six wells

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
January 1, 2013	January 1, 2015	January 1, 2020

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Upon Request by Ecology
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm or cfs)

Provisions

Prior to the issuance of a permit, Avista shall file and record a deed transferring the Water rights identified for the mitigation to the State of Washington. A copy of the deed shall be submitted to the department after the deed is recorded with the Stevens County Auditor.

The continued discharge of water under the Water Quality Discharge Permit at the KFGS is required. In the event the waste water is no longer returned to the river, additional mitigation will be required.

The discharge of water from Waits Lake under Reservoir Certificate 538 shall continue and release of stored water annually to satisfy that portion of Surface Water Certificate No. 74 donated into trust and allow for continued operation for the remaining water users under Surface Water Certificate No. 74 should they continue to exercise their water rights. This provision does not have affect over the timing and release of stored water that may be subject to future water release and use agreements between lake owners, landowners and water users.

The total authorization under this right and Certificate 10372(B) shall not exceed 1040 gallons per minute, 766.1 acre-feet per year.

Wells, Well Logs and Well Construction Standards
All wells constructed in the state shall meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned.

All wells shall be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

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

WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Water Use Efficiency
The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts
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; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G3-30632, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

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Pollution Control Hearings Board 1111 Israel Road SW Ste 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Spokane, Washington, this 10th day of July, 2012.

Keith L. Stoffel, Section Manager

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov. To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

INVESTIGATOR'S REPORT
Application for Water Right -- Avista Corporation
Water Right Number G3-30632

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number G3-30632.

Priority Processing

This application is being priority processed because it qualified under the criteria under which an application may be processed prior to competing applications (WAC 173-152).

Table 1 Summary of Requested Water Right

Applicant Name:	Avista Corporation
Date of Application:	12/20/2010

County	Water body	Tributary To	WRIA
Stevens	Groundwater		61-Upper Lake Roosevelt

Purpose	Rate	Unit	Acre-feet/yr	Begin Season	End Season
Commercial and Industrial	800	GPM	750	01/01	12/31
Fire protection as needed					

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
Up to Six Wells	8000997		36N	37E	14	SW¼NE¼	TBD	TBD
	1701700		36N	37E	14	NW¼SE¼		

Legal Requirements for Approval of Appropriation of Water

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted and used. Notice of this application was published in the Chewelah Independent on January 12 and 19, 2012 and no protests were received.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

(a) It is a surface water right application for more than 1 cubic foot per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
(b) It is a groundwater right application for more than 2,250 gallons per minute;

(c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
(d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
(e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

Avista Corporation filed water right application G3-30632 to obtain a water right for the Kettle Falls Generation Station (KFGS). The KFGS has been in operation since 1983. Avista Corporation helped the City of Kettle Falls develop a municipal well field south of the Town of Kettle Falls in return for water delivery from the municipal system. Since then, Avista and Kettle Falls have been operating under a 30 year water supply agreement and KFGS has been receiving water from the municipal water system. In recent years Kettle Falls has increased population growth and had to implement a building moratorium due to a limitation on the instantaneous quantity authorized in their water rights. Avista and the City of Kettle Falls have examined multiple options to develop a new water supply for the KFGS and resolve the City's limitations and water supply concerns.

Avista worked with the City of Kettle Falls on a change application STEV 10-06 through the Stevens County Water Conservancy Board (SCWCB), to add new points of withdrawal to the City's Surface Water Certificate No. 10372. This change was authorized and allowed Avista to begin a new well development project on Avista land adjacent to KFGS. A test well was completed on the site. Testing of the well showed that the static water level is at the same level as the lake, and consistently mirrors the lake level with ongoing changes of the lake pool elevation. Avista concluded the well produced ground water from an aquifer in direct continuity with the Columbia River/Lake Roosevelt surface water. Subsequently a portion of Surface Water Certificate 10372 was assigned to Avista from this well for operation of the KFGS. Ecology affirmed the SCWCB's decision for Change under Water Right Certificate No. 10372 (STEV 10-06) on 5/5/2011.

Avista intends to acquire water rights to become independent of the City's water supply. Once Avista acquires water rights for full operations of the plant, this will release over 600 gpm back to the City to provide for growth and other municipal water supply needs.

Other Rights Appurtenant to the Place of Use

The City of Kettle Falls continues to serve the facility from the municipal water system. The City received authorization to add the wells at the KFGS under SCWCB's decision for Change under Water Right Certificate No. 10372 (STEV 10-06) on 5/5/2011. After the change, a portion of Surface Water Certificate 10372 was assigned to Avista ('B' portion, now known as Certificate No. 10372(B)) in the amount of 0.535 cfs (240 gallons per minute), 200 acre-feet per year. Avista has continued to pursue well development for this authorization for change.

Avista filed Ground Water Application G3-30632 requesting 800 gallons per minute, 750 acre-feet per year. The total combined water rights for Avista's KFGS will include the quantities assigned to Avista under Water Right Certificate 10372(B) which are 240 gallons per minute, 200 acre-feet per year together with the authorized amounts under this application.

Avista has proposed to mitigate the impacts of this new application request by purchasing water rights 45 miles upstream in the Colville River Basin and place those water rights into the State Trust Water Program as permanent mitigation for this application. This application requests an equal quantity of water as placed into The Trust Water Program. This mitigation is described below.

Water Availability

Wells were constructed on the site under the authorization for change under Surface Water Certificate 10372(B). The wells were tested and pumped and it was determined these wells fluctuate with the water levels of Lake Roosevelt and will provide a sufficient volume of water for the project. It was determined the production from these wells have a direct effect on Lake Roosevelt reservoir.

Consultation is required under WAC 173-563-020.

Under WAC 173-563-020(4), water is not available for this application without mitigation of the effects of its withdrawal. The rule states:

> *The instream flows established and implemented by this chapter for instream and out-of-stream uses, and the average weekly flows applied by this chapter to out-of-stream uses do not apply to any application for water from the main stem Columbia River on which a decision is made by the department of ecology on or after July 27, 1997. Any water right application considered for approval or denial after that date will be evaluated for possible impacts on fish and existing water rights. The department will consult with appropriate local, state, and federal agencies and Indian tribes in making this evaluation. Any permit which is then approved for the use of such waters will be, if deemed necessary, subjected to instream flow protection or mitigation conditions determined on a case-by-case basis through the evaluation conducted with the agencies and tribes.*

In order to mitigate the impacts of the proposed new appropriation of water on the Columbia River, the applicant purchased multiple water rights in the Colville River basin and provided hydrologeologic evidence indicating that impacts on the Columbia River associated with the proposed water use would be successfully mitigated by using those water rights in the proposed manner. The subject application is being evaluated considering the mitigation framework proposed.

Avista purchased three water rights and donated them into the Trust Water Program. The three water rights authorize the use of water under Surface Water Certificate 74, Groundwater Certificate G3-21870C, and Water Right Claim 043871 for irrigation use. Prior to placing these rights into trust, the Stevens County Conservancy Board evaluated the water rights of the farm under change application STEV 10-05. In January 2011 the board submitted a record of decision that was affirmed by Ecology on March 31, 2011. Change Authorization STEV 10-05 established a tentative determination that the portion of the water rights owned by Avista was a total of 566.1 acre-feet, 564.1 acre-feet per year for irrigation from May 15 through September 30 and 2 acre-feet for domestic and stock. Avista proposes to permanently donate

these water rights and the associated quantities into the Trust Water Program in return for a water right under the subject application.

The following section was prepared by Aspect Consulting, LLC (Aspect) in support of water right application G3-30632 filed by Avista.

The information was reviewed, accepted and incorporated into this report.

Applicant Supporting Information

The requested groundwater appropriation would withdraw water from wells in hydraulic continuity with the Lake Roosevelt pool of the Columbia River to provide water for Avista's Kettle Falls Generating Station (KFGS) in Kettle Falls, Washington. Consumptive use impacts to water availability in Lake Roosevelt would be addressed by placing water rights representing an equal quantity of consumptive use into the Washington State Trust Water Right Program (TWRP). The following sections provide a description of proposed mitigation, including benefits to the Colville River system, and descriptions of hydrogeologic conditions within the Colville Basin and at Avista's points of withdrawal adjacent to the KFGS.

Mitigation Offered

Unless mitigated, groundwater withdrawals requested under G3-30632 from an aquifer in direct hydraulic continuity with Lake Roosevelt will reduce water available in the Lake Roosevelt pool of the Columbia River. Avista intends to mitigate for consumptive use of the requested appropriation by permanently assigning water rights with an equal quantity of water (measured as consumptive use) to the TWRP. Water rights assigned by Avista and accepted by Ecology into the TWRP include Avista's portions of Surface Water Certificate 74, Surface Water Claim 043871, and Groundwater Certificate G3-21870C. All three water rights, as amended, are appurtenant to the same place of use on the Rainbolt Farm land, and are inter-tied into the farm's irrigation water delivery system. These rights are not additive to each other.

The surface water rights authorize diversion of water from Waitts Lake and Waitts Creek for irrigation use. Water was conveyed to the Rainbolt Farm property via Waitts Creek, a tributary to the Colville River. A portion of Ground Water Certificate G3-21870 was also appurtenant to the property.

A change to a portion of Groundwater Certificate G3-21870C, transferred to the City of Chewelah, was approved by the Stevens County Conservancy Board (STEV 10-05) in January 2011 and affirmed by Ecology on March 31, 2011. The remaining portion of that water right is now owned by Avista and designated as the "A" portion. G3-21870(A) authorized the withdrawal from two wells for 2 acre-feet per year for year-round stockwater and domestic use and 564.1 acre-feet per year, less any water used under the earlier priority surface water rights, for irrigation from May 15 through September 30.

Avista proposes to place these rights and quantities into trust as mitigation for the withdrawal from wells at KFGS. Benefits from this proposal are:

- Water historically withdrawn or diverted and consumptively used for irrigation at the Rainbolt Farm would instead discharge to the Colville River and its tributaries, increasing surface water flows from Waitts Lake to the mouth of the Colville River. This water would remain in the Colville River until discharging to Lake Roosevelt near Kettle Falls.

- The discharge of this water to Lake Roosevelt offsets consumptive use impacts to the lake resulting from the withdrawals requested under G3-30632.

The Colville River Basin is subject to an instream flow rule (Chapter 173–559 WAC) adopted to preserve wildlife, fish, scenic, aesthetic, and other environmental values and navigational values of the Colville River and its tributaries. The adopted instream flow rule prohibits new consumptive appropriations from the mainstem of the Colville River, including groundwater in continuity with the river, from July 16 through September 30. New appropriations at other times of the year are interruptible, if specified instream flows are not met. Additionally, lakes and tributary streams, including Waitts Lake and Waitts Creek, are closed year-round to all further consumptive appropriations. Placing Avista's (Rainbolt Farm) water rights into trust will increase groundwater discharge to the Colville River system and reduce diversions from Waitts Lake, resulting in increased flows in Waitts Creek and an approximately 45-mile reach of the Colville River, benefitting environmental, habitat and community values of these water bodies.

Hydrogeologic Conditions - Colville River Basin and Rainbolt Farm Property

The Colville River Basin is an approximately 1,000-square mile area located in Stevens County, Washington. The basin is defined by the surface water drainage of the Colville River. The Colville River flows generally northward about 53 river miles from near Springdale, Washington to the confluence with the Lake Roosevelt pool of the Columbia River near Kettle Falls, Washington. Topography of the river valley is generally flat, with steeper slopes leading up to the mountains at the valley margins.

The geology of the basin can be categorized into three groups; bedrock, glacial deposits, and recent valley alluvium. The bedrock forms the steep slopes of the foothills and mountains bounding the basin and underlies unconsolidated deposits along the lower slopes and floor of the river valley. The bedrock geology is complex and consists of a variety of metamorphic, sedimentary, and igneous intrusive rocks.

Unconsolidated deposits include recent alluvial deposits adjacent to the Colville River and tributary drainages, and a complex sequence of glacial and interglacial deposits. The major glacial and interglacial deposits include sand and gravel outwash deposits, ranging up to 300 feet thick; unsorted clay, silt, sand, and gravel glacial till, ranging up to 100 feet thick; and clay and silt glaciolacustrine (lake bed) deposits, ranging up to 300 feet thick. The till and outwash deposits are located primarily at higher elevations along the valley margins and within tributary drainages, while the glaciolacustrine deposits underlie the recent alluvium throughout much of the valley floor. The recent alluvium, consisting of silt, sand, and gravel is generally less than 30 feet thick.

The United States Geological Survey (USGS) defined seven hydrogeologic units, based on the hydraulic properties of the geologic units (Kahle, et al., 2003). The hydrogeologic units include:

- Upper outwash aquifer (UA), consisting of glacial outwash sand and gravel in terraces and stream valleys tributary to the Colville River;
- Till confining unit (TC), overlying bedrock along the foothills and mountain slopes;
- Older outwash aquifer (OA), comprised of discontinuous outwash deposits underlying till in tributary valleys;
- Colville Valley confining unit (VC), comprised of glaciolacustrine deposits occurring throughout the length of the Colville River Valley;
- Lower aquifer (LA), a confined aquifer consisting of sand and gravel underlying the VC throughout the Colville River Valley;
- Lower confining unit (LC), a silt and clay unit that, where present, underlies the LA; and
- Bedrock (BR), which underlies all the unconsolidated units.

For the purpose of evaluating the mitigation offered by Avista for water right application G3-30632, the hydrogeologic units of interest are the Lower aquifer tapped by the Rainbolt Farm wells and the overlying Colville Valley confining unit. The USGS indicates that the Lower aquifer and Colville Valley confining unit are continuous through the Colville Valley from the southern end of the basin near Springdale to the Northern end near Kettle Falls. Groundwater flow in the Lower aquifer is generally northward, parallel to the axis of the valley. Recharge to the Lower aquifer likely occurs at the southern end of the basin near Springdale, where vertical hydraulic gradients are downward and may also occur through alluvial fans and talus slopes along the valley margins. Through most of the valley hydraulic gradients are upward from the Lower aquifer, indicating a component of groundwater discharge through the confining unit to the overlying alluvium and Colville River. Groundwater discharge from the Lower aquifer near Kettle Falls is uncertain, but likely occurs as groundwater flow to Lake Roosevelt near the mouth of the Colville River.

The USGS performed a numerical groundwater flow modeling study to evaluate the effects of pumping water from the Lower aquifer on groundwater discharge to the Colville River, its tributaries, and Lake Roosevelt (Ely and Kahle, 2004). The modeling indicated that pumping from wells located near Chewelah and areas south, including the location of the Rainbolt Farm wells, would capture groundwater that ultimately discharges to the Colville River and its tributaries. The USGS model was run under steady state conditions and did not evaluate the timing of when pumping effects would reach the river; however, given the thick silt and clay confining unit overlying the Lower aquifer, the "lag" between pumping and effects on the river is likely to be on the order of months to several years. Because of the expected long lag time, the effects of seasonal changes in pumping would be attenuated or smoothed out over the year, with long-term pumping effects on the river approaching the annual average pumping rate.

The Rainbolt Farm property is located about 47 river miles upstream from Lake Roosevelt and about 6 miles south of Chewelah. The hydrogeology at the Rainbolt Farm property is consistent with hydrogeology of the Colville River valley. The irrigation well at the property authorized under G3-21870C taps the Lower aquifer (described as coarse gravel with clay and boulders) below about

80 feet of clay with fine sand and gravel, interpreted to be the Colville Valley confining unit. Applying the USGS modeling results described above to the Rainbolt Farm well indicates that, by discontinuing use of this well and placing the associated water right into trust, water that was captured by the well would instead discharge to the Colville River and its tributaries increasing surface water flows. Because the confining unit would attenuate seasonal changes in withdrawals, the increase in flows would be experienced year-round and would be approximately equal to the consumptive quantity of water placed into trust averaged over the year.

Surface water from Waitts Lake and Waitts Creek under Certificate 74 and Claim 043871 was used along with groundwater from the wells to supply water for the Rainbolt irrigation system. By placing Avista's portions of these three water rights into permanent trust, the increased Colville River flows would be protected from appropriation and allowed to discharge to Lake Roosevelt, thus increasing annual discharge to Lake Roosevelt by the consumptive quantity of the trust rights.

New Points of Withdrawal for G3-30632

Two new wells have been constructed in the area approved for points of withdrawal adjacent to Avista's KFGS under a recently approved change to Avista's Surface Water Right Certificate No. 10372(B); these same points of withdrawal proposed for the new water right application No. G3-30632. In 2010, Fogle Pump and Drilling (Fogle) of Colville, Washington under contract to Avista, drilled a test well (Ecology Well Tag ID BBL793) in the SW1/4NE1/4 of Section 14, Township 36 N., Range37 E.W.M., approximately 1,200 feet east from the Lake Roosevelt shoreline. The test well was drilled to a total depth of 305 feet below ground surface (bgs), and constructed with 6-inch-diameter steel casing from ground surface to 280 feet bgs and 6-inch-diameter telescoping steel screen from 280 to 300 feet bgs.

In September and October 2011, Fogle drilled a production well (Ecology Well Tag ID BCN998) about 50 feet north of the test well. The production well was drilled to a total depth of 305 feet bgs, and constructed with 12-inch-diameter steel casing from ground surface to 271 feet bgs and 12-inch-diameter telescoping steel screen from 271 to 301 feet bgs.

The stratigraphy encountered when drilling the test well was similar to that encountered when drilling the production well. In each boring, about 270 feet of silt and clay with varying amounts of sand and gravel was observed overlying about 30 feet of coarse-grained sand and gravel aquifer material. The bottom of the sand and gravel unit is at the same elevation as the bottom of Lake Roosevelt, about 1,120 feet above mean sea level.

At time of drilling, depth to water in the wells was about 140 to 150 feet bgs, rising above the bottom of the silt and clay indicating the aquifer is under confined conditions. Water level monitoring in the wells between October 2010 and June 2011 indicated that groundwater head elevations are approximately equal to the elevation of Lake Roosevelt, and rise and fall in direct response to changes in lake stage.

In October 2010, a pumping test was performed at the test well using a temporary pump. The well was tested at a constant rate of 160 gallons per minute (gpm), the maximum rate that the temporary pump could sustain for a period of about 22 hours. Maximum water level drawdown in the well during the test was about 2.3 feet. In December 2011, a pumping test was performed at

the production well using a temporary pump. The well was tested at a constant rate of 900 gpm for a period of about 24 hours. At the end of the test, water level drawdown was about 5.9 feet in the pumping well and about 1.7 feet in the non-pumping test well. A transmissivity of 160,000 feet squared per day was estimated based on results of the production well pumping test.

Based on the high transmissivity of the sands and gravels, the elevation of this unit relative to lakebed bathymetry, proximity of the proposed points of withdrawal to the lake, and observed water level response in the wells to changes in stage of the lake, the sands and gravels tapped by Avista's water supply development wells are in hydraulic continuity with Lake Roosevelt.

References

Ely, D. Mathew and Sue C. Kahle, 2004, Conceptual Model and Numerical Simulation of the Ground-Water-Flow System in the Unconsolidated Deposits of the Colville River Watershed, Stevens County, Washington Scientific Investigations Report 2004–5237

Kahle, Sue C., Claire I. Longpre, Raymond R. Smith, Steve S. Sumioka, Anni M. Watkins, and David I. Kresch, 2003, Water Resources of the Ground-Water System in the Unconsolidated Deposits of the Colville River Watershed, Stevens County, Washington. Water-Resources Investigations Report 03-4128

Consultation

On May 23, 2012, Ecology contacted local, state, and federal agencies and Indian tribes requesting consultation and comments on issuing a new commercial/industrial permit from wells in continuity with the Columbia River mitigated by 566.1 acre-feet of water from the donated water rights into the Trust Water Right Program.

Ecology received one written response from USBR in support of the decision.

Water Rights Donated into the Trust Water Right Program

All or a portion of three water rights were donated into the State Trust Water Program. These rights are described as follows:

Surface Water Claim 043871 claims the use of Waits Creek, 452 acre-feet per year for irrigation of 113 acres. The claimed priority date is 1867. The claimed place of use is described as the N½SW¼ and NW¼SE¼ of Section 15, T. 31 N., R. 40 E.W.M.

Surface Water Certificate No. 74 together with Certificate of Change 987 and 415 confirms a right of 3.0 cubic feet per second for the irrigation of 500 acres within the SE¼NE¼, E½SE¼ of Section 16; S½NW¼, SW¼NE¼, W½SE¼, SW¼ lying east of Lampray Road of Section 15; NE¼NW¼ and west 28 aces of the NW¼NE¼ of Section 22, T. 31 N, R. 40 E.W.M.

Ground Water Certificate G3-21870 together with Certificate of Change Vol. II-3 page 49 confirmed a use of 15 gallons per minute, two acre-feet per year for continuous domestic supply and stock watering, 814 gallons per minute, 564.1 acre feet per year for seasonal irrigation of 198 acres from May 1 to September 30 and fire protection as needed. The authorized place of use is described as the W½SE¼ and SW¼ lying east of Lampray Road in Section 15, T. 31 N., R. 40 E.W.M.

Avista purchased and donated these water rights into the Trust Water Program. These three water rights authorize the use of water from Waitts Lake and Waitts Creek under Surface Water Certificate 74, and Water Right Claim 043871 and from the lower aquifer well under Groundwater Certificate G3-21870 for irrigation use. The Stevens County Conservancy Board evaluated the use of water rights on the property in January 2011 and submitted a record of decision that was affirmed by Ecology on March 31, 2011. The tentative determination of the extent of water use on the farm appurtenant to the portion of the water right owned by Avista was determined to be 566.1 acre-feet per year.

The 566.1 acre-feet identified under these three water rights is the quantity of water proposed for mitigation in return for an equal amount from the wells downstream near Lake Roosevelt. Avista has donated these rights into the trust program and will permanently deed these rights to the state prior to a water right permit being issued as a result of this report of examination.

Beneficial Use

The proposed use of water is defined in statute as a beneficial use (RCW 90.54.020(1)).

Avista requested 800 gallons per minute, 750 acre-feet per year. Avista has acquired 566.1 acre-feet of water in the Colville Basin and donated this quantity of water into the Trust Water Program and in return requests an equal amount under the pending application.

Public Interest Considerations

The subject application is proposed to be fully mitigated with an equal quantity of water. The new appropriation will not be contrary to the public interest.

Impairment Considerations

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.

- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

The applicant has acquired sufficient water rights in the Colville River Basin in quantities equal to the instantaneous quantity requested under the subject application. The annual quantities acquired under these rights equal 566.1 acre-feet per year, which will reduce the requested quantities of 750 acre-feet under this application to 566.1 acre-feet to equal that amount placed into the Trust Water Program for mitigation. The trust rights will offset the proposed new use. Existing rights and instream flows in the Columbia River and downstream will not be impaired.

It is recognized that placing the water rights permanently into the Trust Water Right Program will provide an environmental benefit to approximately 45 miles of the Colville River, Waitts Creek and Waitts Lake.

Conclusions

In conclusion, Ecology may only approve water right applications if there is water available, the water will be put to a beneficial use, it will not impair existing rights, and it will not be detrimental to the public interest (RCW 90.03.290). Ecology may only exercise trust water rights if they will similarly not impair existing rights or the public interest. Based on my investigation of this permit application, I conclude the following.

- The proposed use is beneficial.
- Water is physically and legally available for appropriation.
- Exercise of this water right for commercial and industrial use will not impair existing water rights.
- Exercise of this water right is not detrimental to the public interest.
- Exercise of this water right following conveyance to the State the three trust water rights described above will not impair existing rights or the public interest.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that this request for a water right be approved in the amounts and within the limitations listed below and subject to the provisions listed above.

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:

800 gallons per minute
566.1 acre-feet per year

Commercial and industrial uses
Fire protection as needed

Six wells within the SW¼NE¼ and the NW¼SE¼ of Section 14, T. 36 N., R. 37 E.W.M.

Place of Use

All that part of the NE¼ of Section 14, Township 36 N., Range 37 E.W.M., in Stevens County, Washington, being further described as follows: Beginning at the East ¼ corner of said Section 14, said point being marked with a 1-inch pipe; thence along the South line of the NE¼ of said Section 14, S 87°47'49"W a distance of 402.32 feet to a point on the westerly right of way line of U.S. Highway No. 395, and the true Point of Beginning of the tract to be described: thence along the westerly right of way of said Highway No. 395 the following five courses and distances: N 34°21'43"W 1138.06 feet; N 45°40'19"W 101.98 feet; N 34°21'43"W 700.00 feet; N 17°39'46"W 104.40 feet; N 34°21'43"W 211.28 feet; thence S 55°38'17" W a distance of 206.31 feet to a point on the easterly right of way line of the Burlington Northern Railroad; thence along the easterly right of way line of said Railroad the following three courses and distances: S 13°33'30"W 564.00 feet; N 76°26'30"W 30.00 feet; S 13°33'30"W 906.16 feet; to the beginning of the tangent curve concave to the left of 2814.70 feet radius; thence continuing along said right of way line along said curve a distance of 396.16 feet to a point on the South line of the NE¼ of said Section 14; thence N 87°57'49"E a distance of 1872.13 feet to the true Point of Beginning.

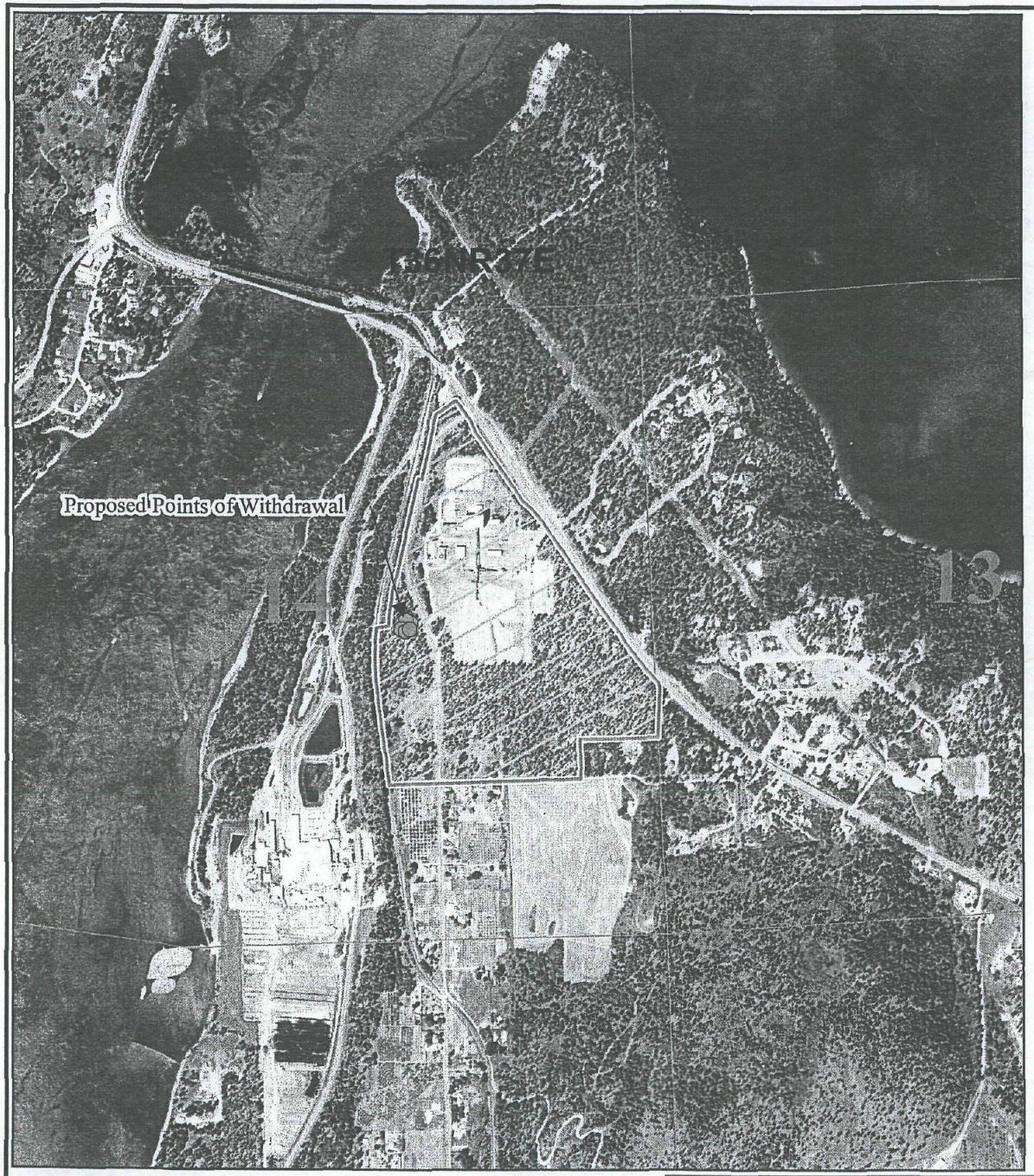
That part of the NW¼ of the SE¼ of Section 14, Township 36 N., Range 37 E.W.M., in Stevens County, Washington, lying East of the right of way for the Great Northern Railway Company.

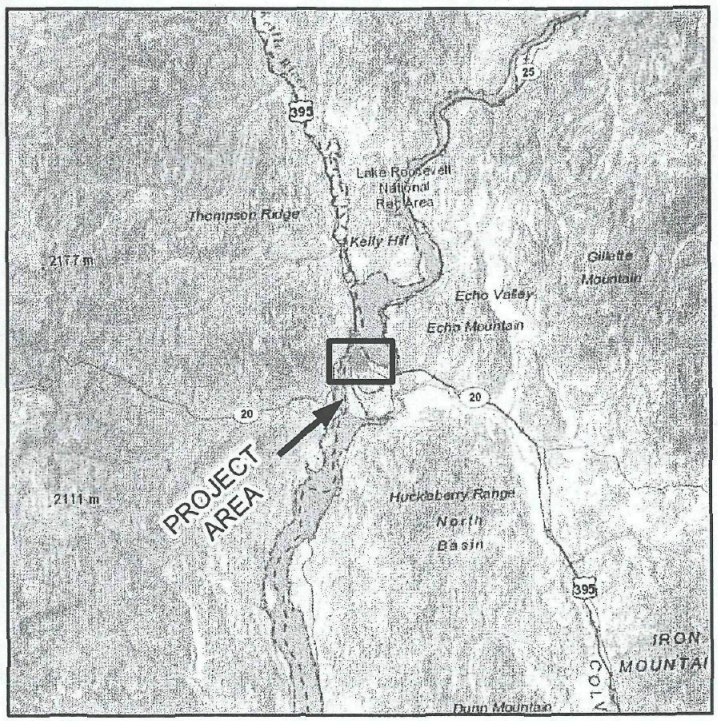
The N½ of the NE¼ of the SE¼, the SW¼ of the NE¼ of the SE¼ and the N½ of the SE¼ of the NE¼ of the SE¼ of Section 14, Township 36 N., Range 37 E.W.M., in Stevens County, Washington, EXCEPT right of way for Primary State Highway No. 3, Meyers Falls to Kettle Falls bridge, conveyed to State of Washington, by deed recorded in Volume 104 of Deeds, page 538, and deed recorded under auditor's file No. 499697. EXCEPT that portion of the N½NE¼SE¼ lying North and East of Primary State Highway No. 3.

Kevin Brown 7/10/12

Kevin Brown, Report Writer *Date*

Avista Corporation
G3-30632
T36N/R37E





Basemap - (ESRI US Topographic Maps)

Legend

Authorized Place of Use

Authorized Point of Withdrawal

Townships

Sections

0 600 1,200 2,400 3,600 4,800 Feet

Basemap - (NAIP 2011 1m color)

DEPARTMENT OF ECOLOGY State of Washington

Map Date: 5/24/2012

Comment:
Place of use and source locations are as defined within the Report of Examination cover sheet for the document identfied in the header above.

ATTACHMENT 1