STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
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MAY 27 2016

Samson Farms, Inc.
C/o Rob Dhaliwal
722 Vine Street
Lynden, WA 98264

Dear Mr. Dhaliwal:

Re: APPROVED Seasonal Change Authorization for Ground Water Certificate 61-A, Whatcom County, Water Resources Inventory Area 1

The Department of Ecology (Ecology) received your application for a seasonal change of Ground Water Certificate (GWC) 61-A on January 28, 2016. Your application has been assigned control number CG1-*00212C@7. Please refer to this number when corresponding with us about this seasonal change authorization.

You requested a change in place of use. You did not request to change the points of withdrawal, purpose of use, or period of use.

BACKGROUND INFORMATION

GWC 61-A was issued to Arvil Chilton with a priority date of April 12, 1946. It authorizes the withdrawal of 175 gallons per minute (gpm), 90 acre-feet per year (ac-ft/yr), from two wells, for the irrigation of up to 60 acres. The authorized points of withdrawal are located within the NE¼ SE¼, Section 34, Township 40 North, Range 3 East. The current certificated place of use is the NE¼ SE¼ and the E½ NW¼ SE¼ of Section 34, Township 40 North, Range 3 East. You requested to change the place of use to include 24 acres within the NW¼ SW¼, Section 35, Township 40 North, Range 3 East.

Your application states you (through your affiliated companies – Sam & Sons L.P. and Evergreen Farms 2000, LLC) are the owner of this certificate, the points of withdrawal, and the current and proposed place of use - with the exception of parcel #400334484146 (≈2 acres), which is owned by John & Diane O'Flaherty.

Your application package included aerial photos from 1951, 1961, 1975, 1986, 1991, 1995, and 2008 to substantiate your claim that the original place of use has consistently been used for irrigated agricultural purposes.

Buck Smith, Water Resources Program Senior Hydrogeologist, has conducted a site examination of your property to confirm the existence of your original and proposed projects. He confirmed the existence of your points of withdrawal and you explained to him the beneficial use (sprinkler irrigation of pasture grass) that occurred historically within the certificated (original) place of use and the proposed beneficial use (sprinkler and drip irrigation of raspberries) to occur within the new, seasonally expanded, place of use.

DEPARTMENT OF ECOLOGY DECISION - INCLUDING TERMS & CONDITIONS

Your request for a seasonal change in place of use is hereby **APPROVED** under the terms and conditions listed below:

- The authorized instantaneous rate cannot be exceeded at any time. The total withdrawal rate from the two authorized points of withdrawal shall not exceed 175 gpm. You are required to monitor pumping to ensure compliance with this condition.

- RCW 90.03.380(1) requires Ecology to calculate the "annual consumptive quantity" (ACQ) available for change. The statute (in part) states: *A change in the place of use…to enable irrigation of additional acreage…may be permitted if such change results in no increase in the annual consumptive quantity of water used under the water right.* In addition, in accordance with RCW 90.44.100(2)(d) *…to change the place of use of a water right…other existing rights shall not be impaired.*

- Based upon your assertion of full use of the certificate on a regular yearly basis, the ACQ available under this change approval has been calculated as follows:

    - The annual amount of water withdrawn has been 90 ac-ft/yr for 60 acres = 1.5 feet (18 inches) per acre.

    - You and/or previous owners historically used a moving big gun for pasture irrigation.

    - According to the 1985 Washington Irrigation Guide (WAIG), the crop irrigation requirement for pasture (near the Bellingham weather station) is 12.82 inches per acre.

      Based on your maximum allowable volumetric pumping rate of 18 inches per acre, the need for 12.82 inches of water to be available to the crop, an irrigation efficiency of 65% (this is average for a moving big gun), and an average of 10% (1.8 inches) lost to evaporation; return flow to the groundwater system is 3.38 inches (Calculation: 18 inches applied minus 12.82 inches of crop requirement minus 1.8 of evaporation = 3.38 inches of return flow).

      So, 14.62 inches of the 18 inches per acre pumped shall be considered to be consumptive and 3.38 inches per acre shall be considered to be non-consumptive.

No ACQ credit can be given for the non-consumptive (return flow) portion of the water pumped. 14.62 inches of consumptive water use is equal to 1.22 feet per acre. Therefore, 1.22 feet multiplied by your 58 acres (60 acres total minus the O'Flaherty's 2 acres) of irrigated land is equal to 70.76 ac-ft/yr. This is the amount of consumptive water use (ACQ) available for seasonal transfer.

- Your application requests to add 24 acres (see map, field #3) within the NW¼ SW¼, Section 35, Township 40 North, Range 3 East. You intend to use 100% drip irrigation (no overhead sprinklers) on this acreage this season. By using drip irrigation, only approximately 25% of the acreage (6 acres) will be "wetted" by irrigation (i.e., just the trellis rows), the remaining 75% of the acreage (18 acres) will be "dry" land between the trellis rows (i.e., the row middles).

  Because you intend to use 100% drip irrigation on this acreage this season, and because on average drip irrigation (including evaporation) is 93% efficient, your pumping needs for this acreage this season will be 9.55 ac-ft. [Calculation: 6 acres multiplied by the WAIG crop irrigation requirement for raspberries of 1.48 feet (17.76 inches) divided by the irrigation efficiency of 0.93 (93%) equals 9.55 ac-ft.] Of this amount, 8.88 ac-ft (6 acres multiplied by 1.48 feet) shall be considered to be consumptive, and 0.67 ac-ft shall be considered to be non-consumptive (return flow).

- You also plan to continue to irrigate your 58 acres (fields #1 & #2) within the original place of use. However, instead of the historical practice of irrigating grass on the entire acreage with a big gun, you will be drip irrigating approximately 25 acres of raspberries (field #2), with the remaining 33 acres (field #1, also in raspberries) irrigated by big gun.

  By irrigating field #2 (25 acres) with drip irrigation, only approximately 25% of this acreage (6.25 acres) will be "wetted" (just the trellis rows), the remaining 75% of the acreage (18.75 acres) will be "dry" land between the trellis rows (the row middles). Your pumping needs for this acreage this season will be 9.95 ac-ft. [Calculation: 6.25 acres multiplied by the WAIG crop irrigation requirement for raspberries of 1.48 feet divided by the irrigation efficiency of 0.93 equals 9.95 ac-ft.] Of this amount, 9.25 ac-ft (6.25 acres multiplied by 1.48 feet) shall be considered to be consumptive, and 0.70 ac-ft shall be considered as non-consumptive (return flow).

  By irrigating field #1 (33 acres) with a big gun, only approximately 25% of the acreage (8.25 acres) actually needs to be "wetted" (just the trellis rows). Water applied to the remaining 75% of the acreage (24.75 acres) will fall between the trellis rows (the row middles) and will not be taken up by the plants. Your pumping needs for this acreage this season will be 65.12 ac-ft. [Calculation: 33 acres multiplied by the WAIG crop irrigation requirement for raspberries of 1.48 feet divided by the irrigation efficiency of 65% plus the 10% evaporation rate equals 65.12 ac-ft.] Of this amount, 21.16 ac-ft shall be considered to be

consumptive, [Calculations: 8.25 acres of actual "crop" acreage multiplied by the WAIG crop irrigation requirement for raspberries of 1.48 feet divided by the irrigation efficiency of 65% plus 10% for evaporation (0.65 + 0.10) equals 16.28 ac-ft, plus the 10% evaporation rate (which is consumptive and not available for return flow) over the non-crop 24.75 acres equals 4.88 ac-ft (Calculation: 65.12 ac-ft multiplied by 24.75/33 multiplied by the 10% evaporation rate equals 4.88 ac-ft). In total, 16.28 ac-ft plus 4.88 ac-ft equals 21.16 ac-ft.]. Because 21.16 ac-ft of the 65.12 ac-ft applied shall be considered as consumptive, that leaves 43.96 ac-ft as non-consumptive (return flow).

- In all, for the original 58 acres plus the new 24 acres the consumptive use will be 39.29 ac-ft (8.88 ac-ft + 9.25 ac-ft + 21.16 ac-ft). This is less than the 70.76 ac-ft/yr historically used consumptively within the original place of use. This meets the ACQ statutory standard of *"no increase in the annual consumptive quantity of water used under the water right"*. [The total amount of non-consumptive use (return flow) will be 45.33 ac-ft (0.67 ac-ft + 0.70 ac-ft + 43.96 ac-ft).]

- The total amount of water (39.29 ac-ft consumptive + 45.33 ac-ft non-consumptive) needed for application over the original and added place of use will be 84.62 ac-ft (as a math check add the individual field application rates of 9.55 ac-ft, 9.95 ac-ft, & 65.12 ac-ft). This is less than the 90 ac-ft/yr historically applied on the original place of use, and because the points of withdrawal are not being moved, the statutory standard of "*other existing rights shall not be impaired*" has also been met.

- An approved measuring device must be installed and maintained for the sources identified in this season change authorization in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC, which 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 shall be recorded weekly during the irrigation season. Recorded water use data shall be submitted via the Internet by January 31, 2017. To set up an Internet reporting account, please contact Kasey Cykler (360-715-5222) at our Bellingham Field Office. If you do not have Internet access, you can still submit hard copies by contacting the Bellingham Field Office for forms to submit your water use data.

- 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 titled "Water Measurement Device Installation and Operation Requirements".
http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

- This seasonal change authorization is subject to existing rights, including any rights held by the United States for the benefit of tribes under treaty or settlement. By ensuring no greater use of water than authorized under the existing certificate, this seasonal change authorization should have no greater impact on tribal rights and/or instream flows than the original authorization.

- If it can be shown that water use authorized by this seasonal change is causing impairment of existing rights, then this authorization will be immediately canceled.

- This seasonal change authorization shall be in effect through October 1, 2016 (unless canceled sooner); at which time the subject right will automatically revert back to the original attributes described in GWC 61-A.

- Violation of any of the terms and conditions of this seasonal change will result in this authorization being immediately canceled, issuance of administrative orders to cease and desist, and may also subject the violator to civil penalties.

- Ecology assumes no liability for the purchase and/or construction of any permanent facilities in conjunction with this seasonal change authorization.

- Ecology staff may field verify this seasonal change at any time for compliance with the terms and conditions of this authorization.

- **THIS AUTHORIZATION SHALL IN NO MANNER BE CONSTRUED TO GUARANTEE OR IMPLY THAT A FINAL (REGULAR) CHANGE AUTHORIZATION WILL ISSUE FOR THE FUTURE USE OF THE WATER HEREIN AUTHORIZED.**

If you have any questions or concerns regarding this authorization, please call Buck Smith at (425) 649-7147 or email him at buck.smith@ecy.wa.gov.

OPPORTUNITY TO APPEAL

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 P.O. Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board Environmental Hearings Office 1111 Israel Road SW, Suite 301 Tumwater, WA 98501	Pollution Control Hearings Board P.O. 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

Signed at Bellevue, Washington, this 27th day of May, 2016.

Thomas Buroker
Section Manager
Water Resources Program

TB:bs:mc

Enclosure: Your Right to be Heard

By Certified Mail: 9171 9690 0935 0106 7176 63

cc: Lesa Starkenburg-Kroontje