



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Application for Change
REPORT OF EXAMINATION
*WRTS No. CG3-*07265C*

PRIORITY DATE	APPLICATION NO.	PERMIT NO.	CERTIFICATE NO.
July 20, 1964	7265	7050	5266-A

NAME Clark Kagele, Kagele Family Farms LLC		
ADDRESS/STREET	CITY/STATE	ZIP CODE
4191 Kagele Road N.	Odessa, WA	99159

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
three wells
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND (cfs)	MAXIMUM GALLONS PER MINUTE (gpm)	MAXIMUM ACRE FEET PER YEAR (ac-ft/yr)
	1100	1320

QUANTITY, TYPE OF USE, PERIOD OF USE
 1100 gallons per minute, 1320 acre-feet per year for seasonal irrigation of 440 acres from February 1 to November 30.

Upon approval of this report of examination, the certificate will be split into two separate documents, (A) and (B) and will reflect the following quantities:

- 5266-A(A) Well 1: 600 gallons per minute, 720 acre-feet per year for the irrigation of 240 acres
- 5266-A(B) Wells 2 and 3: 500 gallons per minute, 600 acre-feet per year for the irrigation of 200 acres

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

5266-A(A) Well 1: 1400 feet west and 350 feet north of the SE corner of Section 15, T. 20 N., R. 32 E.W.M.

5266-A(B) Well 2: 2150 feet west and 1250 feet south of the NE corner of Section 25, T. 21 N., R. 31 E.W.M.
 Well 3: 1100 feet east and 1050 feet south of the NW corner of Section 19, T. 21 N., R. 32 E.W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE	WRIA	COUNTY
Well 1 (SW ¹ / ₄ SE ¹ / ₄) of Section 15		20	32	41	Adams
Well 2 (NW ¹ / ₄ NE ¹ / ₄) of Section 25		21	31		Lincoln
Well 3 (NW ¹ / ₄ NW ¹ / ₄) of Section 19		21	32		Lincoln

PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM
	1) 047.2197728	1) 118.7776493	
	2) 047.2865086	2) 118.8602117	
	3) 047.3017517	3) 118.8467409	

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED
 [Attachment 1 shows location of the authorized place of use and point(s) of diversion or withdrawal.]

5266-A(A) – 240 acres within the SE¹/₄ of Section 15 except the north 40 acres thereof and the NE¹/₄ of Section 22, T. 20 N., R. 32 E.W.M.

5266-A(B)– 200 acres within the pivot located in Section 25, T. 21 N., R. 31 E.W.M.

DESCRIPTION OF PROPOSED WORKS

One section pivot in Section 25. One pivot is irrigated in the NE¼ of section 22, the remaining property is in the Conservation Reserve Program (CRP).

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
started	complete	In use

PROVISIONS

The project is complete. If no appeals are filed, certificate and recording fees will be requested. The water right will be split and two Superseding Certificates will be issued.

The total combined quantity under Certificate Nos. 5266-A(A) and 5949-A, from Well No 1 is limited to 500 gallons per minute, 720 acre-feet per year for the irrigation of 720 acres. This well is currently not in use, power has been removed and the well pump has been removed.

All wells constructed shall meet the construction requirements of chapter 173-160 WAC entitled "Minimum Standards for the Construction and Maintenance of Wells" and chapter 18.104 RCW titled "Water Well Construction".

Installation and maintenance of an access port as described in chapter 173-160 WAC is required.

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", chapter 173-173 WAC.

Water use data shall be recorded weekly and maintained by the property owner for a minimum of five years, and shall be promptly submitted to Ecology upon request.

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 provisions, and to inspect at reasonable times any measuring device used to meet the above provisions.

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 wells or diversions and associated distribution systems for compliance with water law.

"The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required."

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

"Nothing in this authorization shall be construed as satisfying other applicable federal, state, or local statutes, ordinances, or regulations."

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

"Use of water under this authorization shall be contingent upon the water right holder's utilization of up-to-date water conservation practices and maintenance of efficient water delivery systems consistent with established regulation requirements and facility capabilities."

"WAC 173-130A-170 Casing and Sealing. In order to protect existing shallow domestic and stock water wells, and springs, casing and sealing requirements will be determined on a case-by-case basis and included as a provision on all new permits issued. New permits will also be conditioned to prohibit cascading water in wells in accordance with chapter 173-160 WAC (Minimum standards for construction and maintenance of water wells). Sealing of required casing shall consist of filling the annular space between casing and well bore with cement grout placed by pumping from the bottom of the casing to the land surface. Alternative methods to provide the same protection afforded by casing and sealing may be submitted to the department for review and shall only be used if approved in writing by the department prior to well completion."

"WAC 173-130A-180 Reworking Wells. Any well which is reworked shall be constructed to comply with the casing and sealing provisions of WAC 173-130A-170. Reworking shall include, but not limited to, reaming to

enlarge well diameter or deepening."

Well 1 (SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15, T. 20 N., R. 32 E.W.M.) Should the original well be reconstructed or modified, or a replacement well constructed for this water right, it will be required to be properly constructed in accordance with the well drilling statutes (RCW 18.104 and WAC 173-160). If its total depth exceeds 400 feet below land surface, then a casing requirement for a well at this site shall be 600 feet of casing to construct a well into the Grande Ronde aquifer. Sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained. If at any time in the future, this well is reworked or reconstructed, the well shall be video scanned to determine actual construction. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set.

Original Well 2 (NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 25, T. 21 N., R. 31 E.W.M.) Should the original well be reconstructed or modified, or a replacement well constructed for this water right, it will be required to be properly constructed in accordance with the well drilling statutes (RCW 18.104 and WAC 173-160). If the well is reworked or deepened and its total depth exceeds 530 feet below land surface, then a casing requirement for a well at this site shall be 730 feet of casing to construct a well into the Grande Ronde aquifer. Sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained. If at any time in the future, this well is reworked or reconstructed, the well shall be video scanned to determine actual construction. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set.

Original Well 2 in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 25, T. 21 N., R. 31 E.W.M. is currently capped and not in use. The well appears to be completed into both formations and may be causing interaquifer exchange of water. The well should be decommissioned in accordance with WAC 173-160.

Additional/Replacement Well 2 is in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 25, T. 21 N., R. 31 E.W.M. Should the well be reconstructed or modified, or a replacement well constructed for this water right, it will be required to be properly constructed in accordance with the well drilling statutes (RCW 18.104 and WAC 173-160). If the well is reworked or deepened and its total depth exceeds 530 feet below land surface, then a casing requirement for a well at this site shall be 730 feet of casing to construct a well into the Grande Ronde aquifer. Sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained. If at any time in the future, this well is reworked or reconstructed, the well shall be video scanned to determine actual construction. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set.

Original Well 3 is in the W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 19, T. 21 N., R. 32 E.W.M. Should the original well be reconstructed or modified, or a replacement well constructed for this water right, it will be required to be properly constructed in accordance with the well drilling statutes (RCW 18.104 and WAC 173-160). If the well is reworked or deepened and its total depth exceeds 390 feet below land surface, then a casing requirement for a well at this site shall be a minimum of 590 feet of casing to construct a well into the Grande Ronde aquifer. Sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained. If at any time in the future, this well is reworked or reconstructed, the well shall be video scanned to determine actual construction. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set. The adjacent well is cased to 790 feet, apparently to ensure completion into the Grande Ronde aquifer.

Original Well 3 in the W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 19, T. 21 N., R. 32 E.W.M. is currently capped and not in use. The well appears to be completed into both formations and may be causing interaquifer exchange of water. The well should be decommissioned in accordance with WAC 173-160.

Additional/Replacement Well 3 is in the W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 19, T. 21 N., R. 32 E.W.M. Casing was installed to a depth of 790 feet. The static water level was described as 519 feet below land surface. The well appears to be completed into the Grande Ronde formation and exhibits characteristics of the Grande Ronde aquifer.

All wells in this authorization shall be equipped with an airline measuring device (required by WAC 173-130A-140) and an access port [required by WAC 173-160-291(3)]. Report the length of the airline to the Department of Ecology, Water Resources Program, Eastern Regional Office, 4601 N. Monroe Street, Spokane, Washington 99205-1295.

FINDINGS 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.

Therefore, I ORDER approval of the recommended change to add two wells and change a portion of the place of use under Change Application of Ground Water Certificate No. 5266-A, subject to existing rights and the provisions listed above.

You have a right to appeal this Order. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals & Application for Relief
Coordinator
PO Box 47608
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals & Application for Relief
Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. And send a copy of your appeal to:

Keith L. Stoffel
Department of Ecology
Eastern Regional Office
4601 North Monroe Street
Spokane, WA 99205

Signed at Spokane, Washington, this day of 2009.

Keith L. Stoffel, Section Manager
Water Resources Program
Eastern Regional Office

BACKGROUND

An application for change/transfer was submitted by Kagele Family Farms to the Department of Ecology on July 18, 2005. The applicant proposes to add two points of withdrawal and change a portion of the place of use under Ground Water Certificate 5266-A.

A notice of application was duly published in accordance with RCW 90.03.280 in the Ritzville Adams County Journal on March 9, and March 16, 2006 and one protest was received. The protest will be discussed later in the report.

Environmental review under SEPA is required for many projects; however, some minor projects are categorically exempt from SEPA. Appropriations of one cfs or less of surface water, or of 2,250 gpm or less of ground water, for any purpose, and appropriations of 50 cfs or less for surface water used for irrigation are categorically exempt from SEPA. See WAC 197-11-305. Since this water right is for 1100 gpm this project is categorically exempt.

Attributes of Ground Water Certificate 5266-A

Recorded Name:	W. S. Raugust
Priority Date:	July 20, 1964
Instantaneous Quantity – Q(i):	1100 gallons per minute
Annual Quantity – Q(a):	1320 acre-feet per year
Source:	A well
Point(s) of withdrawal:	SW¼SE¼ Sec. 15, T. 20 N., R. 32 E.W.M.
Purpose of Use:	Irrigation of 440 acres
Period of Use:	Seasonal
Place of Use:	E½ of Sec. 15 and NE¼ of Sec. 22, T. 20 N., R. 32 E.W.M.

INVESTIGATION

Three water right documents and their relationships need to be discussed to describe this project.

Ground Water Certificate 5266-A issued in November of 1965 for a well located within the SW¼SE¼ of Section 15 in the amount of 1100 gallons per minute, 1320 acre-feet per year for the irrigation of 440 acres within the E½ of Section 15 and the NE¼ of Section 22. This was a reduction from the permitted quantity of 1500 gpm and 1800 acre-feet. The reduction was based on the well capacity to produce water. The annual quantity of water was based on the assumption the well would pump continuously the entire irrigation season.

In June of 1966, a second application was filed requesting additional water from the same well located within the SW¼SE¼ of Section 15. Ground Water Certificate 5949-A issued for 1100 gallons per minute, 1320 acre-feet for the irrigation of 480 acres in the W½ of Section 15 and the NW¼ of Section 22. This was a reduction from the permitted quantity of 1400 gpm, 1920 acre-feet based on the same well capacity and analysis under 5266-A. A letter in the file dated December 26, 1967, to the permittee stated these quantities would be “Totally Supplemental” to the quantities granted under Certificate 5266-A, being non-additive. The authorization would allow for the water from the well in the SW¼SE¼ of Section 15 to be used on the W½ of Section 15 and the NW¼ of Section 22. Both Certificates 5266-A and 5949-A were issued to the same well and the quantities were non-additive.

The capacity of the well in the SW¼SE¼ of Section 15 was physically limited to 1100 gallons per minute, 1320 acre-feet if it was pumped continuously throughout the irrigation season. The water quantities granted in Certificate 5949-A were not additive quantities to Certificate 5266-A, but the acres were additive. The total under both rights was limited to the physical capacity of the well. Irrigation was authorized on the entire 920 acre description.

In August of 1966, a third application was filed for a proposed well in the S½SW¼ of Section 15. Ground Water Certificate 6015-A issued for 1000 gallons per minute, 1077 acre-feet per year for the irrigation of 480 acres from March to October each year for all of Section 15 and the N½ of Section 22. The report of examination in January 1967 authorized the use of 2000 gallons per minute, 1920 acre-feet per year for the irrigation of 480 acres within the W½ of Section 15 and the NW¼ of Section 22. It described an underlying right, Certificate 5949-A, and confirmed the total use shall not exceed 1920 acre-feet being a totally supplemental supply, being non-additive.

The permit was modified in January of 1968 to include all of Section 15 and the entire N½ of Section 22. The supplemental use was then described as primary and additive. A new Report of Examination was not issued.

In March of 1968 a memo explained the evaluation of the rights as follows:

Well 1 is authorized under Certificates 5266-A and 5949-A for a total of 1100 gallons per minute, 1320 acre-feet per year, an average of 1.4 acre-feet per acre. The individual rights authorize quantities up to 3.0 acre-feet per acre, but considering the limitation of the issuance of the second right, the instantaneous and annual quantities need to be considered.

Well 2 is authorized under Certificate 6015-A for 1000 gallons per minute, 1077 acre-feet per year for the irrigation of 480 acres within the 920 acre-legal description at 2.2 acre-feet per acre.

The total combined quantity under these three filings is limited to 2100 gallons per minute, 2397 acre-feet per year for the irrigation of 920 acres within the 920 acre-legal description at an average of 2.6 acre-feet per acre.

Since issuance of the memo in March of 1968, the water quantities associated with 6015-A were considered additive to 5266-A and 5949-A. The acres irrigated were considered non-additive.

Section 15 and the N $\frac{1}{2}$ of Section 22 are all owned by the applicant. These lands have two wells and are covered under the three water right certificates described above. There are currently three standard center pivots irrigating the N $\frac{1}{2}$ of Section 22 and the SW $\frac{1}{4}$ of Section 15 from the well in the S $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 15. The well source irrigating these lands is under Certificate 6015-A.

The applicant stated he purchased the lands around the early eighties. The entire property was in the Conservation Reserve Program (CRP) at the time of purchase and was not irrigated. He indicated he bought the three pivots from the CRP program and began to irrigate three pivots within the described properties in the early 90's from the well in the S $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 15 subject to Certificate 6015-A. The well in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15 subject to Certificates 5266-A and 5949-A has not operated since the early 1980's. The power has been removed.

The CRP contracts mostly describe the crops as wheat prior to being placed into the CRP Program.

The applicant has been requesting and receiving seasonal change authorizations to transfer portions of water right certificates to the proposed place of use of the subject application. The previous seasonal transfers were under Certificates 5949-A and 6015-A in 1996 and again from 2001-2007. A seasonal change application was filed under Certificate 5266-A in 2005 and a decision was not made. The subject application is requesting a permanent change to Certificate 5266-A to the 200 acres he has been seasonally irrigating under Certificates 5949-A and 6015-A.

The property lies within the Odessa Subarea, WAC 173-130A. The crops typically grown are rotational crops ranging from potatoes to wheat crops. A meter is installed on the source well (S $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 15) for Certificate 6015-A. At the time of the field exam, the well was pumping 1000 gpm running one of the three pivots. This well (6015-A) is authorized up to 1000 gpm. The water right (6015-A) is limited to an annual use of 2.2 acre-feet per acre for 440 acres of irrigation. This is the only source and water right currently used.

The 200 acres of property proposed for transfer under Certificate 5266-A is described as the north 200 acres of the E $\frac{1}{2}$ of Section 15. This land is currently not irrigated under Certificate 6015-A and is in CRP. The authorized well is capped and not in use.

Evaluation of the Water Right and Beneficial Use Analysis:

The Washington State Supreme Court, in *Okanogan Wilderness v. Town of Twisp and Department of Ecology*, 133 Wn.2d 769, 947 P.2d 732 (1997), found that applications for change may be granted only to the extent the water has been historically put to beneficial use, as beneficial use determines the measure of a water right. They also found that the existence and quantification of a water right must be determined, including whether or not the water right has been lost for non-use before the Department can approve a change or transfer of the water right.

Ground Water Certificate 5266-A authorized a use of 1100 gallons per minute, 1320 acre-feet per year for the irrigation of 440 acres. The authorized place of use (the E $\frac{1}{2}$ of Section 15 and NE $\frac{1}{4}$ of Section 22) is described as being irrigated prior to being placed into the CRP Program. Although the property has not been irrigated under the subject right since the early 1980's, it appears to have remained in CRP. Ground Water Certificate 5266-A is therefore not subject to relinquishment under RCW 90.14.140(F), an exemption to relinquishment.

In addition to the exemption from relinquishment described under RCW 90.14.140(F), the landowner has filed documentation under RCW 90.44.520 indicating the non-use of water is not subject to relinquishment in the Odessa Sub Area under RCW 90.14.140(2)(b).

Although the right has not been exercised on the 200 acres proposed for transfer since the early 1980's, based on the available information the right has not relinquished, is in good standing and is available for change.

The proposed quantities for change would be proportionate to the number of acres proposed for change. The application requests a transfer of 200 acres. The right authorizes 2.5 gallons per minute per acre (1100 gpm/440 acres = 2.5 gpm/acre). Transferring 200 acres would allow an instantaneous quantity of 500 gallons per minute. The right authorizes 3 acre-feet per acre which would allow transfer of an annual quantity of 600 acre-feet.

This will leave only 600 gallons per minute, 720 acre-feet available from this source well to irrigate the remaining lands under 5266-A(A) and 5949-A.

Hydrogeologic Analysis

Applications for change/transfer of water right permits and certificates are governed by RCW 90.44.100, which states in part that: the holder of a valid right to withdraw public ground waters may, without losing his priority of right, construct wells at a new location in substitution for, or in addition to, those at the original location, or he may change the manner or the place of use of the water. Such amendment shall be issued by the Department only on the conditions that: (1) the additional or substitute well or wells shall tap the same body of public ground water as the original well or wells; (2) use of the original well or wells shall be discontinued upon construction of the substitute well or wells; (3) the construction of an additional well or wells shall not enlarge the right conveyed by the original permit or certificate; and (4) other existing rights shall not be impaired. The Department may specify an approved manner of construction and shall require a showing of compliance with the terms of the amendment.

The proposed project lies within the boundaries of the Odessa Sub-area as defined in Chapter 173-128A WAC. The Odessa Sub-area encompasses approximately 2,000 square miles in parts of Grant, Lincoln, and Adams Counties. The relatively flat-lying land surface slopes in a southwesterly direction and is locally dissected by coulees.

Basalt aquifers of the Odessa Sub-area are part of a large ground water reservoir occurring in a thick series of basalt flows known as the Columbia River Basalt Group. The thickness of this series of flows varies from a few hundred feet at the Spokane River to over 10,000 feet in the Pasco Basin. The wells associated with this change application are all producing water from the same aquifer system and as such, they are all producing water from the same body of public groundwater.

Well Construction

1) The authorized well for Certificate 5266-A (SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15, T. 20 N., R. 32 E.W.M.) was constructed in 1965 to a depth of 740 feet below land surface. The static water level at that time was described as 122 feet below land surface. The well appears to be completed into both the Wanapum formation and the Grande Ronde formation. The power has been removed and this well is not currently operational.

WAC 173-130A-170 Casing and Sealing, allows the determination of casing and sealing requirements on a case-by-case basis in order to protect existing shallow domestic and stock water wells, and springs. The altitude of the Grande Ronde Basalt Member (from the USGS WRI Report 87-4238, Sheet Three, and other sources) for this well (SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15, T. 20 N., R. 32 E.W.M.) is 1280 feet above sea level (ASL). With a land surface elevation of 1680 feet ASL, this puts the top of the Grande Ronde at 400 feet below land surface. The change in head between the Wanapum aquifer and the Grande Ronde aquifer typically does not occur at the formation contact; rather, it occurs up to 200 feet below the Vantage Interbed.

If the well is reworked or reconstructed, and its total depth will be more than 400 feet below land surface, then a properly sealed casing will need to be installed to a depth of 600 feet below land surface.

The well drilling statutes require that wells be constructed to prohibit the interchange of aquifer waters. Should the original well be reconstructed or modified or a replacement well constructed for this water right, sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. The annular space shall be a minimum of 4-inches greater than the permanent casing. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained. This design assures separation of hydrologic head of the shallower Wanapum aquifer from the deeper Grande Ronde aquifer. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set.

2) Another proposed well is in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 25, T. 21 N., R. 31 E.W.M. The original well under Certificate 4191-A at this location was constructed to a depth of 532 feet. That well is capped and currently not used. The proposed well is the 1982 replacement well constructed for Certificate 4191-A. It was constructed in 1982 to a depth of 1402 feet below land surface. Casing was installed to a depth of 282 feet. In 1988, a liner was set between 257 feet and 320 feet to seal off cascading water. The static water level was described as 282 feet below land surface in 1982. The well appears to be completed into both the Wanapum formation and the Grande Ronde formation.

WAC 173-130A-170 Casing and Sealing, allows the determination of casing and sealing requirements on a case-by-case basis in order to protect existing shallow domestic and stock water wells, and springs. The altitude of the Grande Ronde Basalt Member (from the USGS WRI Report 87-4238, Sheet Three, and other sources) for this well (NW¼NE¼ of Section 25, T. 21 N., R. 31 E.W.M.) is 1250 feet ASL. With a land surface elevation of 1780 feet ASL, this puts the top of the Grande Ronde at 530 feet below land surface. The change in head between the Wanapum aquifer and the Grande Ronde aquifer typically does not occur at the formation contact; rather, it occurs up to 200 feet below the Vantage Interbed.

If the well is reworked or reconstructed, and its total depth will be more than 530 feet below land surface, then a properly sealed casing will need to be installed to a depth of 730 below land surface.

The well drilling statutes require that wells be constructed to prohibit the interchange of aquifer waters. Should the original well be reconstructed or modified or a replacement well constructed for this water right, sealing shall be placed from the bottom of the well to the top until undiluted seal material returns to the surface through the annular space. The annular space shall be a minimum of 4-inches greater than the permanent casing. After casing is sealed in place, the well may be completed by drilling out the casing until sufficient water is obtained. This design assures separation of hydrologic head of the shallower Wanapum aquifer from the deeper, Grande Ronde aquifer. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set.

3) The proposed well in the W½NW¼ of Section 19 T. 21 N., R. 32 E.W.M. was constructed in 2004 to a depth of 2430 feet below land surface. This was a replacement well constructed for Certificate G3-01199C. Casing was installed to a depth of 790 feet. The static water level was described as 519 feet below land surface. The well appears to be completed into the Grande Ronde formation and exhibits characteristics of the Grande Ronde Aquifer.

The original well constructed for Certificate G3-01199C at this location was constructed to a depth of 582 feet under Certificate G3-01199C. The well is capped and currently not used. It appears to be completed in both the Grande Ronde and Wanapum aquifers. The applicant has expressed intent to use the well for domestic supply and stockwater. Should this original well be reconstructed or modified, it shall be cased and sealed to assure separation of hydrologic head of the shallower Wanapum aquifer from the deeper Grande Ronde aquifer.

WAC 173-130A-170 Casing and Sealing, allows the determination of casing and sealing requirements on a case-by-case basis in order to protect existing shallow domestic and stock water wells, and springs. The altitude of the Grande Ronde Basalt Member (from the USGS WRI Report 87-4238, Sheet Three and other sources) for this well (W½NW¼ of Section 19 T. 21 N., R. 32 E.W.M.) is 1320 feet ASL. With a land surface elevation of 1710 feet ASL, this puts the top of the Grande Ronde at 390 feet below land surface. The change in head between the Wanapum aquifer and the Grande Ronde aquifer typically does not occur at the formation contact rather up to 200 feet below the Vantage Interbed.

If the well is reworked or reconstructed, then properly sealed casing will need to be installed to a depth of 590 feet below land surface. The annular space shall be a minimum of 4-inches greater than the permanent casing. After casing is sealed in place, the well may be completed by drilling out of the casing until sufficient water is obtained. More casing than specified may be necessary in this well should an interaquifer transfer occur after casing and sealing is set. Sealing shall be placed from the bottom of the well to the top until undiluted sealing material returns to the surface. The adjacent well is cased to 790 feet, apparently to ensure completion into the Grande Ronde aquifer.

Existing Rights

Ground Water Certificate 4191-A is appurtenant to the proposed well in Section 25. Certificate 4191-A confirms a right of 1000 gallons per minute, 800 acre-feet per year for the irrigation of 300 acres within Section 25 and the W½ of Section 19 and the NW¼ of Section 30, T. 21 N., R. 32 E.W.M. This right is only used on 300 acres in Section 25. The applicant indicates one large pivot of approximately 493 acres is installed in Section 25. The proposed transfer of 200 acres will complete the approximate 500 acre pivot in Section 25.

Ground Water Certificate G3-01199C is appurtenant to the proposed well in Section 19. The applicant states two full size pivots and one half pivot are installed and irrigating approximately 328 acres in the W½ of Section 19 and the NW¼ of Section 30, T. 21 N., R. 32 E.W.M. Certificate G3-01199C confirms a right of 1800 gallons per minute, 936 acre-feet per year for the irrigation of 468 acres within the W½ of Section 19 and the NW¼ of Section 30, T. 21 N., R. 32 E.W.M. This right issued as a supplemental supply to Ground Water Certificate 4191-A on the W½ of Section 19 and the NW¼ of Section 30, T. 21 N., R. 32 E.W.M. if any water from the well in Section 25 is applied to this land.

The total water use for Section 25 shall be limited to 1500 gallons per minute, 1400 acre-feet per year for the irrigation of 500 acres.

Protest and Concerns

A formal protest was filed during the protest period by Fink, Fink & Fink. The Finks' farm lands are adjacent to the applicant's lands. They are concerned about the potential for the proposed transfer to have the following impacts:

- 1) the proposed transfer will allow more water to be withdrawn from the aquifer at their location and increase the irrigated acres at the Kagele Farm,
- 2) cause impairment of their water rights, cause the water table to decline at an increased rate,
- 3) cause them to drill new or replacement wells for their property, and
- 4) concerned as to what wells will be used to satisfy the transfer.

Consideration of Protests and Concerns

As described above, the 200 acres proposed for transfer under Certificate 5266-A have not been irrigated since the early 1980's. It appears the right has not relinquished due to placement into the CRP program (RCW 90.14.140(F)). In addition, RCW 90.44.520 expressly provides an exemption to relinquishment by notification to the department. The applicant has provided documentation on these exemptions to relinquishment. The rights are considered valid and available for change or transfer.

The transfer is proposing to move 200 acres with a proportional share of the right being 500 gallons per minute, 600 acre-feet per year for the irrigation of 200 acres, 6.5 miles northwest from the original site to the proposed site. The existing farm is located approximately 4.2 miles south of the protestant's property. The proposed farm and wells are approximately 2 miles northwest of the protestant's property. Providing the remaining right does not exceed 600 gallons per minute, 720 acre-feet from the original source well to irrigate the remaining lands under 5266-A(A) and 5949-A the quantities of water will not be enhanced.

As described above, both the Wanapum and Grande Ronde basalt aquifers of the Odessa Sub-area are part of a large ground water reservoir occurring in a thick series of basalt flows known as the Columbia River Basalt Group. Both the existing wells and the proposed well are considered to be within the same body of public ground water. The proposed project lies within the boundaries of the Odessa Sub-area as defined in Chapter 173-128A WAC. This definition of the subarea under the Odessa Sub area description is considered the administrative body of water with multiple aquifers.

The transfer, if approved, would allow for the irrigation of 200 acres of ground within Section 25. The 200 acres of property proposed under the subject application has been irrigated under the seasonal change authorization issued between 2001 and 2007 under two other Certificates 5949-A and 6015-A. The subject proposal would eliminate the need to file seasonal change applications on an annual basis for these other rights. At this time there is an equal amount of acreage proposed for irrigation as has been irrigated under the seasonal changes between 2001 and 2007. It is unknown what the applicant may propose with the acreage under Certificates 5949-A and 6015-A if this permanent proposal is approved under 5266-A.

Four water right documents are described from the protestant's wells.

Certificate	Priority Date	Qi	Qa	Acres
5189-A	9-3-1963	850	907	960
6643-A	4-20-1964	1200	1360	640
G3-01390C	3-22-1967	300	402	1560
G3-23013C	5-8-1974	305	300	960

*The total amount of instantaneous withdrawal under these Certificates is limited to 2655 gpm, for the irrigation of 1600 acres.

The protestant's wells are located within Sections 30 and 32 of T. 21 N. R. 32 E.W.M. The well in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 30 was constructed in 1990 to a depth of 1358 feet. Some well modifications were completed in 1991 and 1992. In 1998 the well was deepened to 1570 feet and 640 feet of casing was installed. The static water level is described as 452 feet below land surface. This well exhibits conditions associated with the Grande Ronde aquifer. The well in Section 32 was originally constructed in 1966 to a depth of 653 feet below land surface. The well was deepened to a depth of 782 feet in 1981. The original construction installed 35 feet of casing. This well appears to be double completed into both the Wanapum and Grande Ronde aquifers. The protestant indicates a static water level of 550 feet below land surface.

Both the applicant and the protestant appear to have wells subject to the same construction and aquifer characteristics.

Both the Wanapum and Grande Ronde aquifers are considered to be the same body of public ground water. The existing well in Section 15 is constructed into the Wanapum Aquifer. The original wells in Section 19 and 25 are

not proposed for use under the subject application. The two newer wells are proposed for use under the subject application. The well in Section 19 is cased and sealed into the Grande Ronde Aquifer. The well in Section 25 appears to be constructed into both the Grande Ronde Aquifer and the Wanapum Aquifer.

Impairment analysis

The Department of Ecology, the United States Geologic Survey, and other researchers have measured static water levels in the Odessa Subarea for many years. Wells in the vicinity of this change are declining. The Raugust well, a 790 foot well in Section 15, T. 20 N., R. 32 E.W.M., has declined 19 feet in five consecutive years of measurement between 2000 and 2006. The Fink well, a 702 foot well in Section 32, T. 21 N., R. 32 E.W.M. has declined 31 feet in those five years.

To assess impact from moving pumping from the authorized well for Certificate 5266-A (SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 15, T. 20 N., R. 32 E.W.M.), Ecology assessed incremental impact on nearby wells. We employed a small software package (Wellz, available at ERO) to assess impact of moving 500 GPM from the above well to the proposed well in Sec. 19, T. 21 N., R. 32 E.W.M. That software calculates impact using the method of Theis, 1935. The software indicates the majority of the impact of the change will be to the Fink Well located in Section 30, T. 21 N., R. 32 E. That impact will be about one foot total incremental impact after a year of continuous pumping. Similar calculations reveal similar impacts should all water affected by this change be transferred to the proposed well in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 25, T. 21 N., R. 31 E.W.M., authorized under Certificate 4191-A.

When placed in context of the overall drawdown currently in this portion of the Odessa Subarea, an additional foot does not appreciably hasten impacts to availability in area wells. Thus, no impairment to that availability will occur as a result of this change. Local measurements indicate the drawdown in this area from all impacts does not exceed the ten foot per year limit (WAC 173-130A-060).

CONCLUSIONS

There is a water right available for change/transfer under Ground Water Certificate 5266-A. Although the right has not been exercised since the early 1980's, ground water has been historically and beneficially used under this certificate for the purpose of the irrigation of 420 acres.

When considering an application for change to a water right, Ecology must determine that the proposed change can be made without detriment or injury to existing water rights. Factors considered when determining potential impact include the following:

No Impairment to Existing Rights:

The proposed change will not increase the volume of water currently authorized from the aquifer nor is the proposed change found to impair existing rights.

No Detriment to the Public Welfare:

No findings through this investigation indicate that there would be significant detrimental impact to the public welfare through issuance of the proposed change.

No Enhancement of the Original Right

No withdrawal of water over and above what has been historically put to beneficial use would be authorized through approval of this change.

Same Source of Water:

The wells associated with this change application are producing water from this aquifer system and as such, is producing water from the same body of public groundwater.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to add two wells and change a portion of the place of use be approved in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2.

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:

- A total of 1100 gallons per minute, 1320 acre-feet per year for seasonal irrigation of 440 acres from February 1 to November 31

Upon approval of this report of examination, the certificate will be split into two separate documents, (A) and (B) and reflect the following quantities:

- 5266-A(A) Well 1: 600 gallons per minute, 720 acre-feet per year for the irrigation of 240 acres
- 5266-A(B) Wells 2 and 3: 500 gallons per minute, 600 acre-feet per year for the irrigation of 200 acres

Point of Withdrawal

Well 1 (SW¹/₄SE¹/₄) of Section 15, 400 feet west and 350 feet north of the SE corner of Section 15, T. 20 N., R. 32 E.W.M.

Well 2 (NW¹/₄NE¹/₄) of Section 25, 2150 feet west and 1250 feet south of the NE corner of Section 25, T. 21 N., R. 31 E.W.M.

Well 3 (NW¹/₄NW¹/₄) of Section 19, 1100 feet east and 1050 feet south of the NW corner of Section 19, T. 21 N., R. 32 E.W.M.

Place of Use

5266-A(A) – 240 acres within the SE¹/₄ of Section 15 except the north 40 acres thereof and the NE¹/₄ of Section 22, T. 20 N., R. 32 E.W.M.

5266-A(B)– 200 acres within the pivot located in Section 25, T. 21 N., R. 31 E.W.M.

Report by: _____
Kevin Brown Date
Water Resources Program

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Attachment 1

