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DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION FOR TRUST WATER RIGHT

PRIORITY DATE	WATER RIGHT NUMBER	BEGIN TRUST TERM	END TRUST TERM
January 1, 1881	Yakima Superior Court Claim No. 02316		PERMANENT

WATER RIGHT OWNER
Crushe, LLC
PO Box 687
Roslyn WA 98941-0687

Agent
Anne Watanabe
PO Box 687
Roslyn WA 98941-0687

Purpose and Quantity

Trust water right for the purpose of instream flow and water banking to offset consumptive use associated with new groundwater uses in the Yakima Basin. The quantities are allocated to Primary Reach in the following manner:

Primary Reach Quantities

Period	Flow (cfs)	Acre-feet
04/01 -10/31	0.325	78.00

The quantities are allocated to Secondary Reach in the following manner:

Secondary Reach Quantities

	May	June	July	Aug	Sept.	Oct.	Total
Avg. Qi (cfs)	0.005	0.013	0.018	0.014	0.008	0.001	---
Qa (acre-feet)	3.96	9.68	13.20	10.56	5.72	0.88	44

"Primary reach" means that portion of a water body that benefits from both the former consumptive use and former return flow waters of a water right.

"Secondary reach" means that portion of a water body that benefits only from the former consumptive portion of a water right.

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BACKGROUND

Many aspects of this report apply to four separate Trust Water Right Applications filled by the applicant. This report of examination addresses Crushe LLC's request to transfer 0.325 cubic feet per second (cfs) and 78 acre-feet per year (ac-ft/yr) of Claim No. 02316 with a priority date of January 1, 1881 (S4-85150-J), to the Trust Water Right Program (TWRP) for instream flow and water banking purposes to mitigate for new withdrawals of groundwater in accordance with WAC 173-539A.

EXISTING Water Right Attributes

Water Right Owner:	**Crushe LLC**
Priority Date:	January 1, 1881
Place of Use:	That portion of the E½NE¼ of Section 11, T. 18 N., R. 17 E.W.M., County of Kittitas, state of Washington, lying easterly of the railroad right-of-way, except that portion of the W½W½NE¼NE¼ of said Section 11, described as follows: Commencing at the southwest corner of said quarter-quarter section; thence north 650 feet to the north right-of-way of the Burlington Northern railroad, the true point of beginning; thence southeasterly 163.8 feet along said right-of-way; thence N 42º E 148 feet, more or less; thence N 9º E 350 feet, more or less, to the Thorp Mill Ditch; thence westerly along said ditch 300 feet, more or less, to the west line of said quarter-quarter section; thence south 400 feet more or less, to the true point of beginning; and BEING an area described as follows: A line beginning at the northeast corner of Kittitas County Parcel Number 695933 which is the true point of beginning; thence S 01º48'16" E 936.79 feet; thence S 80º33'05" W 134.27 feet; thence N 29º00'30" W 295.44 feet; thence N 04º02'58" E 495.79 feet; thence N 70º33'36" W 157.80 feet; thence S 75º25'33" W 226.10 feet; thence S 02º41'02" W 280.41 feet; thence S 12º05'20" E 356.01 feet; thence S 43º49'27" E 421.57 feet; thence S 73º03'16" E 179.64 feet; thence S 52º16'57" E 114.72 feet; thence S 00º13'59" E 284.32 feet; thence S 35º32'16" W 37.65 feet; thence N 34º04'14" W 158.31 feet; thence N 33º44'50" W 163.36 feet; thence N 45º19'04" W 167.82 feet; thence N 41º47'41" W 387.44 feet; thence N 45º38'17" W 194.27 feet; thence N 58º44'11" W 286.72 feet; t hence N 68º05'39" W 128.61 feet; thence N 03º10'47" W 78.90 feet; thence N 53º51'56" W 74.40 feet; thence N 08º07'48" E 110.69 feet; thence N 15º57'05" W 363.86 feet; thence S 89º34'30" E 1192.74 feet to the true point of beginning and terminus of said line.

County	Waterbody	Tributary To	WRIA
Kittitas	Yakima River	**Columbia River**	39-Upper Yakima

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Irrigation	0.325	Cfs	78	4/1	10/31

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
Yakima River	149-17-34020-0014		18N	17E	03	SE NE		

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian; Datum in NAD83/WGS84.

REQUESTED Water Right Attributes

Applicant Name:	**Crushe LLC**
Date of Application:	August 23, 2012
Place of Use:	**Primary Reach** - beginning at the historic point of diversion located 1150 feet north and 75 feet west of the east quarter corner of Section 3, being within the NE¼SE¼NE¼ of Section 3, T. 18 N., R. 17 E.W.M., Kittitas County, state of Washington, and ends at a point downstream on the Yakima River, approximately RM 161, in the W½SE¼ of Section 12, T. 18 N., R. 17 E.W.M. **Secondary Reach** - beginning at approximately Yakima RM 161 in the W½SE¼ of Section 12, T. 18 N., R. 17 E.W.M., and ends at a point located at the confluence of the Yakima River and the Columbia River at RM 0 in the SE¼SE¼ of Section 24, T. 9 N., R. 28 E.W.M.

County	Waterbody	Tributary To	WRIA
Kittitas	Yakima River	Columbia River	39-Upper Yakima

Purpose	Rate	Unit	Acre-feet/yr	Begin Season	End Season
Instream Flow & Mitigation		CFS	78	04/01	10/31

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
Yakima River								

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian; Datum in NAD83/WGS84.

On August 22, 2012, Crushe LLC of Cle Elum, Washington filed Trust Water Right Application Nos. CS4-02316sb8(a1); CS4-02316sb8(b1); CS4-02316sb8(c1); and CS4-02316sb8(d1), with the Washington Department of Ecology to transfer all of Yakima River Adjudication Sub Basin 8 (Thorp) Court Claim 02316. The water rights associated with the four applications have priority dates of January 1, 1881; June 9, 1881; January 29, 1887, and March 3, 1900, respectively, subject to existing rights. The above applications requested Ecology place the water rights in the Trust Water Right Program for the purposes of instream flows and water banking to offset consumptive use associated with new groundwater uses in the Yakima River Basin. Trust water approved with these changes will be processed through the Trust Agreement between Ecology and Yakima River Mitigation Water Services, Inc. dated September 30, 2011.

The water right applications were submitted subsequent to Yakima Superior Court, matter of the *State Department of Ecology v. James J. Acquavella, et al*[1], *(Acquavella),* issued its August 9, 2012 Order Granting Motion to Substitute Parties and Divide Water Right Claim No. 02316 ("2012 Court Order"). The 2012 Court Order addressed Court Claim No. 02316 with the four priority dates of January 1, 1881; June 9, 1881; January 29, 1887, and March 3, 1900, as confirmed by the court in the Yakima Superior Court matter of *Acquavella,* within Subbasin No. 8 (Thorp).

[1] Yakima County Superior Court Cause No. 77-2-01484-5

The 2012 Court Order authorized the division of the four original rights, of which Crushe LLC retained 1.25 cfs and 300 ac-ft/yr of water from the Yakima River to irrigate 50 acres in Thorp, Washington under Claim No. 02316. The point of diversion is the same for all water rights associated with claim 02316 and is located 1150 feet north and 75 feet west of the east quarter corner of Section 3, being within the NE¼SE¼NE¼ of Section 3, T. 18 N., R. 17 E.W.M., Kittitas County, State of Washington.

In accordance with the 2012 Court Order, Crushe LLC is authorized to divert water under each water right with the following attributes:

- Priority Date January 1, 1881:
  Diversion of 0.325 cfs and 78 ac-ft/yr from the Yakima River for the irrigation of 13 acres from April 1 through October 31 of each year.
- Priority Date June 9, 1881:
  Diversion of 0.5 ac-ft/yr for stockwater and 0.5625 cfs and 135 ac-ft/yr from the Yakima River for the irrigation of 22.5 acres from April 1 through October 31 of each year.
- Priority Date January 29, 1887:
  Diversion of 0.1625 cfs and 39 ac-ft/yr from the Yakima River for the irrigation of 6.5 acres from April 1 through October 31 of each year.
- Priority Date March 3, 1900:
  Diversion of 0.20 cfs and 48 ac-ft/yr from the Yakima River for the irrigation of 8.0 acres from April 1 through October 31 of each year

The historical place of use is in Kittitas County and is in the unincorporated town of Thorp. The physical address of the property is 70 North 2nd Street, Thorp, Washington. Upon approval of the requested change, the subject water right will no longer be used on the identified place of use upon approval of this change request.

Legal Requirements for Requested Change

The following is a list of requirements that must be met prior to authorizing the proposed change in place of use and purpose of use.

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 Ellensburg Daily Record on October 19, 2012 and October 26, 2012. No protests were received in the 30 day protest period.

State Environmental Policy Act (SEPA)

This project is not categorically exempt from SEPA because it exceeds 1cfs of water for purposes other than irrigation. A SEPA review of the proposed instream flow water right was completed by the Department of Ecology and concluded with a Determination of Nonsignificance issued on August 16, 2013. No comments were received.

Water Resources Statutes and Case Law

Transferring a water right to the Trust Water Right Program for the purposes of water banking is governed by Chapter 90.42 RCW.

Under RCW 90.38.040(5)(a), a trust water right may be exercised only if Ecology first determines that the authorization will not impair any other water right. Yakima River flows will be increased (or neutral if fully used for mitigation credits) during the irrigation season as a result of cessation of the diversion of water for the Red Hawk Ranch property, so no impairment of other rights is anticipated.

RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights.

The Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of extent and validity of the claim or right. This is necessary to establish whether the claim or right is eligible for change. *R.D. Merrill v. PCHB* and *Okanogan Wilderness League v. Town of Twisp.*

This application qualifies for expedited processing under WAC 173-152-050(3)(a) whereby water right change applications may be processed prior to applications submitted at an earlier date when the proposed water use, if approved, would substantially enhance or protect the quality of the natural environment.

Upper Kittitas Rule

New groundwater users seeking to rely on this water right for mitigation will be required to apply for a Water Budget Neutral Determination or a mitigated Permit. This determination will include a detailed evaluation of the potential for impairment of existing rights according to WAC 173-539A-060(4)(a)-(d).

Each assignment of trust water rights accepted under the Contract will be subject to the terms of the Contract including federal consultation procedures under the Endangered Species Act (ESA) and public notice procedures. Statutory public notice procedures required under the state water code for new permits or water budget neutral decisions must also be followed.

INVESTIGATION

In considering this application, the investigation included, but was not limited to, research and/or review of:

- Yakima County Superior Court in *Acquavella* , Report of Referee Subbasin No. 8 (Thorp), May 1997
- Yakima County Superior Court in *Acquavella,* Supplemental Report of Referee Subbasin No. 8 (Thorp), May 4, 1997
- Yakima County Superior Court in *Acquavella,* Report of Proceedings, July 24, 1997
- Yakima County Superior Court in *Acquavella,* Memorandum of Opinion and Order re: Exceptions to Supplemental Report of Referee Subbasin No. 8 (Thorp), December 2, 1999

- Yakima County Superior Court in *Acquavella* , Memorandum of Opinion and Order re: Exceptions to Supplemental Report of Referee Subbasin No. 8 (Thorp), August 3, 2000
- Yakima County Superior Court in *Acquavella,* Conditional Final Order Subbasin No. 8 (Thorp), October 9, 2003
- Affidavit of Derald E. Martin, dated January 14, 2011
- Trust Water Agreement between Ecology and Yakima River Mitigation Water Services LLC, September 30, 2011
- Yakima County Superior Court in *Acquavella* , Motion to Substitute Parties and Divide Water Right Re: Claim No. 02316, June 18, 2012
- Yakima County Superior Court in *Acquavella* , Motion to Correct Exhibits and Typographical Errors in Motion to Substitute Parties and Divide Water Right Re: Claim No. 02316, June 22, 2012
- Yakima County Superior Court in *Acquavella*, Second Motion to Correct Motion to Substitute Parties and Divide Water Right Re: Claim No. 02316, July 18, 2012
- Yakima County Superior Court in *Acquavella*, Ecology's Response to Motion to Substitute Parties and Divide Water Right Re: Claim No. 02316, July 18, 2012
- Yakima County Superior Court in *Acquavella*, Order Granting Motion to Substitute Parties and Divide Water Right Re: Claim No. 02316, August 9, 2012
- Water Right Change Application No. CS4-02316sb8a, CS4-02316sb8b, CS4-02316sb8c, CS4-02316sb8d, and associated documents, August 22, 2012
- Technical Memorandum on Beneficial Use and Consumptive Use Calculations, Water and Natural Resource Group, April 19, 2011
- Technical Memorandum on Beneficial Use and Consumptive Use Calculations- Addendum, Water and Natural Resource Group, November 26, 2012
- Dated Aerial Photos (2001, 2003, 2004, 2005, 2006, 2009)
- Kittitas County Assessor's Tax Parcel Records
- Miscellaneous Ecology Records
- Meter records
- Soils Map
- Deeds
- Photos of the irrigation delivery system and appurtenant property
- Site visit conducted by Scott Turner with Anne Watanabe present
- State Water Code, administrative rules, regulations and policies

History of Water Use

The initial claimants of Court Claim No. 02316 in the *Acquavella* proceedings were Harold E. and Sherry A. Chamberlin. Court Claim No. 02316 contains four distinctive priority dates covering four described places of use, with defined instantaneous and annual quantities. For this evaluation, the four distinctive portions of Court Claim No. 02316 will be defined as Claim PD-A (priority date January 1, 1881 and the subject of this report); Claim PD-B (priority date June 9, 1881); Claim PD-C (priority date January 29, 1887); and Claim PD-D (priority date March 3, 1900). All four water rights document the same point of diversion and the same irrigation season, but have distinctive places of use and irrigable acres.

Yakima County Superior Court Judge in the matter of *Acquavella* confirmed the four priority dates for the water rights under Court Claim No. 02316 to the initial claimants, Harold E. & Sherry A. Chamberlin as documented in the Report of Proceedings (July 24, 1997, pp. 38-46); Supplemental Report of Referee and further amended in the Conditional Final Order ("CFO") issued by the Court on October 9, 2003 (pp. 109, 110, 117, and 128).

Court Claim No. 02316, as confirmed to Harold E. and Sherry A. Chamberlin, allows for the total diversion of 2.5 cfs, 601 acre-feet (ac-ft) (600 ac-ft irrigation, 1 ac-ft stockwatering) from a diversion point located at 1150 feet north and 75 feet west of the east quarter corner of Section 3, being within the NE¼SE¼NE¼ of Section 3, T. 18 N., R. 17 E.W.M., with the following attributes:

- Claim PD-A:
  Priority Date January 1, 1881: Diversion of 0.65 cfs and 156 ac-ft/yr from the Yakima River for the irrigation of 26 acres from April 1 through October 31 of each year.
- Claim PD-B:
  Priority Date June 9, 1881: Diversion of 1.0 ac-ft/yr for stockwater and 1.125 cfs and 270 ac-ft/yr from the Yakima River for the irrigation of 45 acres from April 1 through October 31 of each year.
- Claim PD-C:
  Priority Date January 29, 1887: Diversion of 0.325 cfs and 78 ac-ft/yr from the Yakima River for the irrigation of 13 acres from April 1 through October 31 of each year.
- Claim PD-D:
  Priority Date March 3, 1900: Diversion of 0.40 cfs and 96 ac-ft/yr from the Yakima River for the irrigation of 16 acres from April 1 through October 31 of each year.

The water rights in Court Claim No. 02316 are appurtenant to that certain real property held in fee by Harold E. Chamberlin and Sherry A. Chamberlin; and subsequently conveyed by Sherry A. Chamberlin, as her separate property, to Red Hawk Developments LLC pursuant to that certain Statutory Warranty Deed dated July 30, 2007, and recorded on August 1, 2007, under Kittitas County Auditor's File No. 200708010021. By Order Granting Motion to Substitute Parties issued on August 24, 2007 by the Yakima County Superior Court in the matter of *Acquavella*, Red Hawk Developments LLC was substituted for Harold E. Chamberlin and Sherry A. Chamberlin as the Claimant for Claim No. 02316.

By Quit Claim Deed dated December 17, 2010, and recorded on December 17, 2010 under Kittitas County Auditor's File No. 201012170045, Red Hawk Developments conveyed to Northwest Land Liquidators LLC, the water rights in Court Claim No. 02316.

By Quit Claim Deed dated December 17, 2010, and recorded on December 20, 2010 under Kittitas County Auditor's File No. 201012200072, Northwest Land Liquidators conveyed to Crushe LLC, a fifty percent (50%) interest in the water rights in Court Claim No. 02316.

Since 2010, a portion of the water rights, all but Court Claim No. 02316, Claim PD-A (with a priority date of January 1, 1881), were donated to Ecology's Temporary Trust Water Rights Program for instream flows pursuant to Water Rights Change Application Numbers CS4-02316sb8b, CS4-02316sb8c, and CS4-02316sb8d, and such water is scheduled to remain in trust until 2014.

By Court Order dated August 9, 2012, the Yakima County Superior Court Judge in *Acquavella* issued an Order Granting Motion to Substitute Parties and Divide a Water Right for Court Claim No. 02316 ("2012 Court Order"). Pursuant to the 2012 Court Order, Crushe LLC and Northwest Land Liquidators LLC were each apportioned 50% of the water for each of the four water rights under Court Claim No. 02316, for a total of 300 acre-feet per year (ac-ft/yr) and 1.25 cubic-feet per second (cfs) of water for irrigation; and 0.5 ac-ft/yr of stockwater to each successor claimant. All of the real property to which Claim No. 02316 is appurtenant remains owned in fee by Red Hawk Developments LLC, the claimant immediately succeeding Harold E. and Sherry A. Chamberlin.

The 2012 Court Order ordered the following division of Claim No. 02316 to Crushe LLC as indicated in Table 1 below:

Table 1 - 2012 COURT ORDER DIVISION OF WATER RIGHT TO CRUSHE LLC

	Irrigable Acres	*Acres in POU*	*Cert Qi*	*Cert Qa*	*Stock Water*
Claim PD-A Jan.1, 1881	13.0	17.27	0.325	78	None
Claim PD-B June 9,1881	22.5	47.09	0.5625	135	0.5
Claim PD-C Jan. 29, 1887	6.5	24.85	0.1625	39	None
Claim PD-D March 3, 1900	8.0	31.42	0.20 cfs	48 AC-FT	None
Totals	50.0	120.63	1.25 cfs	300 AC-FT	0.5 AC-FT

After the 2012 Court Order was issued, Crushe LLC applied, on August 22, 2012, to place 100% of its water under Claim No. 02316 in Ecology's Temporary Trust Water Rights Program for mitigation banking pursuant to Water Rights Change Application Numbers CS4-02316sb8(a1), CS4-02316sb8(b1), CS4-02316sb8(c1) and CS4-02316sb8(d1). This change request pertains only to Crushe LLC's water under Claim No. 02316.

A review of the record and site conditions indicates that water was put to beneficial use since the 2003 CFO and no water under Claim No. 02316 has been relinquished or abandoned.

Because the 2012 Court Order divided the water right, it is appropriate to review the beneficial use of the water prior to the 2012 Court Order. Prior to the 2012 Court Order, the parties retained the

WNR Group to determine the estimate of water under water right Claim No. 02316 Claim PD-A through PD-D, put to beneficial use; and the crop net consumptive use which may be available for transfer.

The Water and Natural Resource Group presented its findings in a Technical Memorandum dated April 19, 2011 ("2011 Technical Memo"). The 2011 Technical Memo was an extent and validity analysis of water used under Claim No. 02316 since the 2003 CFO and prior to the 2012 Court Order, so the 2011 Technical Memo addresses 600 ac-ft/yr and 2.5 cfs of water for irrigation, and 1.0 ac-ft/yr of stockwater.

Because of the overall irrigation and delivery system on the Red Hawk Ranch property, the extent and validity analysis for Crushe LLC's Water Rights Change Application Numbers CS4-02316sb8(a1), CS4-02316sb8(b1), CS4-02316sb8(c1) and CS4-02316sb8(d1) is based on the 2011 Technical Memo with a division of the perfected quantity of water (and consumptive use) assigned to Crushe LLC in accordance with the 2012 Court Order.

On August 22, 2012, after the 2012 Court Order, Crushe LLC applied to place 100% of its water under Claim No. 02316 PD-A through PD-D in Ecology's Temporary Trust Water Rights Program for mitigation banking pursuant to Water Rights Change Application Numbers CS4-02316sb8(a1), CS4-02316sb8(b1), CS4-02316sb8(c1) and CS4-02316sb8(d1); and will fallow 100% of the 50 irrigated acres within the POU assigned to it by the 2012 Court Order.

Other Rights Appurtenant to the Place of Use

A review of Ecology's Water Rights Tracking System (WRTS) database did not reveal any other rights or claims which are appurtenant to the place of use for Court Claim No. 02316.

Proposed Trust Water Right Place of Use

The proposed place of use for the trust water right is instream in the primary and secondary reaches. The primary reach is the portion of a water body that benefits from both the former consumptive use and return flow waters of the trust water right and is the reach between the original point of diversion and the point where the last return flows re-enter the stream or river. The secondary reach is that portion of a water body that benefits from the former consumptive portion of a trust water right because it had received return flow waters while the water right was exercised. The secondary reach is located downstream from the point where return flows from the historic use under the water right re-entered the stream or river.

Primary Reach

The primary reach begins at the historic point of diversion located 1150 feet north and 75 feet west of the east quarter corner of Section 3, being within the NE¼SE¼NE¼ of Section 3, T. 18 N., R. 17 E.W.M., Kittitas County, state of Washington, and ends at the confluence with the Yakima River at approximately RM 160 in the W½SE¼ of Section 12, T. 18 N., R. 17E.W.M.

Secondary Reach

The secondary reach begins at approximately Yakima RM 160 in the W½SE¼ of Section 12, T. 18 N., R. 17 E.W.M., and continues down the Yakima River past its confluence with the Columbia River, and ends at a point located at the confluence of the Columbia River and Pacific Ocean at River-Mile 0 in Section 18, Township 9 North, Range 11 E.W.M., Pacific County, Washington.

Trust Water Right Calculations

In support of this change request, Gene St. Godard of the Water and Natural Resources Group, Inc. (WNR Group) reviewed available data to estimate annual estimated volumes of surface water diverted and put to beneficial use under Court Claim No. 02316 and completed a Technical Memorandum of the Consumptive Use Analysis for Court Claim No. 02316 (2011 Technical Memo).

On September 20, 2010, Mr. St. Godard conducted a site visit and observed the historic point of diversion from the Yakima River, as well as the irrigation delivery system from the Mill Ditch; property features, and stock animal use.

The WNR Group's 2011 Technical Memo provides detailed information about the water right attributes of Claim No. 02316 prior to the 2012 Court Order; site climate, geologic and hydrogeologic conditions; and an analysis of water use and total irrigation requirements based an analysis of electrical system data and calculations based on the WIG, Ecology's GUID-1210, and the Blaney-Criddle method.

The existing irrigation system consists of both gravity flow flood irrigation and an integrated sprinkler irrigation system. Court Claim No. 02316 allows for the diversion of 2.5 cfs from the Yakima River into the Thorp Mill Ditch located approximately ¾-mile northwest of the site. The Thorp Mill Ditch conveys water in a southeasterly direction through the Red Hawk Ranch and eventually discharges back to the Yakima River. The Red Hawk Ranch sprinkler irrigation system consists of two separate pumps which convey water throughout the property.

The main pump consists of a Baldor Super E 75-hp motor and a Cornell Pump Model 4YB-75-2. This system diverts water from the Thorp Mill Ditch at a rate of approximately 2.25 cfs (1000 gpm) and operates at approximately 70 psi. The diversion conveys water through a 6-inch mainline to an integrated irrigation system north of the Thorp Mill Ditch. The irrigation system is comprised of two Bauer Rainstar 110-350 DHT travelling Big Gun sprinkler systems, and several dozen F 3002 Rainbird sprinklers located throughout the property. During irrigation, the system can only operate two travelling Big Gun sprinklers and four Rainbird sprinklers at any one time. The Big Gun sprinklers can be moved between six 4-inch steel risers located within the irrigation areas of Claim PD-B through PD-D. Within Claim area PD-A, there are two small portable Big Gun 24" Nelson Irrigation sprinklers (Model 150 series), hand lines, and Rainbird sprinklers.

A second diversion consist of a Model 1994 Grundfos 10-hp submersible pump rated at 225 gpm located in a 3-foot culvert sump directly across the canal from the pump house described above. This diversion supplies water to the southern part of the property southwest of the canal. The water is conveyed to numerous turf sprinklers and big gun sprinklers located around the property.

The two irrigation systems convey water to irrigate approximately 94.2 acres of land throughout the property. In addition, approximately 5.8 acres of the property in the southern portion of Claim PD-B is flood irrigated via a gravity flow diversion. This diverted water floods the 5.8 acres for pasture and timber irrigation.

Washington Irrigation Guide (WIG) Method

The Washington Irrigation Guide (USDA, 1990) is a guide to estimate historical crop use water requirements. The WIG provides technical information and procedures that can be used to plan and manage irrigation systems as well as develop quantities of crop consumptive use for various areas throughout Washington State. The WIG provides net irrigation requirements for various crops and locations throughout the state and is based on long-term average climate conditions. This data may not truly represent recent trends in decreased precipitation and higher temperatures, but can be used as an average crop requirement from long term historical precipitation and temperature records.

The WNR Group reviewed soil conditions and used several methodologies to calculate the crop irrigation requirements (CIR), and total irrigation requirement (TIR) of the property.

Climatic data near Ellensburg, Washington show a historical average of approximately 9-inches of precipitation per year, with annual mean temperatures ranging from 43.76 to 53.20 degree Fahrenheit each year. Shallow site soils at the Red Hawk Ranch typically consist of sand and gravelly loams which are moderately to well drained, moderately high to high capacity to transmit water, and none to rare frequency to ponding. Site soil conditions and the low irrigation efficiency of the gravity flow and sprinkler systems appear to require a water duty of approximately 6-feet per acre (ft/ac). Consumptive use values for pasture/turf in the area require approximately 3 to 3.5 ft/ac dependent upon seasonal precipitation and temperature conditions. The porous sands and gravels at the site result in increased rate of return flows to the shallow aquifer, thus requiring more water (higher water duty) to be applied to the crop in order to meet the irrigation requirements.

For the flood irrigation portion of the property (5.8 acres in Claim PD-B), the following analysis was conducted:

Cu = 2.622 ft/ac
Irrigable Area = 5.8 acres
Irrigation Efficiency = 35%
Evaporation = 5%

Estimated total irrigation requirement for the flood irrigated portion of the property is 43.44 ac-ft as shown in Ecology's Guidance 1210.

For the sprinkler irrigated portion of the property (94.2 acres), the following data was used:

Cu = 2.622 ft/ac
Irrigable Area = 94.2 acres
Irrigation Efficiency = 60%
Evaporation = 10%

Estimated total irrigation requirement for the sprinkler irrigated portion of the property is 411.6 ac-ft as shown in Ecology's Guidance 1210.

The electrical system at the site operates the two pumping systems under Puget Sound Energy electrical service no. Z003514582. Electrical records were reviewed for the years 2004 through 2010. Coupled with the flood irrigation system, an estimated calculation of the actual historical water use was done. A meter was installed for the 2010 season, in which 36.51 ac-ft was diverted from the small pump, and 486.9 ac-ft from the large pump, for a total of 523.41 ac-ft of water diverted from the pumps. In addition, an estimated 43.44 ac-ft of water was diverted to flood the 5.8 acres in the southern portion of Claim PD-B, as determined from Ecology Guidance 1210. The 2006 irrigation season exhibited the highest year of electrical usage by the irrigation system over the last five years.

Annual ac-ft diverted from years 2004 through 2009 were calculated by using the 2010 electrical reading (172,620 kilowatts [kw]) divided by the known metered acre-footage quantity of 2010 (523.41 ac-ft), resulting in a value of 329.8 kw per acre-foot of water diverted. Using this value, the annual kw value of years 2004 through 2009 was divided by 329.8 to develop an estimated acre-footage diverted per year. It should be noted that the irrigation system is comprised of multiple components, which operate at different lengths of times and under multiple configurations (e.g. the travelling big guns did not operate at the identical hours from year to year and varying number of sprinklers operating at any one time). Therefore, the annual acre-footages are an estimate. Claim PD- B also contains 5.8 acres that are flood irrigated which are irrigated via a gravity flow diversion and is not accounted for in the electrical calculations. As such, an estimated 43.44 ac-ft of water is added to Claim PD-B to account for this area. Using this analysis, year 2006 exhibits the highest year of water diverted and put to beneficial use, approximately 583 ac-ft.

The 2011 Technical Memo reviewed water use data for the years 2004 through 2010. In 2011, the water right owners temporarily donated the water associated with Claim PD-B, PD-C, and PD-D to Ecology's Trust Water Program for instream flows in the Yakima River; and this water is scheduled to remain in Trust through the 2014 irrigation season. Water associated with Claim PD-A was not placed in Trust and continued to be used to irrigate the place of use defined for PD-A under the Claim. In 2011, according to meter readings associated with the irrigation delivery system, approximately 66.72 ac-ft of water was put to beneficial use on the place of use for Claim PD-A.

Table 2 below summarizes the allocation of water per priority dated claim before the 2012 Court Order was issued.

TABLE 2: Allocation of Acre-Foot Per Claim Per Year 2004-2011 BEFORE 2012 COURT ORDER

Claim/Priority Date/Qa	*2011*	*2010*	*2009*	*2008*	*2007*	*2006*	*2005*	*2004*
Claim PD-A (1/1/1881) – 156ac-ft	66.72	144.46	80.05	104.12	84.15	148.91	184.36	107.32
Claim PD-B (6/9/1881) – 270 ac-ft	Trust	261.18	164.09	200.37	170.28	267.89	321.32	205.20
Claim PD-C (1/29/1887) – 78 ac-ft	Trust	72.23	40.02	52.06	42.08	74.46	92.18	53.66
Claim PD-D (3/3/1900) – 96 ac-ft	Trust	88.98	49.30	64.13	51.83	91.72	113.56	66.10
Total – 600 ac-ft	66.72	566.85	333.47	420.67	348.33	582.98	711.42	432.28

A flow meter was installed at the site in 2010 and recorded that 523.41 acre feet was diverted from the Yakima River via the Thorp Mill Ditch, and the electrical records indicated that 172,620 Kw of power was required to divert this water. In addition, a gravity flow flood irrigation system is estimated to divert 43.44 ac-ft of water each year to irrigate 5.8 acres. Analysis of power records over the last 5-year period of 2006 to 2010 estimated that approximately 290 ac-ft (2009) to 540 ac-ft (2006) of water was diverted with the pumps. Low diversion rates in 2009 were a result of the system not being operated through most of the irrigation season due to system maintenance. The low pumping value in 2007 was a result of new ownership over the property and less aggressive irrigation practices by the new owner during that first year of ownership.

The integrated irrigation sprinkler system conveys water to sprinklers in Big Guns which apply water to approximately 94.2 acres. The remaining 5.8 acres are irrigated via a flood irrigation diversion in the southern part of Claim PD-B Area. One acre-foot of water is also allotted for stockwatering under Claim PD-B. Using the electrical/power records analysis, stockwatering allotment and the flood irrigation allotment for Claim No. 02316, for year 2006, the following allocation of water was diverted to the four Priority Date Claim areas: 1) Claim PD-A – 148.91 ac-ft, 2) Claim PD-B – 268.89 ac-ft (includes the one sc-ft of stockwatering and flood irrigation), 3) Claim PD-C – 74.46 ac-ft, and 4) Claim PD-D – 91.72 ac-ft, for a total beneficial use quantity of 582.98 ac-ft.

Blaney-Criddle Method

In additional Blaney-Criddle analysis using recent temperature and precipitation data for the years 2005 through 2010 was also conducted to estimate the amount of water consumed by the Red Hawk Ranch Property. The Blaney-Criddle Method calculates consumptive use and TIR as the product of crop use coefficient and consumptive use factor. Calculations associated with the Blaney-Criddle Method require the following data:

- Mean monthly air temperature and mean monthly precipitation. These values were obtained from the Western Regional Climate Center web site (www.wrcc.dri.edu) for the Ellensburg, Washington station No. 452505 (updated 07/11/2012). The period of record within the data base was 1893 to 2012.
- Yearly monthly air temperature and mean monthly precipitation were also calculated for each of the individual years from 2007 to 2011.
- Percent of annual daytime hours occurring for each month, which was estimated from data presented in Jensen et. al. (1969) for northern latitudes of 46 to 49-degrees. Estimation for daytime hours at latitude 47 was used for this analysis.
- Monthly Crop Use Coefficients, which were adapted from typical coefficients for pasture/turf crops grown in Western United States, such as those presented in Schulz (1989).
- Consumptive use calculations per acre include the amount of water required for the crops plus 5% for evaporation from the flood irrigation.

The Blaney-Criddle analysis revealed that year 2009 would have the highest Cu and TIR requirements. However, in 2009 the property owners did not irrigate through most of 2009 due to maintenance on the irrigation system. The Blaney-Criddle analysis showed years 2006 through 2008 would have required between 563 and 570 ac-ft of water using the documented temperature and precipitation data. Pump electrical records reveal 2006 was the highest year of diversion. Therefore, if year 2006 is used for the

Blaney-Criddle method, a Cu value of 337.81 ac-ft and TIR of 563.01 ac-ft was calculated. An additional one acre-foot is also allocated for stockwatering.

The pump metering analysis presented in the WNR Group's 2011 Technical Memo, was used to define quantities of water diverted and put to beneficial use for the four claims and the Blaney-Criddle method was used to define the consumptive use portion. Using 2006 as the highest year of water diversion as estimated from electrical records, Crushe LLC's allocation of the amount of water put to beneficial use on each of the defined Priority Dates of Claim No. 02316 for the years 2004 through 2011 is indicated in Table 3 below as follows:

TABLE 3: ALLOCATION OF ACRE FOOT PER CLAIM PER YEAR FOR CRUSHE LLC

	Pump Meter Analysis (ac-ft)	*Blaney-Criddle Analysis(ac-ft)*
Claim PD-A	74.455	73.19
Claim PD-B	133.945	126.68
Claim PD-C	37.23	36.595
Claim PD-D	45.86	45.04
Total	291.49	281.505

Based on the WNR Group's 2011 Technical Memo as Supplemented on November 26, 2012; and the 2012 Court Order, Crushe LLC's share of the consumptive use and total irrigation requirement to irrigate 50 acres with Claim No. -2316 PD-A through PD-D is as follows in Table 4 below:

TABLE 4: CLAIM ALLOCATION OF WATER TO CRUSHE LLC BY BLANEY-CRIDDLE

	Cu (ac-ft)	*TIR @ 60% Efficiency (ac-ft)*
Claim PD-A	43.915	73.19
Claim PD-B	76.00	126.68
Claim PD-C	21.96	36.59
Claim PD-D	27.02	45.04
Total	168.89	281.5

Trust Water Right Management

The consumptive use portion of Claim No. 02316 PD-A through PD-D is being changed to instream flow for water banking purposes. As a condition of placing these water rights into the Trust Water Right Program, the water placed into trust may be available as mitigation to address the issue of, and prevent, third-party impairment with respect to new out-of-priority water rights consistent with WAC 173-539A. The details can be viewed in the Trust Water Right Agreement between Yakima River Mitigation Water Services LLC and the Washington State Department of Ecology (attached).

When any portion of this trust water is available and not being used for water banking or other authorized purposes, those quantities will be added to the instream target flows managed by the U.S. Bureau of Reclamation at Parker and continue downstream to the Yakima River's confluence with the Columbia River. If the water is used to offset consumptive use by new water users purchasing mitigation credits from the Yakima River Mitigation Exchange, or any other new use to be mitigated by the subject right, then the trust water right will not be added to the instream target flows at Parker.

Public Interest and Impairment Considerations

The Bureau of Reclamation manages surface water supply in the Yakima Basin by calculating Total Water Supply Available (TWSA). Surface water supply is matched with all of the known demands, and if adequate supplies are not available, Reclamation begins to ration proratable water users in the basin.

The water is requested to be changed to instream flow in the Yakima River to mitigate for groundwater withdrawals in the Kittitas Valley. Using senior water rights for mitigation of groundwater in continuity with surface water ensures that the new use is neutral to, and will not impair, TWSA. Also, ensuring that more water remains instream by placing water rights into the Trust Water Right Program, during critical times, is anticipated to improve habitat and survival of listed species in the Yakima Basin.

Consideration of Protests and Comments

No protests were filed against this application.

Conclusions

It is the conclusion of this examiner that Court Claim No. 02316, with a priority date or January 1, 1881, has been historically and beneficially irrigated.

In accordance with RCW 90.03.380, the examiner makes a tentative determination that Court Claim No. 02316, with a priority date or January 1, represents a valid right to divert up to 0.325 cfs, 78 acre-ft/yr of water from the Yakima River.

The requested change of purpose of use will not impair existing rights, or impair the public interest under RCW 90.42.040(4)(a).

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

Trust Water Right Attributes

Primary Reach

beginning at the historic point of diversion located 1150 feet north and 75 feet west of the east quarter corner of Section 3, being within the NE1/4SE1/4NE1/4 of Section 3, T18N., R17 E., W.M., Kittitas County, State of Washington, and ends at a point downstream on the Yakima River, approximately RM 161, in the W1/2SE1/4 of Section 12, T18N, R17E, W.M.

Secondary Reach
beginning at approximately Yakima RM 161 in the W1/2SE1/4 of Section 12, T18N, R17E, W.M., and ends at a point located at the confluence of the Yakima River and the Columbia River at RM 0 in the SE1/4SE1/4 of Section 24, T. 9 N., R. 28 E.W.M.

For instream flow purposes, 2.67 ac-ft/yr, from April 1 to October 31 are distributed monthly as follows:

	April	*May*	*June*	*July*	*Aug*	*Sept.*	*Oct.*	Total
Avg. Qi (cfs)		0.005	0.013	0.018	0.014	0.008	0.001	---
Qa (acre-feet)		3.96	9.68	13.20	10.56	5.72	0.88	44

As described on Page 1 of this Report of Examination.

9-30-13

Report Writer *Date*

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