STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
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April 3, 2013

Mr. Dick Wolfe
State Engineer
Colorado Division of Water Resources
1313 Sherman St., Rm. 818
Denver, CO 80203

Alan Martellaro
Division Engineer, Water Division 5
Colorado Division of Water Resources
202 Center Drive
Glenwood Springs, CO 81601

Re: Temporary Loan of Water Right to CWCB for Instream Flow Use from Colorado Water Trust and the Bureau of Land Management of the Thompson Pump #2, Water Division 5, Grand County, Colorado.

Dear Mr. Wolfe and Mr. Martellaro:

The Colorado Water Conservation Board ("CWCB") hereby requests approval of a Temporary Loan of Water Right offered by the Bureau of Land Management ("BLM") to CWCB via the Colorado Water Trust ("CWT") for instream flow ("ISF") use pursuant to section 37-83-105, C.R.S. (2012). This request is for a 10-year period beginning on February 6, 2013 and continuing until December 31, 2022 ("Ten-Year Term"). The Temporary Water Loan Agreement, ("Loan Agreement") specifies that the parties will consult on or before April 1 of each year to determine if the loan shall be implemented that year. Pursuant to section 37-83-105, this loan may not be exercised for more than 3 years in a 10-year period.

The subject water right consists of a direct flow water right in the Thompson Pump #2 ("Thompson Right" or "Loaned Water"), which diverts from the Colorado River near Kremmling, Colorado. BLM intends to temporarily loan the Thompson Right to CWCB for ISF use on the Colorado River downstream of the diversion point in amounts not to exceed the ISF decreed rates and for no more than 120 days in any calendar year. See maps at Attachment 1a and 1b.

The CWCB has provided a written notice of this request for approval by electronic mail to all parties listed on the Division 5 substitute water supply plan notification list established pursuant to section 37-92-308(6), C.R.S. (2012).

I. Summary of Proposal

Evidence of proponents' legal right to use the Thompson Right is provided as follows: BLM's ownership of the Thompson Right is evidenced by the Bargain and Sale Deed at Attachment 2. Under a loan agreement among BLM, CWCB and CWT, upon approval of this request by the State and Division Engineers, BLM will make up to 13.84 cfs of water available to CWCB for ISF use when conditions permit. See Loan Agreement at Attachment 3. Rule 6(k) of the Rules Concerning CWCB's Instream Flow and Natural Lake Level Program ("ISF Rules") sets forth procedures for accepting temporary loans of water for ISF use, in accordance with section 37-83-105. ISF Rule 6(k) authorizes the CWCB Director to accept temporary loans of water and to take any administrative action necessary to put the water to ISF use, provided that the State Engineer has made a determination of no injury pursuant to section 37-83-105(2)(a)(III), C.R.S. (2012). Such acceptance and water use is subject to Board ratification at the following Board meeting.

Upon approval of this request by the State and Division Engineers, BLM, in consultation with CWCB and CWT, may make water available to CWCB for ISF use, in accordance with the terms of the Loan Agreement, in amounts up to the decreed rates of the Colorado River ISF water rights described in Section III below. The period of ISF use by CWCB under the Loan Agreement will not exceed 120 days in any calendar year.

II. Loaned Water Historical Use and Reasonable Estimate of Consumptive Use

The Thompson Pump #2 water right that is the subject of this Loan Agreement is described below:

Water Rights decreed for irrigation purposes from Thompson Pump #2

NAME	PRIORITY	AMOUNT (CFS)	ADJUD. DATE	APPROP. DATE	DECREE
Thompson Pump No.2	449D	13.84 cfs, conditional (transferred from Kinney-Barrager Ditch, 3rd Enlargement)	11-7-1952	1-1-1900	W1709
Thompson Pump No.2		10 cfs made absolute			80CW0258
Thompson Pump No.2		3.84 cfs made absolute			84CW0199

See Decrees at Attachment 4. Rapid Engineering, LLC, in cooperation with SGM, has prepared a report on the historical consumptive use and proposed ISF use of the Thompson Pump #2 right, dated June 20, 2012. See Engineering Report at Attachment 5.

The Thompson Pump #2 diverts water from the south side of the Colorado River, approximately 1.5 miles upstream from the confluence with the Blue River near Kremmling, Colorado. The decreed point of diversion (hereinafter "Point of Diversion") is "at a point whence the East Quarter Corner of Section 16 Township 1 N. Range 80 W. of the 6th PM bears North 41° 15' 30" East 2083.5 feet" (quoting from Case No. W-1709). The diversion point has been mapped at 384170 m Easting and 4433653 m Northing, UTM NAD83, Zone 13N. Diversions are fully

consumptive to a nearly one mile segment of the Colorado River between the Point of Diversion and the point at which irrigation return flows accrue to the river (hereinafter "Point of Return Flow") near the Highway 9 bridge. Using CWCB's GIS mapping system, the Point of Return Flow is located in the NW ¼ of the NW ¼ of Section 21, Township 1 North, Range 80 W of the 6th PM at a point approximately 155.5 ft from the north section line and 239.8 ft from the west section line. The UTM location is 383071.7 m Easting and 4433019.2 m Northing, UTM NAD 83, Zone 13N.* See Map at Attachment 1a.

The Thompson No. 2 Pump has been used to irrigate 115 acres of pasture grass adjacent to the Colorado River. Diversions under the pump typically began in May and continued into October. In 2002, a total of 1,423 AF was diverted under the BLM priority between May and September, which was slightly below the average annual diversion of 1,530 AF.

Average monthly diversions were computed by Rapid Engineering and are shown in the following table:

Average Monthly Diversions 1986 - 2010

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Total
AF	0	0	0	0	0	0	177.3	457.5	395.8	97.5	307.2	94.2	1529.53
cfs	0	0	0	0	0	0	2.9	7.7	6.4	1.6	5.2	1.5	-

Average monthly historical consumptive use amounts for irrigation use of the Loaned Water is summarized in the following table:

Average Monthly Historical Consumptive Use 1986-2010

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Total
AF	0	0	0	0	0	0.52	16.03	33.86	43.69	34.67	17	2.08	147.9
cfs	0	0	0	0	0	0.01	0.26	0.57	0.71	0.56	0.29	0.03	-

Net stream depletion is equivalent to diversions less return flows. Because of return flow timing, the net stream depletion and historical consumptive use amounts are not equivalent on a monthly basis but are equivalent on an annual basis.

Average monthly historical net stream depletion for irrigation use of the Loaned Water is summarized in the following table:

* The Universal Transverse Mercator (UTM) locations in this document were derived using NAD 1983 data from the Colorado Decision Support System Database. Note the UTM provided in the engineering report appears to have been an error.

Net Stream Depletion 1986 - 2010

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Total
AF	(10.98)	(0.21)	0	0	0	0	33.58	69.46	40.46	(19.59)	54.45	(19.25)	147.9
cfs	(0.18)	(0.003)	0	0	0	0	0.55	1.17	0.66	(0.32)	0.91	(0.31)	-

A portion of the water diverted at the Thompson Pump No. 2 for irrigation use historically accrued to the Colorado River in the form of ground water return flow. A Glover analysis has been completed to characterize the amount and timing of such return flows. Return flows shall be maintained as needed to prevent injury to other water rights. During irrigation season, return flows shall be maintained by leaving the diversion amounts in the river. During the non-irrigation season, return flow obligations will be replaced any time a water right call is in effect. For each year in which this loan is exercised, CWCB and CWT will provide to the Division Engineer by the date specified in the approval of this loan, a copy of a contract or other evidence for an adequate amount of replacement water to replace the lagged return flow obligations.

III. Proposed Use of Loaned Water

The ISF water rights to be benefitted by this loan are described below:

CWCB Case No.	Stream/Lake	Amount (cfs)	Approp. Date	Watershed	County
5-80CW448	Colorado River (Troublesome Ck to Blue River)	150 (1/1-12/31)	7/8/1980	Colorado headwaters	Grand
5-11CW159	Colorado River (Blue River to Piney River)	600 (5/15 – 7/31) 750 (8/1 – 9/15) 500 (9/16 – 5/14)	7/12/2011	Colorado headwaters	Grand Eagle
5-11CW160	Colorado River (Piney River to Cabin Ck)	650 (5/15 – 7/31) 800 (8/1 – 9/15) 525 (9/16 – 5/14)	7/12/2011	Colorado headwaters	Eagle
5-11CW161	Colorado River (Cabin Ck to point immediately u/s Eagle River)	900 (5/15 – 7/31) 800 (8/1 – 9/15) 650 (9/16 – 5/14)	7/12/2011	Colorado headwaters	Eagle

These ISF water rights were decreed to preserve the natural environment to a reasonable degree. Case No. 80CW448 decreed an ISF right on the Colorado River to preserve habitat of rainbow and brown trout. Case Nos. 11CW159, 160, and 161 were decreed on March 26, 2013 to preserve habitat of brown and rainbow trout, mountain whitefish, flannelmouth sucker, bluehead sucker and roundtail chub.

The diversions attributable to the Loaned Water were fully depletive to the Colorado River from the Point of Diversion to the Point of Return Flow. Downstream of the Point of Return Flow, where the return flows from irrigation accrued to the stream, CWCB does not claim credit for the return flow portion but does claim the average net stream depletion portion in this reach. CWCB seeks to put to beneficial instream flow use the average historical diversion rate for the pump in the fully depletive stream segment from the Point of Diversion to the Point of Return Flow on the Colorado River to help bring the stream flow up to the decreed ISF rates.

Downstream of the Point of Return Flow location, CWCB seeks to put to beneficial instream flow use the average monthly historical net stream depletion to help bring the stream flow up to the decreed ISF rates in the segment of the Colorado River from the Point of Return Flow to the ISFs' decreed lower terminus at a point immediately upstream of the Eagle River, a distance of approximately 78 miles. On a legal basis, and contrary to the engineering report included herein, CWCB believes that the average monthly historical net stream depletions may be used to supplement its decreed ISFs between the Point of Return Flow and the ISFs' decreed lower terminus despite intervening junior or senior water rights because these net stream depletions were historically 100% depletive to the Colorado River and will be placed to beneficial use in the stream by this temporary loan. The total rate of water used for ISF purposes will not exceed the decreed rate of the Colorado River ISF water rights in the respective reaches. The Loaned Water will only be used to supplement instream flows on the Colorado River during the historical irrigation season from May through October.

Because the Loaned Water will be beneficially used under ISF water rights and will be available for other beneficial uses downstream of the ISF reaches, this loan of water will not adversely affect Colorado's compact entitlements.

IV. Terms and Conditions to Prevent Injury

To prevent injury to other water users from the exercise of this Loan Agreement, BLM, CWT and CWCB ("Proponents") propose to operate the loan in accordance with the following terms and conditions:

- Proponents shall maintain historical return flows to the Colorado River in time, place and amount as needed to prevent injury. Proponents shall maintain non-lagged return flows by bypassing water at the headgate and will maintain lagged return flows as needed to prevent injury.
- Proponents shall install and maintain any measuring devices or structures reasonably required by the State and Division Engineers to administer the water right under this approval.
- Proponents shall submit records and accounting as reasonably required by the State and Division Engineers to administer the water right under this approval.
- Proponents shall notify the State and Division Engineers when water is being used by CWCB under its decreed ISF water rights on the Colorado River.

V. Conclusion

The CWCB respectfully requests approval of the temporary loan of BLM's water right in Thompson Pump No. 2 for ISF use on the Colorado River. If operated in the manner presented herein, no injury will occur to other water rights.

Thank you for your assistance in this matter. Please let us know if you have any questions or require additional information.

Sincerely,

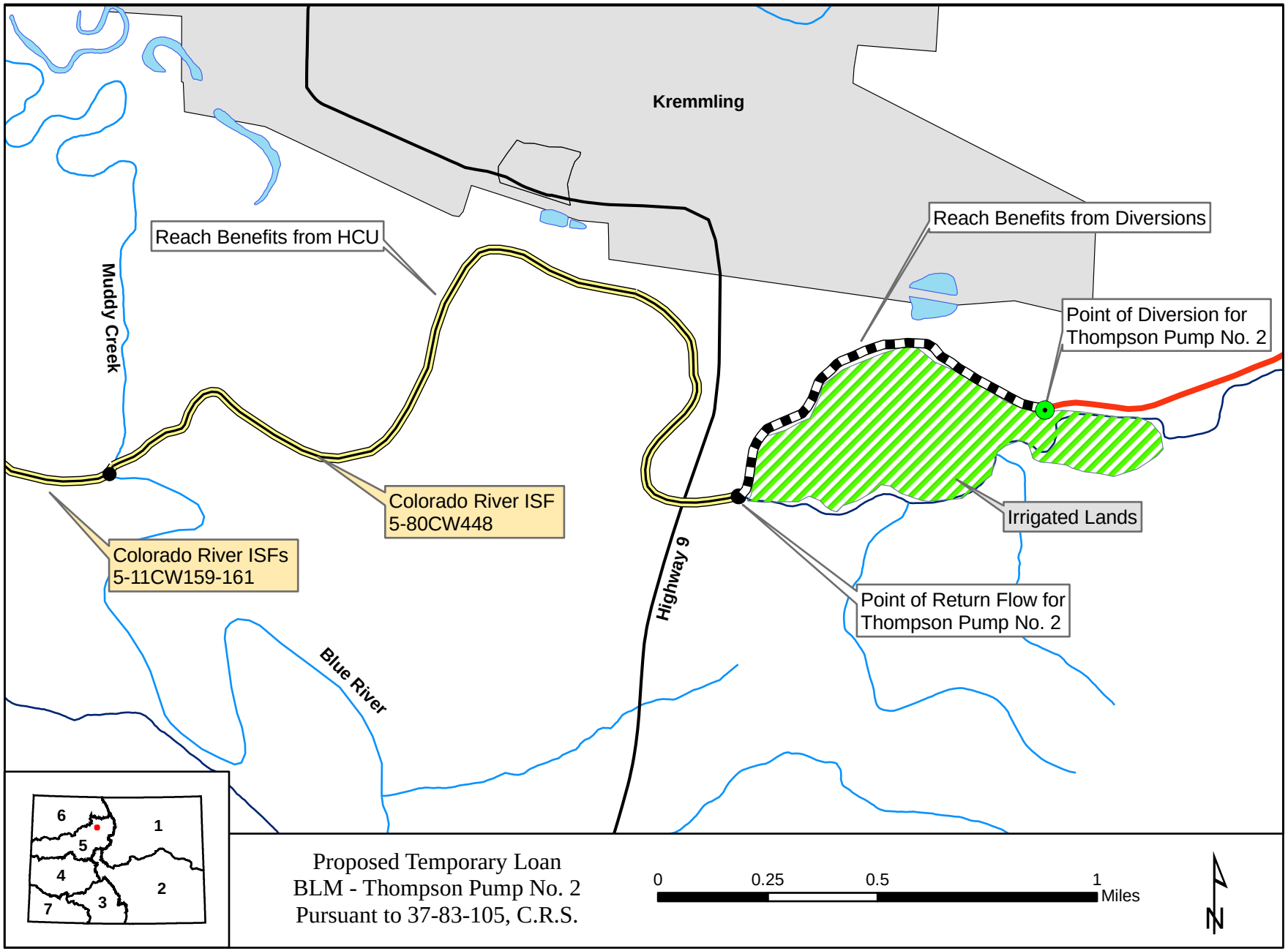
Linda J. Bassi, Chief
Stream and Lake Protection Section

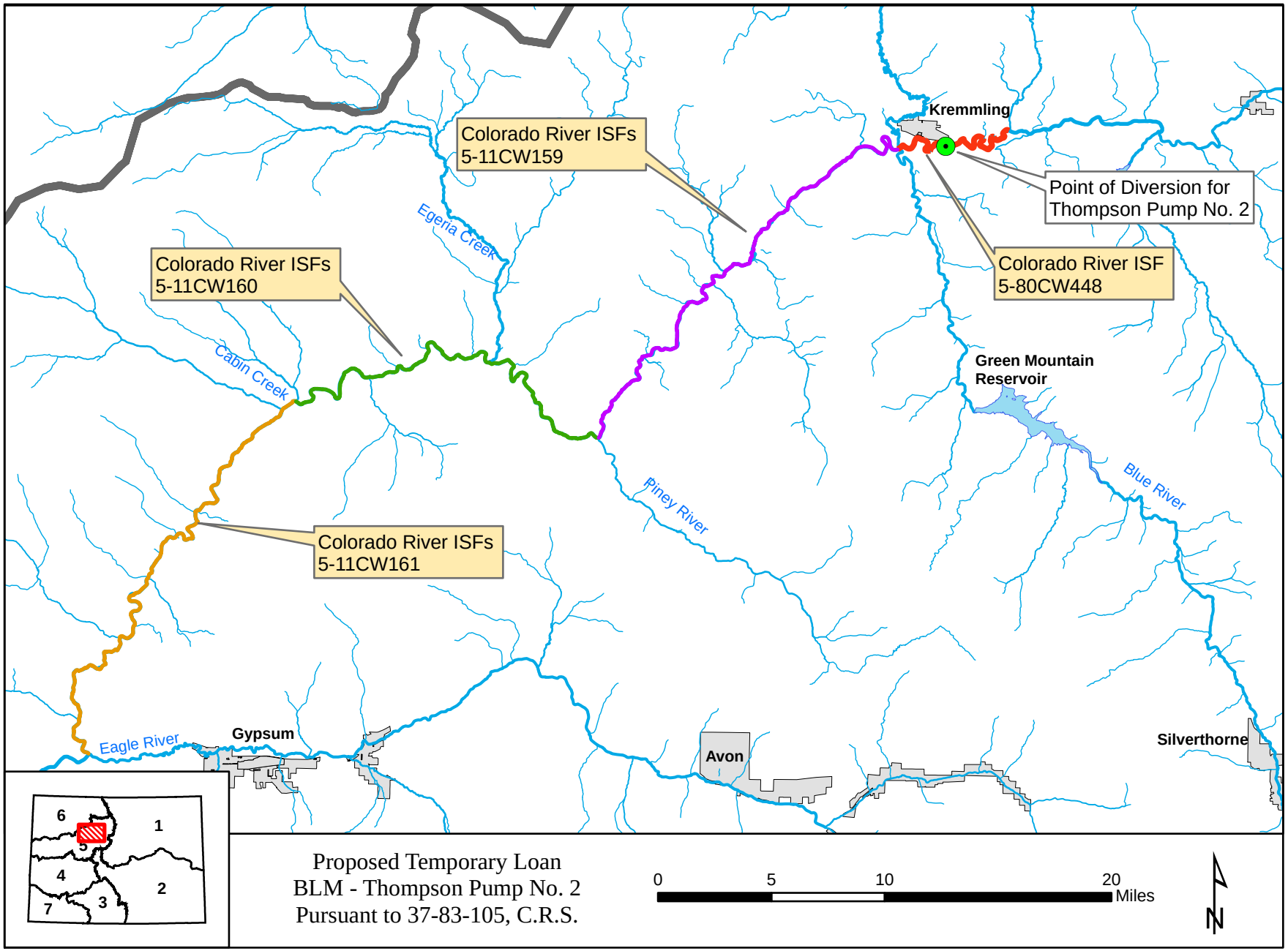
cc: Kaylea White, CWCB
Don West, PE, CWCB
CWT
BLM

Encl.Attachment 1 – Maps; Attachment 2 – Bargain and Sale Deed; Attachment 3 – Loan Agreement; Attachment 4 – Decrees; Attachment 5 – Engineering Report; Attachment 6 – CWT offer to CWCB; Attachment 7 – CWCB response letter to CWT and BLM

ATTACHMENT 1

MAPS


Kremmling
Reach Benefits from HCU
Reach Benefits from Diversions
Muddy Creek
Point of Diversion for
Thompson Pump No. 2
Colorado River ISF
5-80CW448
Irrigated Lands
Colorado River ISFs
5-11CW159-161
Highway 9
Point of Return Flow for
Thompson Pump No. 2
Blue River
6
1
5
4
2
7
3
Proposed Temporary Loan
BLM - Thompson Pump No. 2
Pursuant to 37-83-105, C.R.S.
0
0.25
0.5
1
Miles
N


Colorado River ISFs
5-11CW159
Kremmling
Point of Diversion for
Thompson Pump No. 2
Colorado River ISF
5-80CW448
Egeria Creek
Colorado River ISFs
5-11CW160
Cabin Creek
Green Mountain
Reservoir
Blue River
Piney River
Colorado River ISFs
5-11CW161
Eagle River
Gypsum
Avon
Silverthorne
6
1
5
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3
Proposed Temporary Loan
BLM - Thompson Pump No. 2
Pursuant to 37-83-105, C.R.S.
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5
10
20
Miles
N

ATTACHMENT 2

BARGAIN AND SALE DEED

Recorded 12:25 pm
4-23-1999
#99004515

B-5

BLM Tract No. COC-58589

BARGAIN AND SALE DEED
(Water Rights – Thompson Parcel 8 and Parcels 2, 4, 5, 6 and 7)

For the true and actual consideration of $1.00, receipt of which is hereby acknowledged, GALLOWAY, INC., a Delaware Corporation, whose address is P.O. Box 1120, Kremmling, Colorado 80459, hereinafter called Grantor, whether one or more, does hereby grant, bargain, sell, and convey to the UNITED STATES OF AMERICA, and its assigns, the following described real property situated in the County of Grand, State of Colorado, to wit:

ANY AND ALL WATER, WATER RIGHTS AND CLAIMS OF RIGHT WHICH ARE APPURTENANT TO THE PROPERTY ATTACHED HERETO AS EXHIBIT A; INCLUDING ALL DITCHES, DITCH RIGHTS OF WAY, AND ALL RIGHTS TO AND INTEREST IN DITCHES AND DITCH RIGHTS OF WAY; ALL STRUCTURES FOR DIVERTING AND CONVEYING WATER; ALL WATER, WATER RIGHTS, AND WATER STOCK EVIDENCING OWNERSHIP OF WATER WHICH HAS HISTORICALLY BEEN USED OR IS USED ON THE PROPERTY ATTACHED HERETO AS EXHIBIT A; ALL RIGHTS IN NON-TRIBUTARY GROUNDWATER BY VIRTUE OF LAND OWNERSHIP; INCLUDING, BUT NOT LIMITED TO THE FOLLOWING DECREED WATER RIGHTS AND WATER USE PERMITS IN COLORADO WATER DIVISION 5:

1. 2.0 cfs, absolute, decreed to the Kinney-Barriger Ditch Third Enlargement for irrigation use – appropriation date January 1, 1900; appropriation number 449D; adjudication date October 28, 1955; Civil Action 814 in Old Water District 51, Colorado. Diversion point is located in the SE¼NW¼, Sec. 18, T1N R79W, Sixth P.M.

2. 13.84 cfs, absolute, decreed to Thompson Pump No. 2 for irrigation use – originally appropriated on January 1, 1900; appropriation number 449D under the name of Kinney-Barriger Ditch Third Enlargement; adjudicated as a conditional water right on October 28, 1955, in Civil Action 814 in Old Colorado Water District 51. Diversion point transferred to Thompson Pump No. 2 in case number W-1709, Colorado Water Division 5, on July 23, 1974. 10.0 cfs made absolute in case number 80 CW 258, Colorado Water Division 5, on December 19, 1980. 3.84 cfs made absolute in case number 84 CW 199, Colorado Water Division 5, on November 27, 1984. Diversion point located in the SE¼SE¼, Sec. 16, T1N R80W, Sixth P.M.

3. 4.0 cfs, absolute, decreed to the T.A. Engle Ditch No. 3 for irrigation use – appropriation date January 1, 1900; appropriation number 449C; adjudication date October 28, 1955; Civil Action 814 in Old Water District 51, Colorado. Diversion point is located in the SW¼SE¼, Section 16, T1N R80W, Sixth P.M., or alternatively, at Thompson Pump No. 2, as described above.

The acquiring agency is the Bureau of Land Management, United States Department of the Interior.

BLM Tract No. COC-58589

TO HAVE AND TO HOLD unto the UNITED STATES OF AMERICA and its assigns forever.

Dated this 22nd day of April, 1999.

Deed recorded with final date of April 23

GALLOWAY, INC., a ~~Delaware~~ corporation

By: _____
Paul T. Jones, II, President

STATE OF CONNECTICUT)
) ss:
COUNTY OF FAIRFIELD)

On this 19th day of April, 1999, personally came before me, a Notary Public in and for said County and State, the within-named Paul T. Jones, II, as President of Galloway, Inc., a Delaware corporation, personally known to be the identical person described in and who executed the within and foregoing instrument, and acknowledged to me that he executed the same as his free and voluntary act and deed, and on oath stated he is authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Lisa A. Gabriele
Notary Public in and for the State of Connecticut

Residing at 95-80th Street
Brooklyn, NY 11209

My commission expires: LISA A. GABRIELE
NOTARY PUBLIC
MY COMMISSION EXPIRES JUL. 31, 2001

BLM Tract No. COC-58589

EXHIBIT A
LEGAL DESCRIPTION

Parcel 2: Palmer - Troublesome

Township 2 North, Range 79 West of the 6th P.M.
Section 19: SE¼NE¼, E½SE¼

EXCEPT that portion conveyed to the County of Grand by deed recorded in Book 151 at Page 370.

Section 20: S½NW¼, SW¼NE¼, NW¼SE¼, SW¼
Section 29: NW¼NW¼

Parcel 4: Palmer - Sulphur Spring

Township 2 North, Range 79 West of the 6th P.M.
Section 32: E½W½

Parcel 5: Yust - Colorado/Blue River Confluence

PARCEL A:

A PARCEL IN N½NE¼, SECTION 19, TOWNSHIP 1 NORTH, RANGE 80 WEST OF THE 6TH P.M., GRAND COUNTY, COLORADO, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Beginning at the NE Corner of said Section 19, being on or near the southerly bank of the Colorado River, and computed from a found BLM BC witness corner;

THENCE North 88 degrees 48 minutes 54 seconds West for a distance of 1321.36 feet along the northerly section line of said Section 19 to a set (2"AC/3/4"Bar/marked #11415) 1/16 corner;

THENCE North 88 degrees 48 minutes 54 seconds West for a distance of 275.75 feet along the said northerly section line to a point at the centerline of the Colorado River;

THENCE South 55 degrees 54 minutes 11 seconds West for a distance of 53.72 feet along said centerline of the Colorado River; thence along the centerline of the Colorado River as follows:

THENCE South 52 degrees 23 minutes 15 seconds West for a distance of 142.61 feet;

THENCE South 61 degrees 08 minutes 37 seconds West for a distance of 143.95 feet;

BLM Tract No. COC-58589

Parcel 6: Shepard - Colorado River

PARCEL A:

ALL THAT PORTION OF THE SE¼SE¼, SECTION 16, TOWNSHIP 1 NORTH, RANGE 80 WEST OF THE 6TH P.M., more particularly described as follows:

Beginning at the Southeast corner of said Section 16;
THENCE N 87°04'57" W, along the South line of said Section 16 for 1288.92 feet, to the Southwest corner of the said SE¼SE¼;
THENCE N 11°13'16" E for 763.09 feet;
THENCE N 03°11'36" W for 374.73 feet;
THENCE N 21°37'29" W for 252.95 feet; to the Northwest corner of the said SE¼SE¼;
THENCE S 87°21'16" E, along the North line of the said SE¼SE¼ for 1301.62 feet, to the Northeast corner of the said SE¼SE¼;
THENCE S 01°59'26" W, along the East line of the said SE¼SE¼ for 1364.15 feet, to the Point of Beginning.

PARCEL B:

A PORTION OF SECTION 15, TOWNSHIP 1 NORTH, RANGE 80 WEST OF THE 6TH P.M., SITUATE IN THE COUNTY OF GRAND, STATE OF COLORADO and particularly described as follows:

Beginning at a point on the West line of said Section 15, whence the W¼ corner bears N 02°00'00" E 608.36 feet, said point also on the southerly right-of-way of the Denver & Rio Grande Western Railroad,
THENCE S 81°09'00" E 251.39 feet along said right-of-way,
THENCE southeasterly 207.54 feet + along a spiral curve to the left whose long chord bears S 84°09'00" E 207.54 feet along said right-of-way,
THENCE northeasterly 479.78 feet along the arc of a 1004.49 feet radius curve to the left whose long chord bears N 79°10'00" E 475.24 feet along said right-of-way,
THENCE northeasterly 207.54 feet± along a spiral curve to the left whose long chord bears N 62°29'00" E 207.54 feet along said right-of-way,
THENCE N 59°29'00" E 628.88 feet along said right-of-way to a point on the E-W Center line of said Section 15,
THENCE S 84°16'00" E 620.56 feet along said E-W center line,
whence the center ¼ corner bears S 84°16'00" E 356.00 feet,
THENCE S 40°21'45" W 303.33 feet,
THENCE S 53°23'28" W 53.12 feet,
THENCE S 59°12'59" W 193.59 feet,
THENCE S 45°29'53" W 78.88 feet,

THENCE S 54°38'17" W 143.61 feet,
THENCE S 41°02'13" W 263.08 feet,
THENCE S 36°50'51" W 69.60 feet to a point on the south side of the Kenney Barringer Ditch,
THENCE N 71°34'03" W 60.77 feet along said south side,
THENCE S 74°50'25" W 202.87 feet along said south side,
THENCE S 55°41'22" W 189.22 feet along said south side,
THENCE S 71°01'52" W 304.28 feet along said south side,
THENCE S 49°23'53" W 67.06 feet along said south side,
THENCE S 15°20'52" W 71.68 feet along the east side of said Kenny Barringer Ditch,
THENCE S 03°38'17" W 114.71 feet along said east side to a point on the south line of the N½SW¼ Section 15,
THENCE N 83°33'43" W 728.02 feet along said south line to a point on the west line of said Section 15,
THENCE N 02°00'00" E 757.18 feet along said west line to the True Point of Beginning.

Parcel 7: Culbreath

PARCEL A:

Township 1 North, Range 80 West of the 6th P.M.
Section 22: E½SE¼, SE¼NE¼
Section 23: SW¼, S½NW¼, SE¼, SW¼NE¼
Section 25: NW¼NW¼, NE¼
Section 26: NW¼, N½SW¼, N½NE¼, SW¼NE¼
Section 27: E½

EXCEPT a tract in the SE¼NE¼ of said Section 25 described in Book 146 at Pages 468 through 474.

PARCEL C:

A parcel of land located in the S½ of the SW¼ of Section 14, Township 1 North, Range 80 West of the 6th Principal Meridian, Grand County, Colorado and being more particularly described as follows:

Beginning at the SW corner of said Section 14, being an existing BLM brass cap, THENCE S 86°53'04" E along the South line of said Section 14 a distance of 2684.20 feet to the S¼ corner of said Section 14, being an existing BLM brass cap.

THENCE, N 02°49'25" E along the north-south centerline of said Section 14 a distance of 779.31 feet to a one-half inch rebar with a plastic cap stamped PLS 9939, said point also being on a fence line on the North Right of Way line of Grand County Road No. 33, an undedicated roadway.

BLM Tract No. COC-58589

THENCE, N 88°42'29" W along said county road and fence line a distance of 279.67 feet to a fence corner.

THENCE, S 86°25'23" W along said county road and fence line a distance of 383.39 feet to a fence corner.

THENCE, S 20°45'10" E along said county road and fence line a distance of 18.06 feet to a fence corner.

THENCE, S 87°38'24" W along said county road and fence line a distance of 446.10 feet to the SE corner of Parcel B, being a one-half inch rebar with a plastic cap stamped PLS 9939.

THENCE, S 85°55'48" W along said county road and fence line a distance of 470.28 feet.

THENCE, N 80°43'54" W along said county road and fence line a distance of 841.45 feet to an angle point in said fence line.

THENCE, N 65°45'06" W along said county road and fence line a distance of 296.43 feet to the intersection with the W line of said Section 14, said point being a one-half inch rebar with a plastic cap stamped PLS 9939.

THENCE, S 03°21'49" W along said section line a distance of 804.87 feet to the point of beginning.

The basis of bearing for this description is the W½ of the S line of Section 14, T.1 N., R. 80 W. being monumented at each end with standard BLM brass caps, this line bears S 86°53'04" E.

Parcel 8: Thompson - Colorado River

A PORTION OF THE S½SW¼ AND THE S½SE¼, SECTION 16 AND A PORTION OF THE NW¼, SECTION 21, TOWNSHIP 1 NORTH, RANGE 80 WEST OF THE 6TH PRINCIPAL MERIDIAN SITUATE IN THE COUNTY OF GRAND, STATE OF COLORADO and more particularly described as follows:

Beginning at the SE corner of the SW¼SE¼ of said Section 16, the true point of beginning,
THENCE N 87°02'14" W 1289.12 feet to a point on the N-S centerline of said Section 21,
THENCE S 04°30'00" W 79.45 feet along said N-S centerline to a point on the centerline of County Road 33,
THENCE S 81°09'37" W 669.21 feet along said centerline,
THENCE Southwesterly 100.05 feet along the arc of a 9,964.40 feet radius curve to the right whose long chord bears S 81°26'53" W 100.00 feet along said centerline.

THENCE S 81°44'08" W 257.40 feet along said centerline,
THENCE Southwesterly 199.73 feet along the arc of a 1,543.01 feet radius curve to the right whose long chord bears S 85°26'38" W 199.58 feet along said centerline,
THENCE S 89°09'07" W 33.06 feet along said centerline,
THENCE Northwesterly 149.61 feet along the arc of a 846.52 feet radius curve to the right whose long chord bears N 85°47'06" W 149.41 feet along said centerline,
THENCE N 80°43'19" W 123.84 feet along said centerline,
THENCE Northwesterly 99.90 feet along the arc of a 924.30 feet radius curve to the left whose long chord bears N 83°49'06" W 99.85 feet along said centerline,
THENCE N 86°54'53" W 141.27 feet along said centerline,
THENCE Northwesterly 99.79 feet along the arc of a 621.32 feet radius curve to the right whose long chord bears N 82°18'49" W 99.68 feet along said centerline,
THENCE N 77°42'46" W 96.84 feet along said centerline,
THENCE Northwesterly 149.71 feet along the arc of a 975.89 feet radius curve to the left whose long chord bears N 82°06'27" W 149.56 feet along said centerline,
THENCE N 86°30'08" W 111.23 feet along said centerline,
THENCE Southwesterly 396.83 feet along the arc of a 1,211.37 feet radius curve to the left whose long chord bears S 84°06'48" W 395.05 feet along said centerline to a point on the West line of said Section 21,
THENCE N 06°26'51" E 113.29 feet along said West line,
THENCE N 67°00'00" E 12.01 feet,
THENCE N 42°00'00" E 264.00 feet,
THENCE N 43°12'00" E 223.08 feet,
THENCE N 27°00'00" E 264.00 feet,
THENCE N 19°00'00" E 132.00 feet,
THENCE N 07°00'00" E 462.00 feet,
THENCE N 53°00'00" E 524.21 feet to a point on the North line of said S½SW¼ of said Section 16,
THENCE S 87°19'12" E 1643.39 feet,
THENCE S 87°19'17" E 1301.50 feet to the NE corner of said SW¼SE¼ of said Section 16,
THENCE S 21°24'44" E 253.77 feet,
THENCE S 03°11'36" E 374.73 feet,
THENCE S 11°13'16" W 763.09 feet to the True Point of Beginning.

All located in Grand County, Colorado.

ATTACHMENT 3

LOAN AGREEMENT

TEMPORARY WATER LOAN AGREEMENT:
CWT REQUEST FOR WATER 2013

This water loan agreement ("Loan") is entered into by and between the COLORADO WATER CONSERVATION BOARD ("CWCB"), an agency of the State of Colorado; the COLORADO WATER TRUST ("CWT"), a Colorado nonprofit corporation; and the Bureau of Land Management, an agency of the United States Department of the Interior, ("Donor"), collectively, the Parties.

RECITALS

A. Section 37-92-102(3), C.R.S. (2012) authorizes CWCB to acquire by loan or other contractual agreement such water, water rights, or interests in water as CWCB determines may preserve and improve the natural environment to a reasonable degree.

B. CWT is a Colorado nonprofit dedicated to protecting and restoring streamflows in Colorado through voluntary, market-based efforts. CWT works within CWCB's acquisition program to accomplish this mission. This Loan supports that mission.

C. Section 37-83-105(2) authorizes water rights owners to lease or loan water to CWCB for instream flow use pursuant to a decreed instream flow water right held by CWCB and administrative approval, subject to certain conditions and procedures ("Short Term Lease Program").

D. Under the Short Term Lease Program, a loan may have a term for up to ten years, but may only be used for instream flows for three of those ten years. For each year the water right is used in the Short Term Lease Program, it may only be used for instream flows up to 120 days in that calendar year.

E. Colorado snowpack totals for the winter of 2013 are similar to those of the drought years 2002 and 2012. In those years, many CWCB decreed instream flows were not satisfied and the lack of water negatively impacted the state's aquatic ecosystems. This year, CWT and CWCB anticipate many decreed instream flows will not be met again. However, CWT and CWCB will use the Short Term Lease Program - not available in 2002 - to supply water to those decreed, but not met, instream flows to protect Colorado's aquatic ecosystems.

F. CWT issued a statewide "Request for Water" to solicit water rights to lease or loan into the Short Term Lease Program on April 23, 2012. This Loan is a result of that effort.

G. Donor owns the Thompson Pump No. 2 on the Colorado River ("Water Right"). Donor wishes to loan the Water Right to CWCB for instream flow use in the Colorado River, pursuant to the procedures and subject to the conditions set forth herein, in Section 37-83-105(2), and in CWCB Rule 6(k) of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program.

Agreement Implementation attached herein as Appendix A.

2. Water Right. Donor shall loan to CWCB the Water Right pursuant to this Loan, more particularly described below:

13.84 cfs of the Thompson Pump No. 2, originally conditionally decreed by Civil Action No. 814 as the Kinney-Barrager Ditch, Third Enlargement, in and for the District Court of Grand County on October 28, 1953, with an appropriation date of January 1, 1900, subsequently changed to change the point of diversion to the Thompson Pump No. 2 by Case No. W-1709, 10 cfs of the 13.84 cfs made absolute by Case No. 80CW258 on December 19, 1980, and the remaining 3.84 cfs made absolute by Case No. 84CW199 on November 27, 1984.

3. Operations, Accounting and Monitoring.

   a. CWCB shall notify the State and Division Engineers when the Water Right is being used for instream flow pursuant to this approval for administrative purposes.

   b. The Parties agree to coordinate record keeping and accounting as reasonably required by the State and Division Engineers to administer the water right use for ISF purposes.

   c. The Parties agree to coordinate to install and maintain any measuring devices or structures reasonably required by the State and Division Engineers to administer the water right use for ISF purposes.

4. CWCB Acceptance of Loan. CWCB's acceptance of the Loan of the Water Right is contingent upon the State and Division Engineers' determination that CWCB's use of the Water Right in the Short Term Lease Program will not injure existing water rights of others and will not affect Colorado's compact entitlements. Approval may include terms and conditions to ensure the non-injury standard is met pursuant to section 37-83-105(2)(b)(VI).

5. Cessation of Historic Use. Donor agrees and acknowledges that Donor may not irrigate with the Water Right within a year that the Water Right is used for instream flow. However, in any other year that the Water Right is not used for instream flow during the Ten-Year Term of this Loan, the Donor may irrigate with the Water Right.

6. Protections of Donor's Water Right. The Donor's Water Right is protected from diminishment of historical consumptive use and abandonment under this Loan by sections 37-83-105(2)(c) and 37-92-103(2)(b)(V).

7. Use of Water Loaned. CWCB will use the Water Right to maintain its Instream Flows decreed to preserve the natural environment to a reasonable

pursuant to section 37-92-308 (6) for the water division in which the proposed Loan is located, and shall file proof of such notice with the Division Engineer.

12. Compliance. The Parties shall use their best efforts to comply with all the requirements of section 37-83-105(2), to obtain approval of the Loan, and to address any comments submitted by any party concerning potential injury to that party's water rights, either as part of the initial approval process or after a year in which the Loan has been exercised.

13. Denial and/or Termination.

    a. If the request for approval is denied in whole or in part, or if the approval is conditioned in such manner as to prevent this Loan from being completely fulfilled, then this Loan may be terminated within 30 days of written notice by any party to this Loan.

    b. This Loan shall terminate at the end of the Ten-Year Term.

    c. Either party may terminate this loan after thirty (30) days written notice to the other party of its intention to do so provided the CWCB is not in the process of exercising the water right for instream flow purposes.

14. Miscellaneous Provisions.

    a. CWCB shall take such action as is necessary or desirable to protect the use of the Water Right for instream flow purposes, including requesting the Division Engineer to administer the Water Right. CWT and Donor shall work with CWCB to provide information concerning implementation and monitoring of this Loan.

    b. The Parties will implement this Loan in accordance with any terms and conditions imposed by the State and Division Engineers.

    c. This Loan shall not be assignable by any party without the prior written consent of the others.

    d. The lands historically irrigated by this water right are in federal ownership. The Bureau of Land Management land use plan governing management of these lands and water rights calls for indefinite retention of these property interests in federal ownership. If the planning status of these lands changes during the term of this loan, the Donor will notify the CWCB and CWT of such change in writing.

    e. Any notices required or permitted hereunder shall be sent to the addresses or email addresses set forth below, as may be changed from time to time by proper notice.

17. Effective Date. The effective date of this Loan shall be the date it is executed by all parties.

IN WITNESS HEREOF, CWCB, CWT, and Donor have executed this Loan.

KREMMLING FIELD OFFICE
BUREAU OF LAND MANAGEMENT (Donor)

By: Donald K Hoffheins
NAME: Donald K. Hoffheins
Field Office Manager

COLORADO WATER CONSERVATION BOARD

By: _____
NAME: Jennifer Gimbel
Director

COLORADO WATER TRUST

By: _____
NAME: Amy Beatie
Executive Director

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 2013, by _____ as _____ of COLORADO WATER TRUST.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

Appendix A

WATER LOAN AGREEMENT IMPLEMENTATION

This water loan agreement implementation ("Implementation") is entered into this _____ day of _____, 20__, by and between the COLORADO WATER CONSERVATION BOARD ("the CWCB"), an agency of the State of Colorado; the COLORADO WATER TRUST ("CWT"), a Colorado nonprofit corporation; and the Bureau of Land Management, an agency of the United States Department of the Interior, ("Donor"), collectively, the Parties.

RECITALS

A. This Implementation renews the Temporary Water Loan Agreement: CWT Request for Water 2013 between the CWCB, CWT, and Donor, dated _____ ("Loan").

B. The Parties have entered into the Loan for a certain Water Right for instream flow pursuant to section 37-83-105 C.R.S.

C. The Parties desire to implement the Loan.

NOW, THEREFORE, in consideration of the mutual agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

IMPLEMENTATION OF THE LOAN

1. Except as otherwise provided herein, the Loan, and all terms, provisions and conditions set forth therein are hereby renewed. In the event of any conflict or discrepancy between this Implementation and the Loan, the terms and conditions of the Implementation shall control and supersede the terms and conditions of the Loan.

2. The Implementation Term shall be from _____, 20__, to _____, 20__.

3. Except as expressly amended hereby, all of the terms, conditions, provisions, and agreements of the Loan shall remain unchanged.

IN WITNESS HEREOF, the CWCB, CWT, and Donor have executed this Implementation as of the ___ day of_____ 20__.

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 20__, by _____ as _____ of _____.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

NOTARIZATION

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this ___ day of _____, 20__, by _____ as _____ of COLORADO WATER CONSERVATION BOARD.

Witness my hand and official seal.

_____

Notary Public

My commission expires:

_____

ATTACHMENT 4

DECREES

DISTRICT COURT, WATER DIVISION NO. 5, COLORADO

Application No. 84CW199

RULING OF REFEREE

IN THE MATTER OF THE APPLICATION FOR WATER RIGHTS OF WILLIAM H. THOMPSON AND ANITA L. THOMPSON, IN THE COLORADO RIVER, IN GRAND COUNTY

The above entitled application was filed on June 25, 1984 and was referred to the undersigned as Water Referee for Water Division No. 5, State of Colorado, by the Water Judge of said Court on the 23rd day of July, 1984, in accordance with Article 92 of Chapter 37, Colorado Revised Statutes 1973, known as The Water Right Determination and Administration Act of 1969.

And the undersigned Referee having made such investigations as are necessary to determine whether or not the statements in the application are true and having become fully advised with respect to the subject matter of the application does hereby make the following determination and ruling as the Referee in this matter, to-wit:

1. The statements in the application are true.

2. The name of the structure is Kinney-Barrager Ditch, Third Enlargement.

3. The names of the claimants and address is: William H. Thompson and Anita L. Thompson; Box 216; Kremmling, Colorado.

4. The source of the water is the Colorado River.

5. (a) Thompson Pump No. 1 is located at a point whence the Northeast Corner of Section 20, T. 1 N., R. 80 W. of the 6th P.M. bears N. 64 deg. 36' E. 713.5 feet.

(b) Thompson Pump No. 2 is located at a point whence the East Quarter Corner of Section 16, T. 1 N., R. 80 W. of the 6th P.M. bears N. 41 deg. 15'30" E. 2,083.5 feet.

6. On October 28, 1953, in Civil Action No. 814, the Grand County District Court awarded to the Kinney-Barrager Ditch, Third Enlargement, appropriation No. 449D, Priority No. 37 D, on the Colorado River, an absolute water right for 2.0 cubic feet of water per second of time, a conditional water right for 27.68 cubic feet of water per second of time, to be used for irrigation, with appropriation date of January 1, 1900.

7. On May 13, 1974, in Case No. W-1709, the Water Referee for Water Division No. 5 granted the applicants' request that of the 27.68 cubic feet of water per second of time previously awarded conditionally to the Kinney-Barrager Ditch, Third Enlargement, 13.84 cubic feet of water per second of time be transferred to Thompson Pump No. 1, and 13.84 cubic feet of water per second of time be transferred to Thompson Pump No. 2, at the locations as described in paragraph 5 above. In the same proceeding, 8.0 cubic feet of water per second of time of that transferred to Thompson Pump No. 1 was made absolute and unconditional. This Ruling of Referee was confirmed and made a Decree of the Court on July 23, 1974.

8. On December 19, 1980, in Case No. 80CW258, the Water Referee for Water Division No. 5 found that the claimant had exercised reasonable diligence in the development of the remaining conditional water right, and continued said conditional water right in full force and effect.

The Referee further found that of the 13.84 cubic feet of water per second of time transferred to Thompson Pump No. 2, 10.0 cubic feet of water per second of time had been diverted and applied to beneficial use, and said 10.0 c.f.s. were made absolute and unconditional.

At that time the amount of water remaining conditionally decreed to Thompson Pump No. 1 was 5.84 c.f.s., and the amount of water remaining conditionally decreed to Thompson Pump No. 2 was 3.84 c.f.s.

9. On June 25, 1984, the claimants filed, in Water Court for Water Division No. 5, an application for quadrennial finding of reasonable diligence and to make absolute a conditional water right in which it is requested that the Court find that the claimant has exercised reasonable diligence in the development of the conditional water right, and further to find that the remaining conditional water rights decreed to Thompson Pump No. 1 and to Thompson pump No. 2 be made absolute and unconditional in accordance with the original decree.

In support of these requests the claimant has submitted a detailed outline of the work performed and the expenditures made during the last diligence period to perfect the water rights and to divert the water and apply the water to beneficial use. Pictures of the pump installations have also been submitted to the Court.

The Referee having examined the information submitted by the applicant, and having completed the investigations necessary to make a determination in this matter does conclude that the claimant has exercised reasonable diligence in the development of the conditional water rights and the appropriations have been completed and the water has been diverted and applied to beneficial use in accordance with the original decree.

The 5.84 cubic feet of water per second of time remaining conditionally decreed to Thompson Pump No. 1, and the 3.84 cubic feet of water per second of time remaining conditionally decreed to Thompson Pump No. 2 are hereby made absolute and unconditional.

84CW199

CENTRAL FILES

RECEIVED
DEC 03 1984
WATER RESOURCES
ENGINEER

It is accordingly ORDERED that this ruling shall be filed with the Water Clerk subject to judicial review.

It is further ORDERED that a copy of this ruling shall be filed with the appropriate Division Engineer and the State Engineer.

Dated October 30, 1984.

BY THE REFEREE:

Water Referee
Water Division No. 5
State of Colorado

No protest was filed in this matter. The foregoing ruling is confirmed and approved, and is made the Judgment and Decree of this court.

Dated: Nov 27, 1984

Water Judge

[illegible] mailed to all
✓ Water
✓ [illegible] Engineer ✓ and
[illegible] ✓ Date 10-31-84
J Hansen
[illegible] Water Div. No. 5
Decree 11-28-84

IN THE DISTRICT COURT IN AND

FOR WATER DIVISION NO. 5

STATE OF COLORADO

Application No. 80CW258

IN THE MATTER OF THE APPLICATION FOR WATER RIGHTS OF WILLIAM H. THOMPSON AND ANITA L. THOMPSON IN THE COLORADO RIVER IN GRAND COUNTY	)	RULING OF REFEREE

The above entitled application was filed on June 26, 1980, and was referred to the undersigned as Water Referee for Water Division No. 5, State of Colorado, by the Water Judge of said Court on the 24th day of July, 1980, in accordance with Article 92 of Chapter 37, Colorado Revised Statutes 1973, known as The Water Right Determination and Administration Act of 1969.

And the undersigned Referee having made such investigations as are necessary to determine whether or not the statements in the application are true and having become fully advised with respect to the subject matter of the application does hereby make the following determination and ruling as the Referee in this matter, to-wit:

1. The statements in the application are true.

2. The name of the structure is Kinney-Barrager, Third Enlargement.

3. The names of the claimants and address: William H. Thompson and Anita L. Thompson; Kremmling, Colorado.

4. The source of the water is the Colorado River.

5.(a)Thompson Pump No. 1 is located at a point whence the Northeast Corner of Section 20, T. 1 N., R. 80 W. of the 6th P.M. bears N. 64°36' E. 713.5 feet.
(b)Thompson Pump No. 2 is located a point whence the East Quarter Corner of Section 16, T. 1 N., R. 80 W. of the 6th P.M. bears N. 41°15'30" E. 2,083.5 feet.

6. On October 28, 1953, in Civil Action No. 814, the Grand County District Court awarded to the Kinney-Barrager Ditch, Third Enlargement, appropriation No. 449D, Priority No. 37 D, on the Colorado River, an absolute water right for 2.0 cubic feet of water per second of time, a conditional water right for 27.68 cubic feet of water per second of time, to be used for irrigation, with appropriation date of January 1, 1905.

7. On May 13, 1974, in Case No. W-1709, the Water Referee for Water Division No. 5 granted the applicants' request that of the 27.68 cubic feet of water per second of time previously awarded

conditionally to the Kinney-Barrager Ditch, Third Enlargement, 13.84 cubic feet of water per second of time be transferred to Thompson Pump No. 1, and 13.84 cubic feet of water per second of time be transferred to Thompson Pump No. 2, at the locations as described in paragraph 5 above. In the same proceeding, 8.0 cubic feet of water per second of time of that transferred to Thompson Pump No. 1 was made absolute and unconditional. This Ruling of Referee was condfirmed and made a Decree of the Court on July 23, 1974.

8. On December 3, 1974, in Case No. W-138, and on September 25, 1971, in Case No. W-138, and on September 25, 1975, the Court has found that the claimant has exercised reasonable diligence in the development of this conditional water right, and has ruled that it be continued in full force and effect.

9. In Case No. W-815, the claimant was directed to file an application for quadrennial findings of reasonable diligence in the development of this conditional water right in June of 1976 to maintain this conditional water right. The claimant failed to file this application on the date as directed; however, notice of expiration of the conditional water right in accordance with C.R.S. 1973, 37-92-305(7), was not issued to the claimant.

10. On June 26, 1980, the claimant filed, in Water Court for Water Division No. 5, an application for quadrennial finding of reasonable diligence, and to make a portion of the conditional water right absolute, in which it is requested that the Court enter a Ruling that the claimant has exercised reasonable diligence in the development of the conditional portion of this water right for the diligence period ending in 1976 and in 1980, and further that 10.0 cubic feet of water per second of time of the water transferred to Thompson Pump No. 2 be made absolute and unconditional.

In support of this request the following information was submitted by the applicant:

(a) Since 1972 Applicants have continued to expand, extend and develop the Kinney-Barrager Ditch and in 1974, under Case No. W-1709, application was made for a change in point of diversion and for the issuance of an Absolute Decree on a portion of the conditional water right previously decreed to the subject structure. At that time, the point of deversion was changed to the Thompson Pump No. 1 and Thompson Pump No. 2 and the Thompson Pump No. 1 was installed and 8.0 cubic feet of water per second of time was decreed as an absolute right in Case No. W-1709 on July 23, 1974. Specific details regarding the work performed and the application of this water to beneficial use are set forth in Case No. W-1709.

(b) Additional expansion, extension and development of the Ditch has been completed since 1974 including the installation in 1978 of a K.M.P. eight inch (8") pump with a 114 horse power drive at the site described as Thompson Pump No. 2 in Case No. W-1709. This pump has a capacity of 10.0 cubic feet of water per second of time and cost the Applicants approximately Five Thousand Seven Hundred Dollars ($5,700.00). The value of the work performed on the ditch, including installation of appurtenances such as culverts and pumping stations, is estimated at approximately Four Thousand Dollars ($4,000.00). In 1978 an additional eighty (80) acres was seeded and brough under irrigation and 10.0 cubic feet of water per second of time was put to beneficial use beginning first on the 26th day of May, 1978.

(c) In 1979 a 1973 International Harvester Backhoe was purchased by the Applicants at a cost of Ten Thousand Dollars ($10,000.00) to be used primarily for purposes of expanding and improving the ditch which is used to irrigate Applicants' property. Appicants continue their plan to bring approximately five hundred twenty (520) acres under irrigation through the extension and expansion of this ditch.

The Referee does find that the claimant has exercised reasonable diligence in the development of the remaining conditional water right

for the diligence period preceeding June, 1976, and also for the diligence period ending in June, 1980; and therefore conclude that the above entitled application should be granted, and the conditional water right be continued in full force and effect.

The Referee does further conclude that of the 13.84 cubic feet of water per second of time transferred to Thompson Pump No. 2, 10.00 cubic feet of water per second of time should be, and hereby are, made absolute and unconditional.

The amount of water remaining conditionally decreed to Thompson Pump No. 1 is 5.84 cubic feet of water per second of time. The amount of water remaining conditionally decreed to Thompson Pump No. 2 is 3.84 cubic feet of water per second of time. Both of these conditional water rights were originally awarded to Kinney-Barrager, Third Enlargement under Colorado River Priority No. [redacted] 37 D.

As to the remaining conditional water rights as described above, an Application for a Quadrennial Finding of Reasonable Diligence shall be filed in June of 1984 and in June of every fourth calendar year thereafter so long as the claimant desires to maintain the conditional water right or until a determination has been made that the conditional water right has become an absolute water right by reason of the completion of the appropriation.

It is accordingly ORDERED that this ruling shall be filed with the Water Clerk and shall become effective upon such filing, subject to Judicial review pursuant to Section 37-92-304 C.R.S. 1973.

It is further ORDERED that a copy of this ruling shall be filed with the appropriate Division Engineer and the State Engineer.

Done at the City of Glenwood Springs, Colorado, this 19th day of DECEMBER, 1980.

BY THE REFEREE:

Water Referee
Water Division No. 5
State of Colorado

IN THE DISTRICT COURT IN AND

FOR WATER DIVISION NO. 5

STATE OF COLORADO

Application No. W-1709

IN THE MATTER OF THE APPLICATION)
FOR WATER RIGHTS OF WILLIAM H. THOMPSON)
AND ANITA L. THOMPSON) RULING OF
IN THE COLORADO RIVER) REFEREE
IN GRAND COUNTY)

The above entitled application was filed on November 14, 1972, and was referred to the undersigned as Water Referee for Water Division No. 5, State of Colorado, by the Water Judge of said Court on the 22nd day of November, 1972, and again, after withdrawal of Statement of Opposition on April 8, 1974, in accordance with Article 21 of Chapter 148, Colorado Revised Statutes 1963, as amended (Chapter 373 S.L. Colo. 1969,) known as The Water Rights Determination and Administration Act of 1969.

And the undersigned Referee having made such investigations as are necessary to determine whether or not the statements in the application are true and having become fully advised with respect to the subject matter of the application does hereby make the following determination and ruling as the Referee in this matter, to-wit:

1. The statements in the application are true in all respects except for an error made in computing the amount of water to be transferred to each new point of diversion. It is the intent to transfer a total of 27.68 cubic feet of water per second of time in equal amounts to two new points of diversion. In the application it is requested that 13.24 cubic feet of water per second of time be transferred to each of two new points of diversion, but the correct amount to be transferred to each new point of diversion is 13.84 cubic feet of water per second of time. This error has been corrected in this ruling.

2. The name of the structure is Kinney-Barrager Ditch, Third Enlargement.

3. The names of claimants and address is William H. Thompson and Anita L. Thompson, Kremmling, Colorado.

4. The source of the water is the Colorado River.

5.a The point of diversion of the Kinney-Barrager Ditch, Third Enlargement, as decreed, is on the left of South bank of the Colorado River whence the South Quarter Corner of Section 18, Township 1 N., Range 79 west of the 6th PM, bears South 02° 00' West 4035 feet.

b The point of diversion of Thompson Pump No. 1 is located at a point whence the Northeast Corner of Section 20, Township 1 N., Range 80 West of the 6th PM, bears North 64° 36' East 713.5 feet.

c The point of diversion of Thompson Pump No. 2 is located at a point whence the East Quarter Corner of Section 16, Township 1 N., Range 80 West of the 6th PM, bears North 41° 15' 30" East 2,083.5 feet.

6. On October 28, 1955, in Civil Action No. 814, the Grand County District Court awarded to the Kinney-Barrager Ditch, Third Enlargement, appropriation No. 449D, Priority No. 37D on the Colorado River, an absolute water right for 2.0 cubic feet of water per second of time, a conditional water right for 27.68 cubic feet of water per second of time, to be used for irrigation, with appropriation date of January 1, 1900.

7. On December 3, 1971, in Case No. W-38, the Water Court for Water Division No. 5 found that the claimants of the Kinney-Barrager Ditch, Third Enlargement, had exercised reasonable diligence in the development of the conditional water right, and continued the conditional water right in full force and effect.

8. On November 14, 1972, the claimant filed in Water Court for Water Division No. 5, an application for change of water right in which it is requested that the applicant be allowed to change the point of diversion of the remaining 27.68 cubic feet of water per second of time previously awarded conditionally to the Kinney-Barrager Ditch, Third Enlargement, from the point of diversion of Thompson Pump No. 1 as described in paragraph 5 (b) above in the amount of 13.84 cubic feet of water per second of time, and to the point of diversion of the Thompson Pump No. 2 as described in paragraph 5 (c) above in in the amount of 13.84 cubic feet per second of time.

In support of this request the applicant states that the feasibility of using a pump system rather than a ditch for this water right has been under investigation for the past five years, and that this is the most satisfactory way to utilize the water and irrigate the land owned by the applicant.

9. Applicant further requests that 8.0 cubic feet of water per second of time of that transferred to Thompson Pump No. 1 be made absolute and unconditional by reason of the application of 8.0 cubic feet per second of time to beneficial use for irrigation of lands owned by the applicant.

The Referee does therefore conclude that the above entitled application should be granted, and that the point of diversion for 13.84 cubic feet of water per second of time previously awarded conditionally to the Kinney-Barrager Ditch, Third Enlargement, as decreed and as described in paragraph 5 (a) above, be changed to the point of diversion of the Thompson Pump No. 1 as described in paragraph 5 (b) above, and that 13.84 cubic feet of water per second of time previously awarded to the Kinney-Barrager Ditch, Third Enlargement, be changed to the Thompson Pump No. 2 as described in paragraph 5 (c) above.

The Referee does further conclude that 8.0 cubic feet of water per second of time of that previously awarded to the Kinney-Barrager Ditch, Third Enlargement, and hereby transferred to the point of diversion of the Thompson Pump No. 1, should be and is hereby made absolute and unconditional.

It is accordingly ORDERED that this ruling shall be filed with the Water Clerk and shall become effective upon such filing, subject to

judicial review pursuant to Section 148-21-20 CRS 1963, as amended (1971).

It is further ORDERED that a copy of this ruling shall be filed with the appropriate Division Engineer and the State Engineer.

Done at the City of Glenwood Springs, Colorado, this 13th day of MAY, 1974.

BY THE REFEREE:

Water Referee
Water Division No. 5
State of Colorado

No protest was filed in this matter. The foregoing ruling is confirmed and approved, and is made the Judgment and Decree of this court.

Dated: July 23, 1974

Water Judge

ATTACHMENT 5

ENGINEERING REPORT

THOMPSON PUMP NO. 2
COLORADO WATER TRUST
SHORT-TERM WATER LEASING PROGRAM
ENGINEERING REPORT

COLORADO WATER DIVISION 5, DISTRICT 51, SID # 1149

JUNE 20, 2012

SUBMITTED TO:

Colorado Water Trust
1430 Larimer Street
Suite 300
Denver, CO 80202

PREPARED BY:

Rapid Engineering, LLC
1911 Colorow Rd.
Glenwood Springs, CO 81601

IN PARTNERSHIP WITH:

SGM
118 W. 6th St.
Glenwood Springs, CO 81601

TABLE OF CONTENTS

Table of Tables

Table of Figures

INTRODUCTION

This report presents the results of a water resources engineering analysis of the Thompson Pump No. 2 (TP2) water right, prepared for the Colorado Water Trust's Request for Water 2012, temporary lease program. The analysis involved a detailed review of the Colorado Water Conservation Board (CWCB)/Department of Water Resources (DWR) Colorado Decision Support System (CDSS) data base of water rights transactions and diversion records; a review of historic aerial photographs to verify estimates of irrigated area; a detailed historic consumptive use analysis using the CDSS State CU consumptive use model; and a delayed depletion analysis using the Glover Analysis[i]. The following sections present the details and findings of this investigation. Figure 1 shows the location of the Thompson Pump No. 2.

INSTREAM FLOW REACH

The Thompson Pump No. 2 water right has been offered to the Colorado Water Trust Temporary Leasing program to support a CWCB instream flow water right in the Colorado River within the reach decreed in case 80CW448 in Division 5. Details are presented in Table 1. The instream flow reach that will benefit from this temporary lease is also shown in Figure 1.

Table 1 Instream Flow Details

Water Division:	5
Water District:	51
Watershed:	Blue (1401002) & Colorado headwaters (14010001)
County:	Grand
Upper Terminus:	confl Troublesome Creek in SW SE S12 T1N R80W 6PM
Lower Terminus:	confl Blue River in NW NE S19 T1N R80W 6PM
Appropriation Date:	7/8/1980
Administration No:	47674.0000
SID:	2036
Instream Flow Rate:	150 cfs

INVESTIGATION OF OFFERED WATER RIGHT

The Thompson Pump No. 2 water right was decreed in Water Division 5 District Court for irrigation use in case W-1709. This case transferred 13.84 cubic feet per second (cfs) from

the Kinney-Barrager Ditch, Third Enlargement to the Thompson Pump No. 2 point of diversion (POD). Case 80CW258 made 10.0 cfs of this right absolute and the remaining 3.84 cfs was made absolute in case 84CW199. The TP2 has administration number 34241.18263 and priority number 449D. The CDSS structure summary for The Thompson Pump No. 2 is attached for reference.

LOCATION

The TP2 is located in Grand County, Colorado Water Division 5 and District 51. The decreed point of diversion for the Thompson Pump No. 2 water right is:

"at a point whence the East Quarter Corner of Section 16 Township 1 N. Range 80 W. of the 6th PM bears North 41° 15' 30" East 2083.5 feet." (W-1709)

Which is at a point approximately 1381.3 ft from the east section line and 1128.1 ft from the south section line (S16, T1N,R80W,6PM).

DIVERSION RECORD

The CDSS diversion records for the TP2 indicate that there has been a long history of diversions and irrigation. CDSS diversion records contain 26 years (1986 to 2010) of data which show that this water right has been reliable even during low water years such as 2002. The decreed rate of 13.84 cfs has been met or exceeded numerous years, with maximum diversion rates up to 15 cfs. The average annual historic diversion is 1529.5 AF. The historic diversion record was analyzed to determine the average monthly diversion for the TP2. The results of this analysis are presented in Table 2. Detailed diversion records are attached.

Thompson Pump No. 2 Vicinity Map

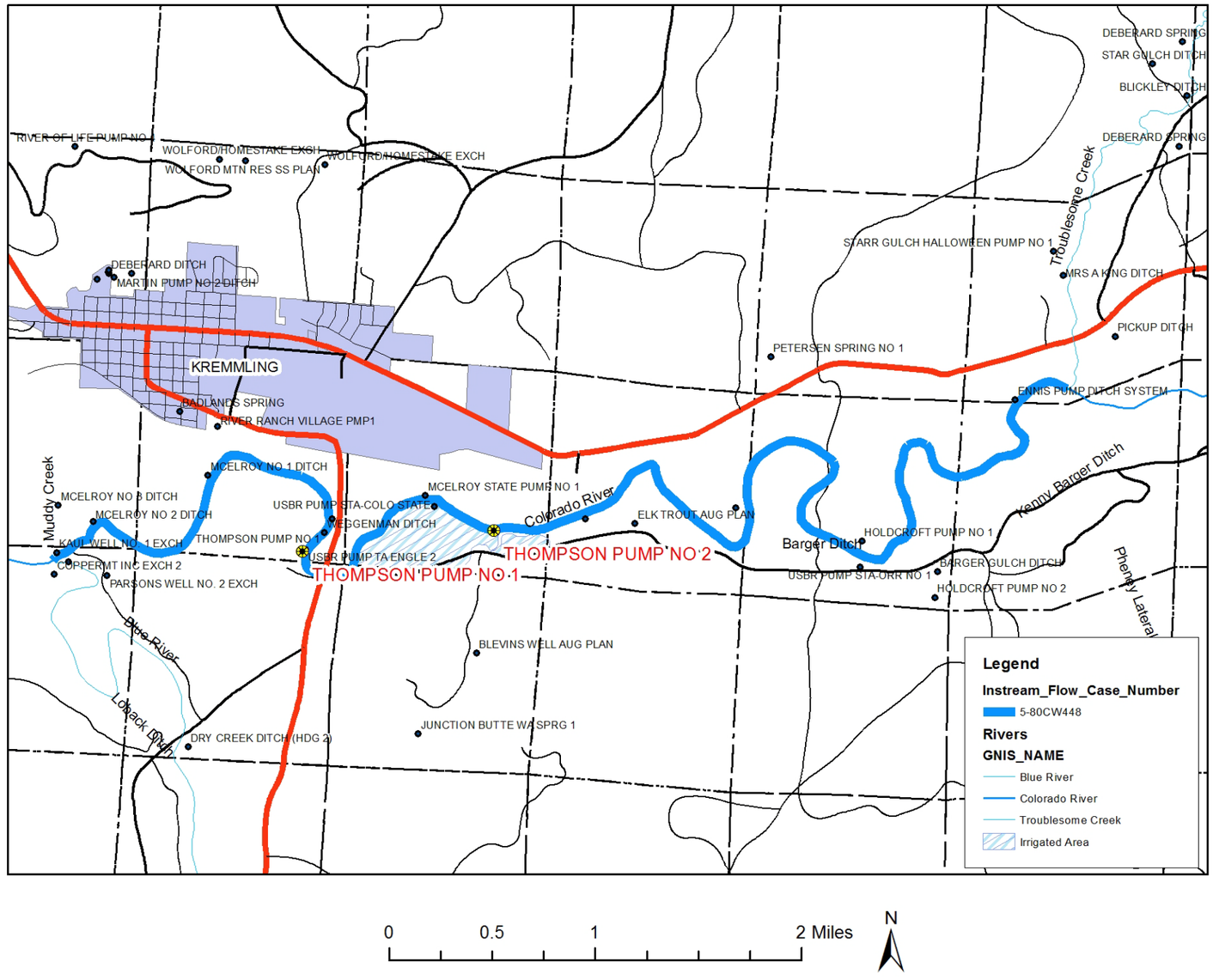


Figure 1 Vicinity Map

Table 2. Historic Average Monthly Diversion

Month	Historic Diversion	
	[AF]	[cfs]
Nov	0.00	0.00
Dec	0.00	0.00
Jan	0.00	0.00
Feb	0.00	0.00
Mar	0.00	0.00
Apr	0.00	0.00
May	177.31	2.88
Jun	457.50	7.69
Jul	395.83	6.44
Aug	97.49	1.59
Sep	307.21	5.16
Oct	94.18	1.53
Total	1529.53	
Notes:	From STATE CU	

IRRIGATED AREA

CDSS GIS data indicates that between 115 and 125 acres have been irrigated by the Thompson Pump No. 2 for the period of record, while review of historical aerial photographs shows that between 96 and 126 acres has been irrigated by the TP2. The calculated average irrigated area is just over 114 acres, which nearly matches the default value of 115 acres in the State CU model input data. The model was run assuming 115 acres of irrigation. A map of the Thompson Pump No. 2 point of diversion, approximate irrigated area, and adjacent water rights is presented in Figure 2.

GLOVER ANALYSIS

A portion of the irrigation water supplied in excess of the Irrigation Water Requirement (IWR)[ii] returns to the river as ground water, which delays the flow's accretion to the stream. A Glover Analysis was performed to assess the impact of ground water delays. The Analytical Steam Depletion method (Schroeder, 1987) as applied in the Integrated Decision Support (IDS) group's Alluvial Water Accounting System (AWAS)[iii] was used for this analysis.

A review of well records and other relevant documents was performed to estimate the thickness of the alluvial aquifer, the hydraulic conductivity of the alluvium, and the specific yield of the aquifer (under the TP2).[iv,v] Based on this analysis the hydraulic conductivity was estimated at 500 ft/day and the aquifer thickness was estimated at 40 ft, which results in a transmissivity of 150,000 gpd/ft. The estimate of specific yield is 0.2.

Available GIS data was used to determine the average distance from the river to the centroid of the return flow (AWAS distance X) and from the river to the impermeable boundary (AWAS distance W). To accurately represent the delay of flood irrigation return flow given the limitations of the Glover Analysis, the irrigated area was divided into 7 different zones each approximately 820ft wide. The geometric centroid was calculated for each zone. The area and centroid of these zones were then used to calculate the area-weighted average distance from the river to the recharge source and to the impermeable boundary (Figure 3). The average distance from the recharge area to the river is 673 ft and from the boundary to the river is 1385 ft.

To ensure steady state during the AWAS analysis, the pumping rate of 5.6 cfs was applied during the first month of each year for 24 years. The results of this analysis are presented in Table 3. These results indicate that there is a four month delay in return flows resulting from the TP2 irrigation. It should be noted that the volume returned in the fourth month (i.e. n+3) is negligible.

Table 3 Glover Analysis Results (IDS AWAS)

Month, n=current	*Flow Rate [cfs]*	*Depletion [AF]*	*%*
n	5.6	262.23	77.31%
n+1	0	75.47	22.25%
n+2	0	1.45	0.43%
n+3	0	0.03	0.01%
n+4	0	0.00	0.00%
n+5	0	0.00	0.00%
n+6	0	0.00	0.00%
n+7	0	0.00	0.00%
n+8	0	0.00	0.00%
n+9	0	0.00	0.00%
n+10	0	0.00	0.00%
n+11	0	0.00	0.00%
n+12	0	0.00	0.00%
Total		339.18	100.00%

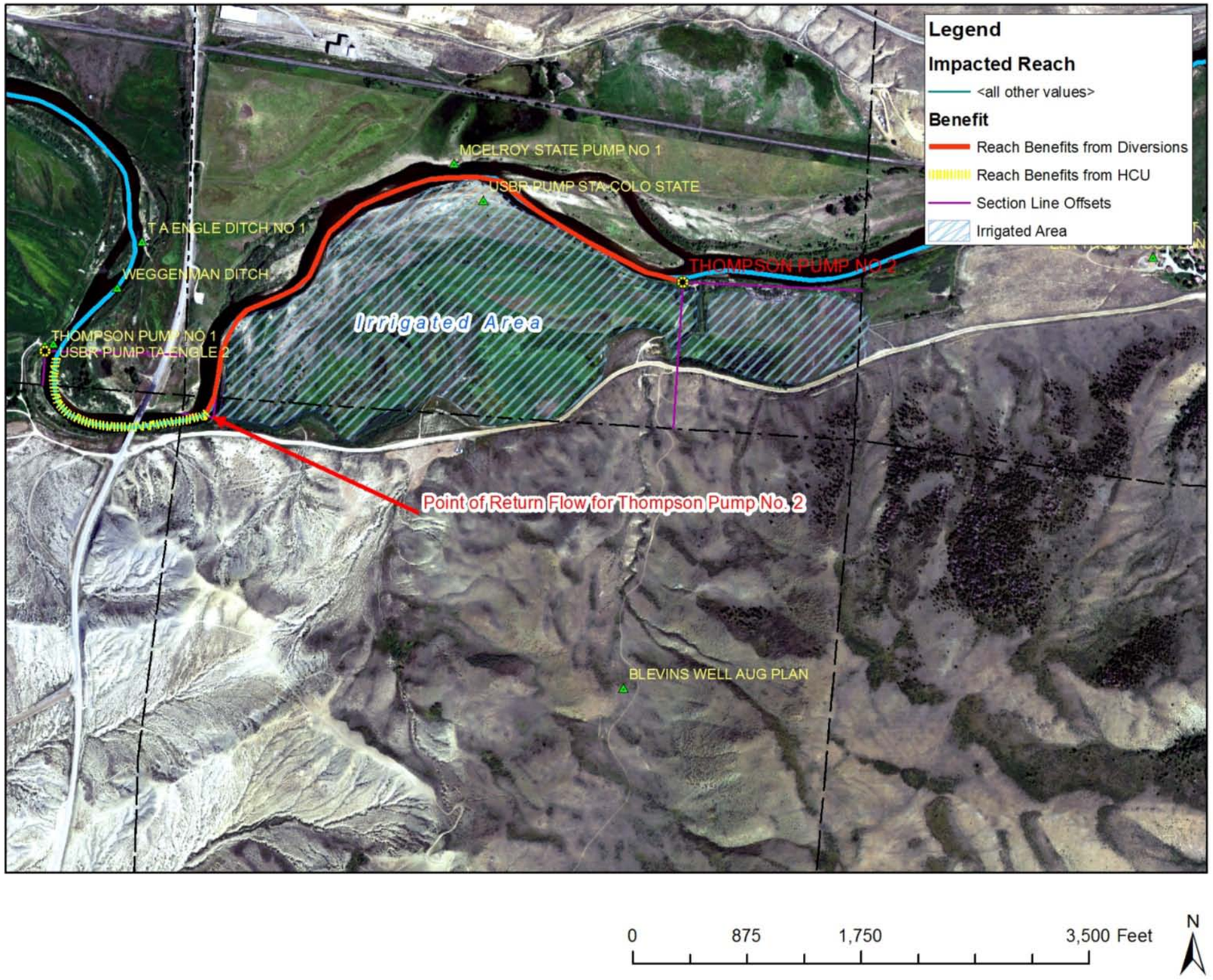


Figure 2 Thompson Pump No. 2 Average Irrigated Area.

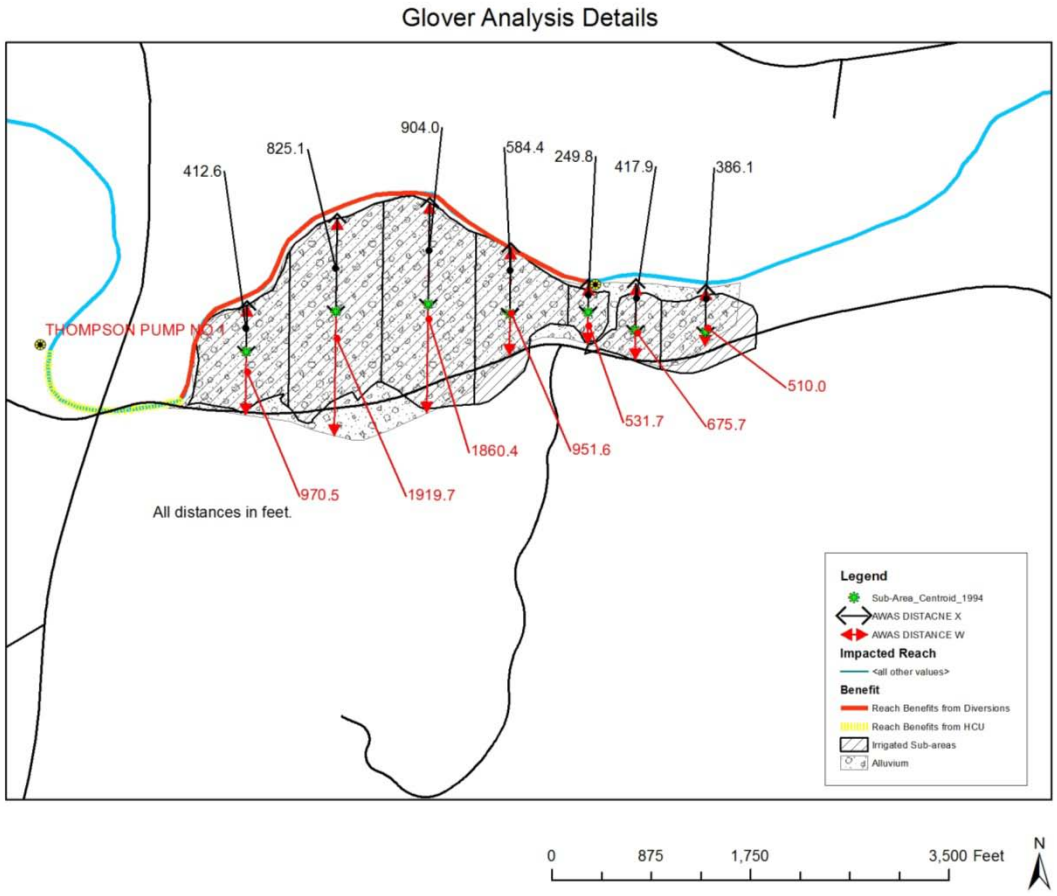


Figure 3 Glover Analysis Details

HISTORIC CONSUMPTIVE USE AND DEPLETION ANALYSIS

The CDSS's State CU model was used to estimate the IWR and resulting Historic Consumptive Use (HCU) of the TP2 right. Pasture grass was historically grown on the 115 acres of irrigated land. This HCU and depletion analysis was performed using the pasture grass consumptive use coefficients for all years.

Table 4 shows the input assumptions for the State CU model. It should be noted that the State CU default Hydrobase dataset showed monthly diversions in 2002 but did not include an annual total. The input dataset was modified to include the total annual diversion of 1423.36 AF. State CU HCU results are summarized in Table 5.

Table 4 State CU Input

Parameter	Setting
CU Method:	Blaney-Criddle (TR-21, monthly)
Crop Coeff.:	Pasture Grass (TR-21)
Effective Precip Method:	SCS TR-21 (monthly)
Analysis Type:	Structure Scenario
Begin Growing Season Mean Temp:	45 °F
End Growing Season Mean Temp:	45 °F
Kremmling Weather Station:	ID 4664
Elevation:	7350
Max Root Zone:	3.3ft
Max. Application Depth:	3.0in
Data Processing:	Fill Clim w hist avg & do not fill diversion
Ditch Efficiency:	90%
Irrigation Efficiency:	60%
Available Soil Water Content[vi]:	0.16 in/in

Table 5 State CU Results

	IWR		Diversion		Diversion to CU		Diversion to Soil Moisture		Soil Moisture to CU		Total HCU	
Month	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.52	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.01	0.52	0.01
May	16.87	0.27	177.31	2.88	11.86	0.19	3.34	0.05	4.18	0.07	16.03	0.26
Jun	35.32	0.59	457.50	7.69	31.76	0.53	8.39	0.14	2.11	0.04	33.86	0.57
Jul	43.69	0.71	395.83	6.44	42.03	0.68	5.72	0.09	1.66	0.03	43.69	0.71
Aug	35.20	0.57	97.49	1.59	10.12	0.16	0.00	0.00	24.55	0.40	34.67	0.56
Sep	18.04	0.30	307.21	5.16	13.90	0.23	20.03	0.34	3.09	0.05	17.00	0.29
Oct	2.10	0.03	94.18	1.53	0.76	0.01	0.00	0.00	1.32	0.02	2.08	0.03
Total	151.75		1529.53		110.42		37.48		37.43		147.85	

The results of this analysis indicate that the average annual diversion over the period of record is 1529.5 AF with an average HCU of 147.9 AF/year. Monthly average IWR, diversion and historic consumptive use volumes and flow rates are presented in Table 5.

Return Flow Analysis

The results of the HCU analysis were combined with the delayed depletion percentages (Table 3) to analyze historic return flow patterns and depletions. It was assumed that half the return flow is subject to the groundwater delays and the other half is returned within

the month via the surface (tailwater returns, headgate losses, etc.).[vii] Table 6 presents the results of this analysis. It is important to note that due to the combination of historic irrigation patterns and delayed return flows there are months when the volume of irrigation return flow to the river is greater than the volume of water diverted. These excess return flows contribute to the river flow in the months of August and October through January (represented as accretions in Table 6). The complete calculation spreadsheets are presented at the end of this report.

Table 6 Depletion and Return Flow analysis results.

	Diversion		Surface Return Flow-No Lag		Groundwater Return Flow-Lagged		Total Return Flow-Lagged		Depletion (Accretion)	
Month	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]
Nov	0.00	0.00	0.00	0.00	10.98	0.18	10.98	0.18	(10.98)	(0.18)
Dec	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.00	(0.21)	(0.00)
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.00)	(0.00)
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	177.31	2.88	81.06	2.64	62.67	1.02	143.73	2.34	33.58	0.55
Jun	457.50	7.69	208.68	7.01	179.37	3.01	388.05	6.52	69.46	1.17
Jul	395.83	6.44	174.04	5.66	181.33	2.95	355.38	5.78	40.46	0.66
Aug	97.49	1.59	43.68	1.42	73.40	1.19	117.08	1.90	(19.59)	(0.32)
Sep	307.21	5.16	136.64	4.59	116.12	1.95	252.77	4.25	54.45	0.91
Oct	94.18	1.53	46.71	1.52	66.72	1.09	113.43	1.84	(19.25)	(0.31)
Total	1529.53		690.81		690.81		1381.63		147.90	

While return flow from irrigation accrues to the Colorado River throughout the irrigated parcel, the downstream limit of the irrigated area is considered the point of return. This point is located in the NW1/4 of the NW 1/4 of the NW 1/4 of Section 21, Township 1 North, Range 80 W of the 6th PM at a point approximately 155.5 ft from the north section line and 239.8 ft from the west section line (383,071.7 m Northing and 4,433,019.2 m Easting, UTM NAD83, Zone 13N) (Figure 2).

Downstream Water Rights

There are numerous water rights downstream of the TP2 point of diversion and point of historic return flow (see Figure 1) and upstream of the downstream instream flow terminus (confluence with Blue River). The TA Engle Ditch No. 1 (ID 925), the TA Engle Ditch No. 2 (ID 926), the TA Engle Ditch No. 3 (ID 927), and the Thompson Pump No. 1 (ID 1148) all have the administration number 34241.18263 with Priorities 449A, 449B, 449C, and 449D respectively. The downstream senior rights within the instream flow reach are

the McElroy No. 1 Ditch (ID 612) and the McElroy No. 2 Ditch (ID 613) which have administration numbers of 32335.11971 and 32335.11677 respectively. When in priority, any of these senior or contemporary water rights have the right to divert any Thompson Pump No. 2 water left in the river. This places limits on the reach that may benefit from the TP2 flows.

Proposed Instream Use of the Water Right

The upstream terminus of the reach of the Colorado River that will benefit from the TP2 flows during dry-up is the Thompson Pump No. 2 point of diversion (described above). The downstream terminus of the reach of river that will benefit from the TP2 flows during dry up is the point of diversion of the Thompson Pump No. 1 and the TA Engle Ditch No. 1. (Figure 2) which is located in the SW 1/4 of the SE 1/4 of the SE1/4 of Section 17, Township 1 N, Range 80 W, 6th PM, at a point approximately 1079.2 ft from the east section line and 261.7 ft from the south section line.

During dry-up, the reach between the point of diversion and the point of return flow (described above) will benefit from the Diversion Volumes and Flow Rates outlined in Table 7. The reach between the point of return flow and the point of diversion of the Thompson Pump No. 1 and the TA Engle Ditch No. 1. will benefit from the Historic Depletion Volumes and Flow Rates outlined in Table 8. When the TP2 right is in priority, as previously indicated, senior rights between this point and the downstream terminus of the Instream Flow reach may be able to divert the TP2 water.

Summary

The results of this water resources engineering investigation show that the Thompson Pump No. 2 has had a long history of diversions and beneficial use. The water right has been offered for use in the Colorado Water Trust's temporary lease program to help meet CWCB instream flow rights on the Colorado River in the reach decreed in case 80CW448 in Colorado Water Division 5. When the land is dried up, the annual volume of diversion available to the instream flow program is 1529.5 AF. A monthly summary of diversions available is provided in Table 7.

Table 7 Diversion Available for Instream Flow

Month	Historic Diversions Available for In-Stream Flow	
	[AF]	[cfs]
Nov	0.0	0.0
Dec	0.0	0.0
Jan	0.0	0.0
Feb	0.0	0.0
Mar	0.0	0.0
Apr	0.0	0.0
May	177.3	2.9
Jun	457.5	7.7
Jul	395.8	6.4
Aug	97.5	1.6
Sep	307.2	5.2
Oct	94.2	1.5
Total	1529.5	

Below the point of return flow the historic depletion of 147.9 AF is available for in-stream flows during dry-up. A monthly summary is presented in Table 8. When they are in priority, senior and contemporary water rights located downstream of the Thompson Pump No. 2 POD have the ability to divert any Thompson Pump No. 2 left in the river. Therefore the reach that may benefit from the historic depletions presented in Table 8 extends from the downstream limit of land irrigated by the Thompson Pump No. 2 to the point of diversion of the Thompson Pump No. 1.

Table 8 Historic Depletions Available for Instream Flow

Month	Historic Depletions Available to Instream Flow	
	[AF]	[cfs]
Nov	(10.98)	(0.18)
Dec	(0.21)	(0.00)
Jan	(0.00)	(0.00)
Feb	0.00	0.00
Mar	0.00	0.00
Apr	0.00	0.00
May	33.58	0.55
Jun	69.46	1.17
Jul	40.46	0.66
Aug	(19.59)	(0.32)
Sep	54.45	0.91
Oct	(19.25)	(0.31)
Total	147.90	

The proposed instream flow use of the Thompson Pump No. 2 water right alters the amount and distribution of diversions and depletions to the Colorado River. The proposed use results in a decrease in annual depletions of 147.9 AF. In the months were there is a decrease in depletion, instream flows are increased by as much as 1.17 cfs. The dry-up of the TP2 will result in effective depletions in some months due to the lack of delayed return flows. These effective depletion flow rates are 0.32 cfs or less. The calculation summary sheets are presented in Table 9 and Table 10. Details are presented in Table 11 through Table 22.

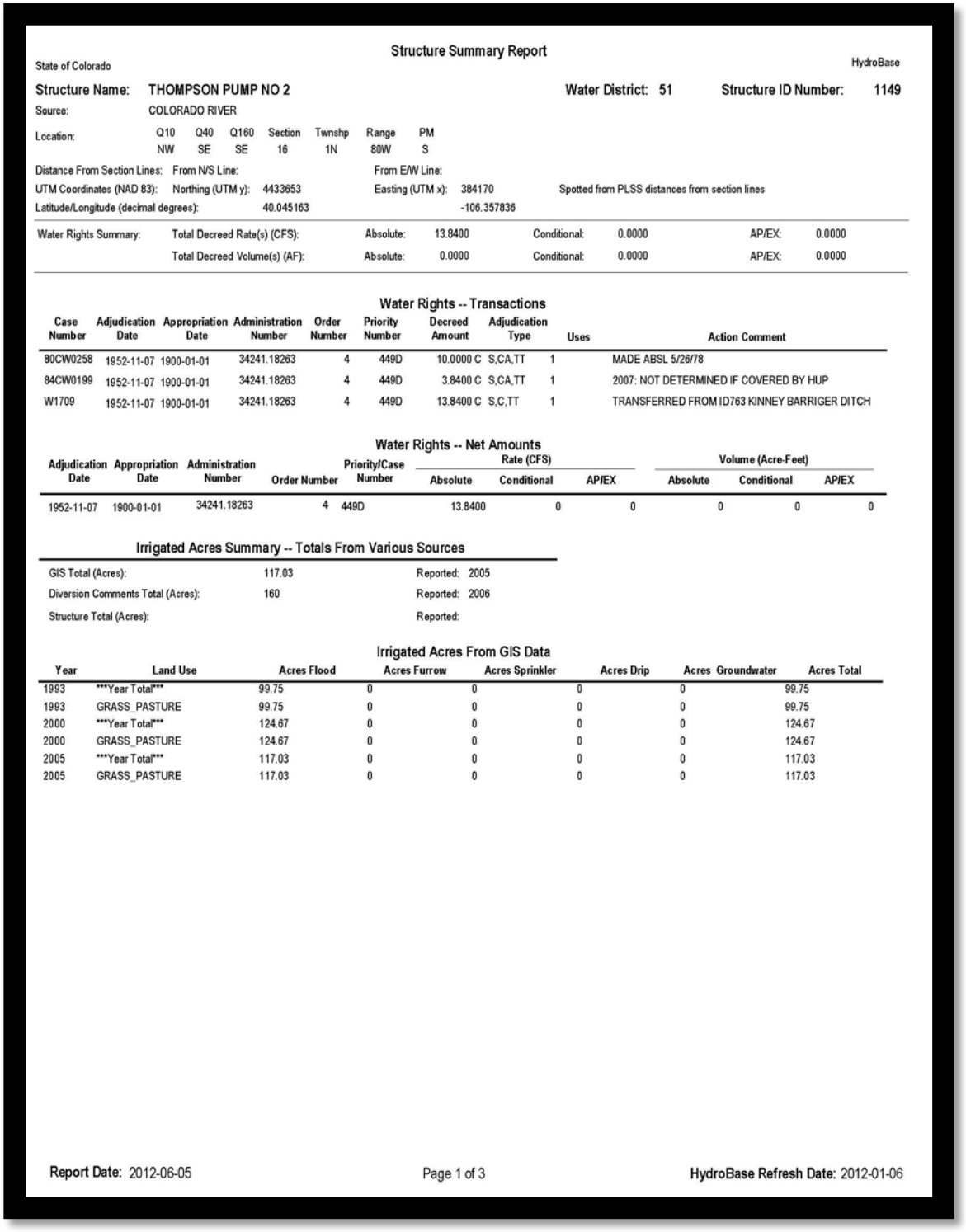
Table 9 HCU/Diversion Analysis Summary

	(1)		(2)		(3)		(4)		(5)		(6)	
	IWR		Diversion		Diversion to CU		Diversion to Soil Moisture		Soil Moisture to CU		Total CU	
Month	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.52	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.01	0.52	0.01
May	16.87	0.27	177.31	2.88	11.86	0.19	3.34	0.05	4.18	0.07	16.03	0.26
Jun	35.32	0.59	457.50	7.69	31.76	0.53	8.39	0.14	2.11	0.04	33.86	0.57
Jul	43.69	0.71	395.83	6.44	42.03	0.68	5.72	0.09	1.66	0.03	43.69	0.71
Aug	35.20	0.57	97.49	1.59	10.12	0.16	0.00	0.00	24.55	0.40	34.67	0.56
Sep	18.04	0.30	307.21	5.16	13.90	0.23	20.03	0.34	3.09	0.05	17.00	0.29
Oct	2.10	0.03	94.18	1.53	0.76	0.01	0.00	0.00	1.32	0.02	2.08	0.03
Total	151.75		1529.53		110.42		37.48		37.43		147.85	

Table 10 HCU/Diversion Analysis Cont.

	(7)		(8)		(9)		(10)		(11)	
	Total Return Flow-No Lag		Surface Return Flow-No Lag		Groundwater Return Flow-Lagged		Total Return Flow-Lagged		Depletion (Accretion)	
Month	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]	[AF]	[cfs]
Nov	0.00	0.00	0.00	0.00	10.98	0.18	10.98	0.18	(10.98)	(0.18)
Dec	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.00	(0.21)	(0.00)
Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.00)	(0.00)
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	162.12	0.19	81.06	2.64	62.67	1.02	143.73	2.34	33.58	0.55
Jun	417.35	0.53	208.68	7.01	179.37	3.01	388.05	6.52	69.46	1.17
Jul	348.08	0.68	174.04	5.66	181.33	2.95	355.38	5.78	40.46	0.66
Aug	87.37	0.16	43.68	1.42	73.40	1.19	117.08	1.90	(19.59)	(0.32)
Sep	273.28	0.23	136.64	4.59	116.12	1.95	252.77	4.25	54.45	0.91
Oct	93.43	0.01	46.71	1.52	66.72	1.09	113.43	1.84	(19.25)	(0.31)
Total	1381.63		690.81		690.81		1381.63		147.90	

CDSS STRUCTURE SUMMARY REPORT



Structure Summary Report

State of Colorado — HydroBase

Structure Name: THOMPSON PUMP NO 2 **Water District:** 51 **Structure ID Number:** 1149

Source: COLORADO RIVER

Location:	Q10	Q40	Q160	Section	Twnshp	Range	PM
	NW	SE	SE	16	1N	80W	S

Distance From Section Lines: From N/S Line: From E/W Line:

UTM Coordinates (NAD 83): Northing (UTM y): 4433653 Easting (UTM x): 384170 Spotted from PLSS distances from section lines

Latitude/Longitude (decimal degrees): 40.045163 -106.357836

Water Rights Summary:						
Total Decreed Rate(s) (CFS):	Absolute:	13.8400	Conditional:	0.0000	AP/EX:	0.0000
Total Decreed Volume(s) (AF):	Absolute:	0.0000	Conditional:	0.0000	AP/EX:	0.0000

Water Rights -- Transactions

Case Number	Adjudication Date	Appropriation Date	Administration Number	Order Number	Priority Number	Decreed Amount	Adjudication Type	Uses	Action Comment
80CW0258	1952-11-07	1900-01-01	34241.18263	4	449D	10.0000 C	S,CA,TT	1	MADE ABSL 5/26/78
84CW0199	1952-11-07	1900-01-01	34241.18263	4	449D	3.8400 C	S,CA,TT	1	2007: NOT DETERMINED IF COVERED BY HUP
W1709	1952-11-07	1900-01-01	34241.18263	4	449D	13.8400 C	S,C,TT	1	TRANSFERRED FROM ID763 KINNEY BARRIGER DITCH

Water Rights -- Net Amounts

Adjudication Date	Appropriation Date	Administration Number	Order Number	Priority/Case Number	Rate (CFS)			Volume (Acre-Feet)		
					Absolute	Conditional	AP/EX	Absolute	Conditional	AP/EX
1952-11-07	1900-01-01	34241.18263	4	449D	13.8400	0	0	0	0	0

Irrigated Acres Summary -- Totals From Various Sources

GIS Total (Acres):	117.03	Reported:	2005
Diversion Comments Total (Acres):	160	Reported:	2006
Structure Total (Acres):		Reported:	

Irrigated Acres From GIS Data

Year	Land Use	Acres Flood	Acres Furrow	Acres Sprinkler	Acres Drip	Acres Groundwater	Acres Total
1993	***Year Total***	99.75	0	0	0	0	99.75
1993	GRASS_PASTURE	99.75	0	0	0	0	99.75
2000	***Year Total***	124.67	0	0	0	0	124.67
2000	GRASS_PASTURE	124.67	0	0	0	0	124.67
2005	***Year Total***	117.03	0	0	0	0	117.03
2005	GRASS_PASTURE	117.03	0	0	0	0	117.03

Report Date: 2012-06-05 Page 1 of 3 **HydroBase Refresh Date:** 2012-01-06

Diversion Summary in Acre-Feet - Total Water Through Structure

Year	FDU	LDU	DWC	Maxq & Day	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
1986	1986-06-04	1986-07-07	20	7 06-04	0	0	0	0	0	0	0	168	90	0	0	0	258
1987	1987-06-02	1987-07-13	42	8 06-02	0	0	0	0	0	0	0	422	180	0	0	0	603
1988	1988-05-27	1988-09-20	52	15 05-27	0	0	0	0	0	0	149	625	506	0	179	0	1458
1989	1989-05-24	1989-10-12	69	14 05-24	0	0	0	0	0	0	222	500	305	0	484	333	1845
1990	1990-06-01	1990-10-07	58	14 06-01	0	0	0	0	0	0	0	694	389	0	333	194	1611
1991	1991-05-24	1991-09-24	55	14 05-24	0	0	0	0	0	0	222	472	500	0	333	0	1527
1992	1992-06-16	1992-09-24	43	14 06-16	0	0	0	0	0	0	0	417	583	0	194	0	1194
1993	1993-05-25	1993-09-26	60	14 05-25	0	0	0	0	0	0	194	639	555	83	194	0	1666
1994	1994-05-29	1994-09-24	49	13 05-29	0	0	0	0	0	0	77	490	284	0	413	0	1263
1995	1995-05-19	1995-09-25	65	14 05-19	0	0	0	0	0	0	351	647	270	0	486	0	1753
1996	1996-05-28	1996-09-30	51	14 05-28	0	0	0	0	0	0	111	472	472	0	361	0	1416
1997	1997-05-27	1997-07-15	21	14 05-27	0	0	0	0	0	0	139	28	417	0	0	0	583
1998	1998-06-02	1998-10-06	56	14 06-02	0	0	0	0	0	0	0	555	583	0	250	167	1555
1999	1999-05-25	1999-09-12	38	14 05-25	0	0	0	0	0	0	194	611	111	0	139	0	1055
2000	2000-05-23	2000-09-26	64	12 05-23	0	0	0	0	0	0	214	381	524	71	333	0	1523
2001	2001-05-29	2001-10-03	45	14 05-29	0	0	0	0	0	0	82	602	109	0	356	82	1232
2002	2002-05-20	2002-09-10	52	14 05-20	0	0	0	0	0	0	328	547	328	0	219	0	1423
2004	2004-07-12	2004-10-19	68	14 07-12	0	0	0	0	0	0	0	0	328	192	821	520	1861
2005	2005-05-12	2005-10-20	152	14 05-12	0	0	0	0	0	0	547	547	849	849	821	547	4161
2006	2006-05-12	2006-10-21	132	14 05-12	0	0	0	0	0	0	547	821	575	308	516	417	3184
2007	2007-05-17	2007-09-30	124	14 05-17	0	0	0	0	0	0	411	657	657	766	640	0	3130
2008	2008-06-02	2008-09-29	53	14 06-02	0	0	0	0	0	0	0	575	575	0	301	0	1451
2009	2009-05-15	2009-06-04	21	14 05-15	0	0	0	0	0	0	465	109	0	0	0	0	575
2010	2010-07-19	2010-08-03	16	12 07-19	0	0	0	0	0	0	0	0	309	71	0	0	381
				Minimum:	7	0	0	0	0	0	0	0	0	0	0	0	258
				Maximum:	15	0	0	0	0	0	0	547	821	849	849	821	547	4161
				Average:	13	0	0	0	0	0	0	177	458	396	97	307	94	1530

24.00 years with diversion records

Notes: The average considers all years with diversion records, even if no water is diverted.
The above summary lists total monthly diversions.
* = Infrequent Diversion Record. All other values are derived from daily records.
Average values include infrequent data if infrequent data are the only data for the year.

Diversion Comments

IYR	NUC Code	Acres Irrigated	Comment
1985	Water taken but no data available	0	
1987		70	
1988		75	
1989		70	
1990		160	
1991		150	
1992		180	
1993		180	
1994		180	
1995		180	NORTHERN COLO WATER CONS DIST 7 YEAR MAINTENANCE AGREEMENT EXPIRED ON 4/1/95.
1996		180	
1997		180	
1998		180	
1999		180	
2000		180	
2001		180	
2002		180	
2004		180	
2005		160	DUCK HABITAT. NO HAYING OR GRAZING. WATER TAKEN OUT OF PRIORITY AUG 18 THROUGH OCT 20.
2006		160	DUCK HABITAT. NO HAYING OR GRAZING; COVERED BY WOLFORD SLOT GROUP WHEN CALLED OUT BY
2009			PUMP SHAFT BEARINGS WENT OUT 6/5/09
2010			PUMP RE-INSTALLED MID JULY

Note: Diversion comments and reservoir comments may be shown for a structure, if both are available.

StateCU Tables

Table 11 Diversions [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	167.61	90.25	0.00	0.00	0.00	0.00	0.00	257.86
1987	0.00	0.00	0.00	0.00	0.00	422.49	180.50	0.00	0.00	0.00	0.00	0.00	602.99
1988	0.00	0.00	0.00	0.00	148.76	624.80	505.79	0.00	178.52	0.00	0.00	0.00	1457.87
1989	0.00	0.00	0.00	0.00	222.15	499.84	305.46	0.00	483.97	333.23	0.00	0.00	1844.66
1990	0.00	0.00	0.00	0.00	0.00	694.23	388.77	0.00	333.23	194.38	0.00	0.00	1610.60
1991	0.00	0.00	0.00	0.00	222.15	472.07	499.84	0.00	333.23	0.00	0.00	0.00	1527.30
1992	0.00	0.00	0.00	0.00	0.00	416.54	583.15	0.00	194.38	0.00	0.00	0.00	1194.07
1993	0.00	0.00	0.00	0.00	194.38	638.69	555.38	83.31	194.38	0.00	0.00	0.00	1666.14
1994	0.00	0.00	0.00	0.00	77.36	489.93	283.64	0.00	412.57	0.00	0.00	0.00	1263.49
1995	0.00	0.00	0.00	0.00	350.68	647.41	269.76	0.00	485.56	0.00	0.00	0.00	1753.41
1996	0.00	0.00	0.00	0.00	111.08	472.07	472.07	0.00	361.00	0.00	0.00	0.00	1416.22
1997	0.00	0.00	0.00	0.00	138.85	27.77	416.54	0.00	0.00	0.00	0.00	0.00	583.15
1998	0.00	0.00	0.00	0.00	0.00	555.38	583.15	0.00	249.92	166.61	0.00	0.00	1555.06
1999	0.00	0.00	0.00	0.00	194.38	610.92	111.08	0.00	138.85	0.00	0.00	0.00	1055.22
2000	0.00	0.00	0.00	0.00	214.22	380.83	523.64	71.41	333.23	0.00	0.00	0.00	1523.33
2001	0.00	0.00	0.00	0.00	82.12	602.19	109.49	0.00	355.84	82.12	0.00	0.00	1231.75
2002	0.00	0.00	0.00	0.00	328.47	547.45	328.47	0.00	218.98	0.00	0.00	0.00	1423.36
2003													
2004	0.00	0.00	0.00	0.00	0.00	0.00	328.47	191.61	821.17	520.07	0.00	0.00	1861.32
2005	0.00	0.00	0.00	0.00	547.45	547.45	848.54	848.54	821.17	547.45	0.00	0.00	4160.59
2006	0.00	0.00	0.00	0.00	547.45	821.17	574.82	307.84	515.71	416.54	0.00	0.00	3183.52
2007	0.00	0.00	0.00	0.00	410.59	656.94	656.94	765.63	640.27	0.00	0.00	0.00	3130.36
2008	0.00	0.00	0.00	0.00	0.00	574.82	574.82	0.00	301.10	0.00	0.00	0.00	1450.73
2009	0.00	0.00	0.00	0.00	465.33	109.49	0.00	0.00	0.00	0.00	0.00	0.00	574.82
2010	0.00	0.00	0.00	0.00	0.00	0.00	309.43	71.41	0.00	0.00	0.00	0.00	380.83
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	257.86
Maximum	0.00	0.00	0.00	0.00	547.45	821.17	848.54	848.54	821.17	547.45	0.00	0.00	4160.59
Average	0.00	0.00	0.00	0.00	177.31	457.50	395.83	97.49	307.21	94.18	0.00	0.00	1529.53

Table 12 StateCU Irrigation Water Requirement [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	11.34	37.72	33.89	36.53	15.48	0.00	0.00	0.00	134.95
1987	0.00	0.00	0.00	0.00	19.33	44.16	44.76	29.14	22.49	3.94	0.00	0.00	163.81
1988	0.00	0.00	0.00	0.00	16.69	43.28	51.86	36.22	17.78	1.97	0.00	0.00	167.80
1989	0.00	0.00	0.00	0.00	16.35	34.66	43.77	34.93	17.78	1.97	0.00	0.00	149.47
1990	0.00	0.00	0.00	0.00	9.98	40.21	47.05	40.75	17.78	1.97	0.00	0.00	157.73
1991	0.00	0.00	0.00	0.00	17.65	31.65	32.31	28.40	22.10	1.50	0.00	0.00	133.61
1992	0.00	0.00	0.00	3.56	16.93	35.16	35.51	32.47	22.99	3.97	0.00	0.00	150.59
1993	0.00	0.00	0.00	0.00	15.30	29.87	41.03	35.29	11.46	0.00	0.00	0.00	132.96
1994	0.00	0.00	0.00	0.00	27.49	36.96	50.42	31.14	20.52	1.77	0.00	0.00	168.29
1995	0.00	0.00	0.00	0.00	1.76	27.06	32.83	45.03	15.82	0.44	0.00	0.00	122.93
1996	0.00	0.00	0.00	0.00	24.46	32.51	47.27	39.92	12.59	0.71	0.00	0.00	157.45
1997	0.00	0.00	0.00	0.00	11.81	39.39	45.04	22.05	9.98	2.68	0.00	0.00	130.95
1998	0.00	0.00	0.00	0.00	19.28	31.35	40.99	34.92	27.75	2.94	0.00	0.00	157.21
1999	0.00	0.00	0.00	0.00	11.70	30.70	48.84	39.49	17.49	0.51	0.00	0.00	148.71
2000	0.00	0.00	0.00	1.63	23.63	33.30	48.96	43.95	17.87	4.65	0.00	0.00	174.00
2001	0.00	0.00	0.00	1.56	21.24	41.25	51.13	39.93	21.56	5.06	0.00	0.00	181.73
2002	0.00	0.00	0.00	2.73	19.80	48.24	55.92	38.35	17.14	0.73	0.00	0.00	182.91
-2003													
2004	0.00	0.00	0.00	1.15	24.17	26.16	36.44	33.20	10.51	3.52	0.00	0.00	135.15
2005	0.00	0.00	0.00	0.00	20.90	27.26	46.87	29.07	16.00	2.73	0.00	0.00	142.81
2006	0.00	0.00	0.00	1.94	21.52	43.79	42.65	36.84	11.56	0.00	0.00	0.00	158.30
2007	0.00	0.00	0.00	0.00	18.97	39.88	47.16	34.93	16.50	3.28	0.00	0.00	160.71
2008	0.00	0.00	0.00	0.00	9.82	35.11	44.44	33.65	18.48	2.63	0.00	0.00	144.12
2009	0.00	0.00	0.00	0.00	15.27	23.02	39.82	33.61	25.16	0.51	0.00	0.00	137.39
2010	0.00	0.00	0.00	0.00	9.60	34.95	39.59	35.03	26.30	2.94	0.00	0.00	148.40
Minimum	0.00	0.00	0.00	0.00	1.76	23.02	32.31	22.05	9.98	0.00	0.00	0.00	122.93
Maximum	0.00	0.00	0.00	3.56	27.49	48.24	55.92	45.03	27.75	5.06	0.00	0.00	182.91
Average	0.00	0.00	0.00	0.52	16.87	35.32	43.69	35.20	18.04	2.10	0.00	0.00	151.75

Table 13 StateCU Farm Headgate Delivery [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	150.85	81.22	0.00	0.00	0.00	0.00	0.00	232.07
1987	0.00	0.00	0.00	0.00	0.00	380.24	162.45	0.00	0.00	0.00	0.00	0.00	542.69
1988	0.00	0.00	0.00	0.00	133.89	562.32	455.21	0.00	160.66	0.00	0.00	0.00	1312.09
1989	0.00	0.00	0.00	0.00	199.94	449.86	274.91	0.00	435.58	299.91	0.00	0.00	1660.19
1990	0.00	0.00	0.00	0.00	0.00	624.80	349.89	0.00	299.91	174.95	0.00	0.00	1449.54
1991	0.00	0.00	0.00	0.00	199.94	424.87	449.86	0.00	299.91	0.00	0.00	0.00	1374.57
1992	0.00	0.00	0.00	0.00	0.00	374.88	524.83	0.00	174.95	0.00	0.00	0.00	1074.66
1993	0.00	0.00	0.00	0.00	174.95	574.82	499.84	74.98	174.95	0.00	0.00	0.00	1499.53
1994	0.00	0.00	0.00	0.00	69.62	440.93	255.28	0.00	371.31	0.00	0.00	0.00	1137.14
1995	0.00	0.00	0.00	0.00	315.62	582.67	242.78	0.00	437.01	0.00	0.00	0.00	1578.07
1996	0.00	0.00	0.00	0.00	99.97	424.87	424.87	0.00	324.90	0.00	0.00	0.00	1274.60
1997	0.00	0.00	0.00	0.00	124.96	24.99	374.88	0.00	0.00	0.00	0.00	0.00	524.83
1998	0.00	0.00	0.00	0.00	0.00	499.84	524.83	0.00	224.93	149.95	0.00	0.00	1399.56
1999	0.00	0.00	0.00	0.00	174.95	549.83	99.97	0.00	124.96	0.00	0.00	0.00	949.70
2000	0.00	0.00	0.00	0.00	192.80	342.75	471.28	64.27	299.91	0.00	0.00	0.00	1371.00
2001	0.00	0.00	0.00	0.00	73.91	541.97	98.54	0.00	320.26	73.91	0.00	0.00	1108.58
2002	0.00	0.00	0.00	0.00	295.62	492.70	295.62	0.00	197.08	0.00	0.00	0.00	1281.02
-2003													
2004	0.00	0.00	0.00	0.00	0.00	0.00	295.62	172.45	739.05	468.07	0.00	0.00	1675.19
2005	0.00	0.00	0.00	0.00	492.70	492.70	763.69	763.69	739.05	492.70	0.00	0.00	3744.53
2006	0.00	0.00	0.00	0.00	492.70	739.05	517.34	277.06	464.14	374.88	0.00	0.00	2865.17
2007	0.00	0.00	0.00	0.00	369.53	591.24	591.24	689.07	576.25	0.00	0.00	0.00	2817.32
2008	0.00	0.00	0.00	0.00	0.00	517.34	517.34	0.00	270.99	0.00	0.00	0.00	1305.66
2009	0.00	0.00	0.00	0.00	418.80	98.54	0.00	0.00	0.00	0.00	0.00	0.00	517.34
2010	0.00	0.00	0.00	0.00	0.00	0.00	278.48	64.27	0.00	0.00	0.00	0.00	342.75
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	232.07
Maximum	0.00	0.00	0.00	0.00	492.70	739.05	763.69	763.69	739.05	492.70	0.00	0.00	3744.53
Average	0.00	0.00	0.00	0.00	159.58	411.75	356.25	87.74	276.49	84.76	0.00	0.00	1376.57

Table 14 StateCU Conveyance Losses [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	16.76	9.03	0.00	0.00	0.00	0.00	0.00	25.79
1987	0.00	0.00	0.00	0.00	0.00	42.25	18.05	0.00	0.00	0.00	0.00	0.00	60.30
1988	0.00	0.00	0.00	0.00	14.88	62.48	50.58	0.00	17.85	0.00	0.00	0.00	145.79
1989	0.00	0.00	0.00	0.00	22.22	49.98	30.55	0.00	48.40	33.32	0.00	0.00	184.47
1990	0.00	0.00	0.00	0.00	0.00	69.42	38.88	0.00	33.32	19.44	0.00	0.00	161.06
1991	0.00	0.00	0.00	0.00	22.22	47.21	49.98	0.00	33.32	0.00	0.00	0.00	152.73
1992	0.00	0.00	0.00	0.00	0.00	41.65	58.32	0.00	19.44	0.00	0.00	0.00	119.41
1993	0.00	0.00	0.00	0.00	19.44	63.87	55.54	8.33	19.44	0.00	0.00	0.00	166.61
1994	0.00	0.00	0.00	0.00	7.74	48.99	28.36	0.00	41.26	0.00	0.00	0.00	126.35
1995	0.00	0.00	0.00	0.00	35.07	64.74	26.98	0.00	48.56	0.00	0.00	0.00	175.34
1996	0.00	0.00	0.00	0.00	11.11	47.21	47.21	0.00	36.10	0.00	0.00	0.00	141.62
1997	0.00	0.00	0.00	0.00	13.89	2.78	41.65	0.00	0.00	0.00	0.00	0.00	58.32
1998	0.00	0.00	0.00	0.00	0.00	55.54	58.32	0.00	24.99	16.66	0.00	0.00	155.51
1999	0.00	0.00	0.00	0.00	19.44	61.09	11.11	0.00	13.89	0.00	0.00	0.00	105.52
2000	0.00	0.00	0.00	0.00	21.42	38.08	52.36	7.14	33.32	0.00	0.00	0.00	152.33
2001	0.00	0.00	0.00	0.00	8.21	60.22	10.95	0.00	35.58	8.21	0.00	0.00	123.18
2002	0.00	0.00	0.00	0.00	32.85	54.75	32.85	0.00	21.90	0.00	0.00	0.00	142.34
2003													
2004	0.00	0.00	0.00	0.00	0.00	0.00	32.85	19.16	82.12	52.01	0.00	0.00	186.13
2005	0.00	0.00	0.00	0.00	54.75	54.75	84.85	84.85	82.12	54.75	0.00	0.00	416.06
2006	0.00	0.00	0.00	0.00	54.75	82.12	57.48	30.78	51.57	41.65	0.00	0.00	318.35
2007	0.00	0.00	0.00	0.00	41.06	65.69	65.69	76.56	64.03	0.00	0.00	0.00	313.04
2008	0.00	0.00	0.00	0.00	0.00	57.48	57.48	0.00	30.11	0.00	0.00	0.00	145.07
2009	0.00	0.00	0.00	0.00	46.53	10.95	0.00	0.00	0.00	0.00	0.00	0.00	57.48
2010	0.00	0.00	0.00	0.00	0.00	0.00	30.94	7.14	0.00	0.00	0.00	0.00	38.08
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.79
Maximum	0.00	0.00	0.00	0.00	54.75	82.12	84.85	84.85	82.12	54.75	0.00	0.00	416.06
Average	0.00	0.00	0.00	0.00	17.73	45.75	39.58	9.75	30.72	9.42	0.00	0.00	152.95

Table 15 StateCU Surface Water to CU [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	37.72	33.89	0.00	0.00	0.00	0.00	0.00	71.60
1987	0.00	0.00	0.00	0.00	0.00	44.16	44.76	0.00	0.00	0.00	0.00	0.00	88.92
1988	0.00	0.00	0.00	0.00	16.69	43.28	51.86	0.00	17.78	0.00	0.00	0.00	129.61
1989	0.00	0.00	0.00	0.00	16.35	34.66	43.77	0.00	17.78	1.97	0.00	0.00	114.54
1990	0.00	0.00	0.00	0.00	0.00	40.21	47.05	0.00	17.78	1.97	0.00	0.00	107.01
1991	0.00	0.00	0.00	0.00	17.65	31.65	32.31	0.00	22.10	0.00	0.00	0.00	103.71
1992	0.00	0.00	0.00	0.00	0.00	35.16	35.51	0.00	22.99	0.00	0.00	0.00	93.66
1993	0.00	0.00	0.00	0.00	15.30	29.87	41.03	35.29	11.46	0.00	0.00	0.00	132.96
1994	0.00	0.00	0.00	0.00	27.49	36.96	50.42	0.00	20.52	0.00	0.00	0.00	135.38
1995	0.00	0.00	0.00	0.00	1.76	27.06	32.83	0.00	15.82	0.00	0.00	0.00	77.46
1996	0.00	0.00	0.00	0.00	24.46	32.51	47.27	0.00	12.59	0.00	0.00	0.00	116.83
1997	0.00	0.00	0.00	0.00	11.81	15.00	45.04	0.00	0.00	0.00	0.00	0.00	71.85
1998	0.00	0.00	0.00	0.00	0.00	31.35	40.99	0.00	27.75	2.94	0.00	0.00	103.01
1999	0.00	0.00	0.00	0.00	11.70	30.70	48.84	0.00	17.49	0.00	0.00	0.00	108.72
2000	0.00	0.00	0.00	0.00	23.63	33.30	48.96	38.56	17.87	0.00	0.00	0.00	162.32
2001	0.00	0.00	0.00	0.00	21.24	41.25	51.13	0.00	21.56	5.06	0.00	0.00	140.24
2002	0.00	0.00	0.00	0.00	19.80	48.24	55.92	0.00	17.14	0.00	0.00	0.00	141.10
2003													
2004	0.00	0.00	0.00	0.00	0.00	0.00	36.44	33.20	10.51	3.52	0.00	0.00	83.67
2005	0.00	0.00	0.00	0.00	20.90	27.26	46.87	29.07	16.00	2.73	0.00	0.00	142.81
2006	0.00	0.00	0.00	0.00	21.52	43.79	42.65	36.84	11.56	0.00	0.00	0.00	156.36
2007	0.00	0.00	0.00	0.00	18.97	39.88	47.16	34.93	16.50	0.00	0.00	0.00	157.43
2008	0.00	0.00	0.00	0.00	0.00	35.11	44.44	0.00	18.48	0.00	0.00	0.00	98.02
2009	0.00	0.00	0.00	0.00	15.27	23.02	0.00	0.00	0.00	0.00	0.00	0.00	38.29
2010	0.00	0.00	0.00	0.00	0.00	0.00	39.59	35.03	0.00	0.00	0.00	0.00	74.62
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.29
Maximum	0.00	0.00	0.00	0.00	27.49	48.24	55.92	38.56	27.75	5.06	0.00	0.00	162.32
Average	0.00	0.00	0.00	0.00	11.86	31.76	42.03	10.12	13.90	0.76	0.00	0.00	110.42

Table 16 StateCU Surface Water to Soil [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	41.70	0.00	0.00	0.00	0.00	0.00	0.00	41.70
1987	0.00	0.00	0.00	0.00	0.00	60.71	0.00	0.00	0.00	0.00	0.00	0.00	60.71
1988	0.00	0.00	0.00	0.00	55.56	0.00	0.00	0.00	36.22	0.00	0.00	0.00	91.79
1989	0.00	0.00	0.00	0.00	1.97	0.00	0.00	0.00	34.93	0.00	0.00	0.00	36.90
1990	0.00	0.00	0.00	0.00	0.00	9.98	0.00	0.00	40.75	0.00	0.00	0.00	50.73
1991	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.40	0.00	0.00	0.00	28.40
1992	0.00	0.00	0.00	0.00	0.00	21.98	0.00	0.00	32.47	0.00	0.00	0.00	54.46
1993	0.00	0.00	0.00	0.00	3.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.97
1994	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.14	0.00	0.00	0.00	31.14
1995	0.00	0.00	0.00	0.00	1.77	0.00	0.00	0.00	45.03	0.00	0.00	0.00	46.80
1996	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	39.92	0.00	0.00	0.00	40.36
1997	0.00	0.00	0.00	0.00	0.71	0.00	24.39	0.00	0.00	0.00	0.00	0.00	25.10
1998	0.00	0.00	0.00	0.00	0.00	53.99	0.00	0.00	34.92	0.00	0.00	0.00	88.91
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.49	0.00	0.00	0.00	39.49
2000	0.00	0.00	0.00	0.00	2.14	0.00	0.00	0.00	5.39	0.00	0.00	0.00	7.53
2001	0.00	0.00	0.00	0.00	6.22	0.00	0.00	0.00	39.93	0.00	0.00	0.00	46.15
2002	0.00	0.00	0.00	0.00	2.73	0.00	0.00	0.00	38.35	0.00	0.00	0.00	41.07
2003													
2004	0.00	0.00	0.00	0.00	0.00	0.00	52.22	0.00	0.00	0.00	0.00	0.00	52.22
2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	0.00	0.00	0.00	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.94
2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	0.00	0.00	0.00	0.00	0.00	13.10	0.00	0.00	33.65	0.00	0.00	0.00	46.75
2009	0.00	0.00	0.00	0.00	2.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.63
2010	0.00	0.00	0.00	0.00	0.00	0.00	60.71	0.00	0.00	0.00	0.00	0.00	60.71
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.00	0.00	0.00	0.00	55.56	60.71	60.71	0.00	45.03	0.00	0.00	0.00	91.79
Average	0.00	0.00	0.00	0.00	3.34	8.39	5.72	0.00	20.02	0.00	0.00	0.00	37.48

Table 17 StateCU Soil Moisture to CU [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	11.34	0.00	0.00	36.53	15.48	0.00	0.00	0.00	63.35
1987	0.00	0.00	0.00	0.00	8.71	0.00	0.00	29.14	22.49	3.94	0.00	0.00	64.27
1988	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.22	0.00	1.97	0.00	0.00	38.19
1989	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.93	0.00	0.00	0.00	0.00	34.93
1990	0.00	0.00	0.00	0.00	9.98	0.00	0.00	40.75	0.00	0.00	0.00	0.00	50.73
1991	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.40	0.00	1.50	0.00	0.00	29.90
1992	0.00	0.00	0.00	3.56	16.93	0.00	0.00	32.47	0.00	3.97	0.00	0.00	56.93
1993	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1994	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.14	0.00	1.77	0.00	0.00	32.90
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.03	0.00	0.44	0.00	0.00	45.47
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.92	0.00	0.71	0.00	0.00	40.62
1997	0.00	0.00	0.00	0.00	0.00	24.39	0.00	22.05	9.98	2.68	0.00	0.00	59.11
1998	0.00	0.00	0.00	0.00	19.28	0.00	0.00	34.92	0.00	0.00	0.00	0.00	54.20
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.49	0.00	0.51	0.00	0.00	39.99
2000	0.00	0.00	0.00	1.63	0.00	0.00	0.00	5.39	0.00	4.65	0.00	0.00	11.68
2001	0.00	0.00	0.00	1.56	0.00	0.00	0.00	39.93	0.00	0.00	0.00	0.00	41.49
2002	0.00	0.00	0.00	2.73	0.00	0.00	0.00	38.35	0.00	0.73	0.00	0.00	41.81
2003													
2004	0.00	0.00	0.00	1.15	24.17	26.16	0.00	0.00	0.00	0.00	0.00	0.00	51.48
2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2006	0.00	0.00	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.94
2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.28	0.00	0.00	3.28
2008	0.00	0.00	0.00	0.00	9.82	0.00	0.00	33.65	0.00	2.63	0.00	0.00	46.10
2009	0.00	0.00	0.00	0.00	0.00	0.00	39.82	20.90	0.00	0.00	0.00	0.00	60.71
2010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.30	2.94	0.00	0.00	29.24
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.00	0.00	0.00	3.56	24.17	26.16	39.82	45.03	26.30	4.65	0.00	0.00	64.27
Average	0.00	0.00	0.00	0.52	4.18	2.11	1.66	24.55	3.09	1.32	0.00	0.00	37.43

Table 18 StateCU Total Historic Consumptive Use [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	11.34	37.72	33.89	36.53	15.48	0.00	0.00	0.00	134.95
1987	0.00	0.00	0.00	0.00	8.71	44.16	44.76	29.14	22.49	3.94	0.00	0.00	153.19
1988	0.00	0.00	0.00	0.00	16.69	43.28	51.86	36.22	17.78	1.97	0.00	0.00	167.80
1989	0.00	0.00	0.00	0.00	16.35	34.66	43.77	34.93	17.78	1.97	0.00	0.00	149.47
1990	0.00	0.00	0.00	0.00	9.98	40.21	47.05	40.75	17.78	1.97	0.00	0.00	157.73
1991	0.00	0.00	0.00	0.00	17.65	31.65	32.31	28.40	22.10	1.50	0.00	0.00	133.61
1992	0.00	0.00	0.00	3.56	16.93	35.16	35.51	32.47	22.99	3.97	0.00	0.00	150.59
1993	0.00	0.00	0.00	0.00	15.30	29.87	41.03	35.29	11.46	0.00	0.00	0.00	132.96
1994	0.00	0.00	0.00	0.00	27.49	36.96	50.42	31.14	20.52	1.77	0.00	0.00	168.29
1995	0.00	0.00	0.00	0.00	1.76	27.06	32.83	45.03	15.82	0.44	0.00	0.00	122.93
1996	0.00	0.00	0.00	0.00	24.46	32.51	47.27	39.92	12.59	0.71	0.00	0.00	157.45
1997	0.00	0.00	0.00	0.00	11.81	39.39	45.04	22.05	9.98	2.68	0.00	0.00	130.95
1998	0.00	0.00	0.00	0.00	19.28	31.35	40.99	34.92	27.75	2.94	0.00	0.00	157.21
1999	0.00	0.00	0.00	0.00	11.70	30.70	48.84	39.49	17.49	0.51	0.00	0.00	148.71
2000	0.00	0.00	0.00	1.63	23.63	33.30	48.96	43.95	17.87	4.65	0.00	0.00	174.00
2001	0.00	0.00	0.00	1.56	21.24	41.25	51.13	39.93	21.56	5.06	0.00	0.00	181.73
2002	0.00	0.00	0.00	2.73	19.80	48.24	55.92	38.35	17.14	0.73	0.00	0.00	182.91
2003													
2004	0.00	0.00	0.00	1.15	24.17	26.16	36.44	33.20	10.51	3.52	0.00	0.00	135.15
2005	0.00	0.00	0.00	0.00	20.90	27.26	46.87	29.07	16.00	2.73	0.00	0.00	142.81
2006	0.00	0.00	0.00	1.94	21.52	43.79	42.65	36.84	11.56	0.00	0.00	0.00	158.30
2007	0.00	0.00	0.00	0.00	18.97	39.88	47.16	34.93	16.50	3.28	0.00	0.00	160.71
2008	0.00	0.00	0.00	0.00	9.82	35.11	44.44	33.65	18.48	2.63	0.00	0.00	144.12
2009	0.00	0.00	0.00	0.00	15.27	23.02	39.82	20.90	0.00	0.00	0.00	0.00	99.01
2010	0.00	0.00	0.00	0.00	0.00	0.00	39.59	35.03	26.30	2.94	0.00	0.00	103.86
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	32.31	20.90	0.00	0.00	0.00	0.00	99.01
Maximum	0.00	0.00	0.00	3.56	27.49	48.24	55.92	45.03	27.75	5.06	0.00	0.00	182.91
Average	0.00	0.00	0.00	0.52	16.03	33.86	43.69	34.67	17.00	2.08	0.00	0.00	147.85

Table 19 Surface Water Return Flow [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	44.10	28.18	0.00	0.00	0.00	0.00	0.00	72.28
1987	0.00	0.00	0.00	0.00	0.00	158.80	67.87	0.00	0.00	0.00	0.00	0.00	226.68
1988	0.00	0.00	0.00	0.00	38.25	290.76	226.97	0.00	62.25	0.00	0.00	0.00	618.24
1989	0.00	0.00	0.00	0.00	101.92	232.59	130.84	0.00	215.63	165.63	0.00	0.00	846.61
1990	0.00	0.00	0.00	0.00	0.00	322.02	170.86	0.00	137.35	96.21	0.00	0.00	726.44
1991	0.00	0.00	0.00	0.00	102.25	220.21	233.77	0.00	141.37	0.00	0.00	0.00	697.59
1992	0.00	0.00	0.00	0.00	0.00	179.70	273.82	0.00	69.46	0.00	0.00	0.00	522.98
1993	0.00	0.00	0.00	0.00	87.56	304.41	257.17	24.01	91.46	0.00	0.00	0.00	764.61
1994	0.00	0.00	0.00	0.00	24.94	226.48	116.61	0.00	180.46	0.00	0.00	0.00	548.49
1995	0.00	0.00	0.00	0.00	173.58	310.18	118.46	0.00	212.35	0.00	0.00	0.00	814.58
1996	0.00	0.00	0.00	0.00	43.09	219.78	212.40	0.00	154.25	0.00	0.00	0.00	629.52
1997	0.00	0.00	0.00	0.00	63.17	6.39	173.55	0.00	0.00	0.00	0.00	0.00	243.10
1998	0.00	0.00	0.00	0.00	0.00	235.02	271.08	0.00	93.63	81.84	0.00	0.00	681.57
1999	0.00	0.00	0.00	0.00	91.34	290.11	31.12	0.00	40.94	0.00	0.00	0.00	453.51
2000	0.00	0.00	0.00	0.00	94.23	173.76	237.34	16.42	154.98	0.00	0.00	0.00	676.74
2001	0.00	0.00	0.00	0.00	27.33	280.47	29.18	0.00	147.18	38.53	0.00	0.00	522.69
2002	0.00	0.00	0.00	0.00	152.97	249.60	136.27	0.00	81.74	0.00	0.00	0.00	620.59
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00	0.00	0.00	119.91	79.20	405.33	258.28	0.00	0.00	862.72
2005	0.00	0.00	0.00	0.00	263.28	260.10	400.84	409.74	402.59	272.36	0.00	0.00	2008.89
2006	0.00	0.00	0.00	0.00	261.99	388.69	266.09	135.50	252.07	208.27	0.00	0.00	1512.61
2007	0.00	0.00	0.00	0.00	195.81	308.53	304.89	365.35	311.89	0.00	0.00	0.00	1486.47
2008	0.00	0.00	0.00	0.00	0.00	263.31	265.19	0.00	124.48	0.00	0.00	0.00	652.98
2009	0.00	0.00	0.00	0.00	223.71	43.24	0.00	0.00	0.00	0.00	0.00	0.00	266.95
2010	0.00	0.00	0.00	0.00	0.00	0.00	104.56	18.19	0.00	0.00	0.00	0.00	122.75
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.28
Max	0.00	0.00	0.00	0.00	263.28	388.69	400.84	409.74	405.33	272.36	0.00	0.00	2008.89
Mean	0.00	0.00	0.00	0.00	81.06	208.68	174.04	43.68	136.64	46.71	0.00	0.00	690.81

Table 20 Delayed Groundwater Return Flow [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	34.09	31.60	6.46	0.12	0.00	0.00	0.00	72.28
1987	0.00	0.00	0.00	0.00	0.00	122.78	87.81	15.78	0.30	0.01	0.00	0.00	226.68
1988	0.00	0.00	0.00	0.00	29.58	233.31	240.34	51.75	49.13	13.87	0.27	0.01	618.24
1989	0.00	0.00	0.00	0.00	78.80	202.50	153.35	30.12	167.29	176.05	37.78	0.73	846.60
1990	0.01	0.00	0.00	0.00	0.00	248.96	203.75	39.39	106.95	104.96	21.99	0.42	726.44
1991	0.01	0.00	0.00	0.00	79.05	193.00	230.17	52.96	110.31	31.48	0.60	0.01	697.60
1992	0.00	0.00	0.00	0.00	0.00	138.93	251.68	61.70	54.89	15.48	0.30	0.01	522.98
1993	0.00	0.00	0.00	0.00	67.69	254.83	266.94	77.09	77.18	20.48	0.39	0.01	764.61
1994	0.00	0.00	0.00	0.00	19.28	180.65	140.66	26.92	140.04	40.16	0.77	0.02	548.49
1995	0.00	0.00	0.00	0.00	134.20	278.43	161.35	27.70	164.71	47.26	0.91	0.02	814.58
1996	0.00	0.00	0.00	0.00	33.31	179.51	213.30	48.20	120.18	34.34	0.66	0.01	629.52
1997	0.00	0.00	0.00	0.00	48.84	18.99	135.87	38.65	0.74	0.02	0.00	0.00	243.10
1998	0.00	0.00	0.00	0.00	0.00	181.70	261.87	61.32	73.56	84.13	18.61	0.36	681.56
1999	0.01	0.00	0.00	0.00	70.62	244.62	89.00	8.17	31.81	9.11	0.18	0.00	453.52
2000	0.00	0.00	0.00	0.00	72.85	155.31	222.56	66.26	124.50	34.58	0.66	0.01	676.74
2001	0.00	0.00	0.00	0.00	21.13	222.92	85.08	7.69	113.94	62.54	9.20	0.18	522.68
2002	0.00	0.00	0.00	0.00	118.27	227.01	161.55	31.40	63.80	18.20	0.35	0.01	620.59
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00	0.00	0.00	92.70	87.91	331.51	290.22	59.21	1.14	862.69
2005	0.02	0.00	0.00	0.00	203.55	259.67	368.90	407.10	404.16	301.93	62.36	1.20	2008.89
2006	0.02	0.00	0.00	0.00	202.55	358.80	293.32	165.65	226.21	217.71	47.43	0.91	1512.61
2007	0.02	0.00	0.00	0.00	151.39	282.10	305.21	351.64	323.75	70.99	1.37	0.03	1486.48
2008	0.00	0.00	0.00	0.00	0.00	203.57	263.61	60.13	97.40	27.72	0.53	0.01	652.98
2009	0.00	0.00	0.00	0.00	172.96	83.20	10.58	0.20	0.00	0.00	0.00	0.00	266.95
2010	0.00	0.00	0.00	0.00	0.00	0.00	80.84	37.33	4.49	0.09	0.00	0.00	122.75
Min	0.00	0.00	0.00	0.00	0.00	0.00	10.58	0.20	0.00	0.00	0.00	0.00	72.28
Max	0.02	0.00	0.00	0.00	203.55	358.80	368.90	407.10	404.16	301.93	62.36	1.20	2008.89
Mean	0.00	0.00	0.00	0.00	62.67	179.37	181.33	73.40	116.12	66.72	10.98	0.21	690.81

Table 21 Total Return Flows [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	78.19	59.78	6.46	0.12	0.00	0.00	0.00	144.55
1987	0.00	0.00	0.00	0.00	0.00	281.58	155.68	15.78	0.30	0.01	0.00	0.00	453.35
1988	0.00	0.00	0.00	0.00	67.83	524.07	467.31	51.75	111.38	13.87	0.27	0.01	1236.48
1989	0.00	0.00	0.00	0.00	180.71	435.09	284.19	30.12	382.92	341.68	37.78	0.73	1693.21
1990	0.01	0.00	0.00	0.00	0.00	570.98	374.61	39.39	244.29	201.17	21.99	0.42	1452.88
1991	0.01	0.00	0.00	0.00	181.30	413.21	463.93	52.96	251.68	31.48	0.60	0.01	1395.20
1992	0.00	0.00	0.00	0.00	0.00	318.62	525.50	61.70	124.35	15.48	0.30	0.01	1045.95
1993	0.00	0.00	0.00	0.00	155.25	559.23	524.11	101.10	168.64	20.48	0.39	0.01	1529.21
1994	0.00	0.00	0.00	0.00	44.21	407.13	257.27	26.92	320.49	40.16	0.77	0.02	1096.97
1995	0.00	0.00	0.00	0.00	307.78	588.61	279.81	27.70	377.07	47.26	0.91	0.02	1629.16
1996	0.00	0.00	0.00	0.00	76.40	399.29	425.70	48.20	274.43	34.34	0.66	0.01	1259.03
1997	0.00	0.00	0.00	0.00	112.00	25.38	309.42	38.65	0.74	0.02	0.00	0.00	486.21
1998	0.00	0.00	0.00	0.00	0.00	416.73	532.96	61.32	167.19	165.97	18.61	0.36	1363.13
1999	0.01	0.00	0.00	0.00	161.96	534.73	120.12	8.17	72.74	9.11	0.18	0.00	907.02
2000	0.00	0.00	0.00	0.00	167.08	329.07	459.90	82.68	279.48	34.58	0.66	0.01	1353.47
2001	0.00	0.00	0.00	0.00	48.46	503.39	114.26	7.69	261.11	101.07	9.20	0.18	1045.37
2002	0.00	0.00	0.00	0.00	271.24	476.61	297.82	31.40	145.55	18.20	0.35	0.01	1241.19
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00	0.00	0.00	212.61	167.12	736.84	548.49	59.21	1.14	1725.41
2005	0.02	0.00	0.00	0.00	466.82	519.76	769.73	816.84	806.74	574.29	62.36	1.20	4017.78
2006	0.02	0.00	0.00	0.00	464.55	747.49	559.41	301.15	478.28	425.98	47.43	0.91	3025.22
2007	0.02	0.00	0.00	0.00	347.19	590.63	610.10	716.99	635.64	70.99	1.37	0.03	2972.95
2008	0.00	0.00	0.00	0.00	0.00	466.88	528.80	60.13	221.88	27.72	0.53	0.01	1305.96
2009	0.00	0.00	0.00	0.00	396.67	126.44	10.58	0.20	0.00	0.00	0.00	0.00	533.90
2010	0.00	0.00	0.00	0.00	0.00	0.00	185.40	55.52	4.49	0.09	0.00	0.00	245.50
Min	0.00	0.00	0.00	0.00	0.00	0.00	10.58	0.20	0.00	0.00	0.00	0.00	144.55
Max	0.02	0.00	0.00	0.00	466.82	747.49	769.73	816.84	806.74	574.29	62.36	1.20	4017.78
Mean	0.00	0.00	0.00	0.00	143.73	388.05	355.38	117.08	252.77	113.43	10.98	0.21	1381.63

Table 22 Total Depletions (Accretions) [AF]

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1986	0.00	0.00	0.00	0.00	0.00	89.42	30.47	(6.46)	(0.12)	(0.00)	0.00	0.00	113.30
1987	0.00	0.00	0.00	0.00	0.00	140.91	24.82	(15.78)	(0.30)	(0.01)	0.00	0.00	149.63
1988	0.00	0.00	0.00	0.00	80.93	100.73	38.49	(51.75)	67.13	(13.87)	(0.27)	(0.01)	221.39
1989	0.00	0.00	0.00	0.00	41.44	64.75	21.27	(30.12)	101.05	(8.45)	(37.78)	(0.73)	151.44
1990	(0.01)	0.00	0.00	0.00	0.00	123.24	14.16	(39.39)	88.93	(6.78)	(21.99)	(0.42)	157.73
1991	(0.01)	0.00	0.00	0.00	40.85	58.86	35.91	(52.96)	81.55	(31.48)	(0.60)	(0.01)	132.10
1992	0.00	0.00	0.00	0.00	0.00	97.91	57.64	(61.70)	70.03	(15.48)	(0.30)	(0.01)	148.11
1993	0.00	0.00	0.00	0.00	39.14	79.45	31.27	(17.79)	25.74	(20.48)	(0.39)	(0.01)	136.93
1994	0.00	0.00	0.00	0.00	33.14	82.79	26.38	(26.92)	92.08	(40.16)	(0.77)	(0.02)	166.52
1995	0.00	0.00	0.00	0.00	42.90	58.80	(10.06)	(27.70)	108.50	(47.26)	(0.91)	(0.02)	124.26
1996	0.00	0.00	0.00	0.00	34.67	72.79	46.37	(48.20)	86.57	(34.34)	(0.66)	(0.01)	157.19
1997	0.00	0.00	0.00	0.00	26.84	2.39	107.12	(38.65)	(0.74)	(0.02)	0.00	0.00	96.94
1998	0.00	0.00	0.00	0.00	0.00	138.65	50.19	(61.32)	82.73	0.65	(18.61)	(0.36)	191.93
1999	(0.01)	0.00	0.00	0.00	32.42	76.19	(9.04)	(8.17)	66.10	(9.11)	(0.18)	(0.00)	148.20
2000	0.00	0.00	0.00	0.00	47.14	51.76	63.74	(11.28)	53.74	(34.58)	(0.66)	(0.01)	169.86
2001	0.00	0.00	0.00	0.00	33.66	98.80	(4.77)	(7.69)	94.73	(18.95)	(9.20)	(0.18)	186.39
2002	(0.00)	0.00	0.00	0.00	57.23	70.83	30.65	(31.40)	73.43	(18.20)	(0.35)	(0.01)	182.17
2003													
2004	0.00	0.00	0.00	0.00	0.00	0.00	115.86	24.49	84.33	(28.42)	(59.21)	(1.14)	135.91
2005	(0.02)	0.00	0.00	0.00	80.62	27.68	78.81	31.70	14.43	(26.85)	(62.36)	(1.20)	142.81
2006	(0.02)	0.00	0.00	0.00	82.90	73.68	15.41	6.69	37.43	(9.44)	(47.43)	(0.91)	158.30
2007	(0.02)	0.00	0.00	0.00	63.39	66.30	46.84	48.64	4.63	(70.99)	(1.37)	(0.03)	157.41
2008	0.00	0.00	0.00	0.00	0.00	107.94	46.02	(60.13)	79.21	(27.72)	(0.53)	(0.01)	144.77
2009	0.00	0.00	0.00	0.00	68.66	(16.95)	(10.58)	(0.20)	(0.00)	0.00	0.00	0.00	40.92
2010	0.00	0.00	0.00	0.00	0.00	0.00	124.03	15.89	(4.49)	(0.09)	(0.00)	0.00	135.33
Minimum	(0.02)	0.00	0.00	0.00	0.00	(16.95)	(10.58)	(61.70)	(4.49)	(70.99)	(62.36)	(1.20)	40.92
Maximum	0.00	0.00	0.00	0.00	82.90	140.91	124.03	48.64	108.50	0.65	0.00	0.00	221.39
Average	(0.00)	0.00	0.00	0.00	33.58	69.46	40.46	(19.59)	54.45	(19.25)	(10.98)	(0.21)	147.90

END NOTES

[i] Glover, R.E. 1977 Ground-water movement. US BOR engineering monograph no. 31. 1966. 76pp.

[ii] Potential consumptive use is the maximum amount of water the crop could use with an unlimited water supply. Crop irrigation water requirement is the potential consumptive use minus effective precipitation.

[iii] Schroeder, Dewayne R. (1987). *Analytical stream depletion model*, Ground Water Publication No. 1. Office of the State Engineer, Colorado Division of Water Resources. (v. 1.5.79, www.ids.colostate.edu)

[iv] Water-Quality Characteristics and Ground-Water Quantity of the Fraser River Watershed, Grand County, Colorado, 1998–2001, By Nancy J. Bauch and Jeffrey B. Bails, Prepared in cooperation with the Grand County Board of County Commissioners; Water-Resources Investigations Report 03–4275 U.S. U.S. Geological Survey, Reston, Virginia: 2004

[v] The Ground Water Atlas of Colorado: http://geosurvey.state.co.us/apps/wateratlas/index.asp

[vi] Available water capacity determined from Web Soil Survey, National Cooperative Soil Survey, Grounad County Area, Colorado, Version 7, July 14, 2008. Soil map unit: *Cumulic Cryaquolls, nearly level*.

[vii] Upper Colorado River Basin Water Resource Planning Model User's Manual, Colorado Decision Support Systems, Colorado Division of Water Resources and the Colorado Water Conservation Board, October, 2009.

ATTACHMENT 6

CWT OFFER TO CWCB

COLORADO WATER TRUST

1420 Ogden Street, Suite A2
Denver, Colorado 80218

TEL: 720.570.2897
FAX: 720.907.0377
WEB: www.coloradowatertrust.org

March 21, 2013

Jennifer Gimbel, Director
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, Colorado 80203

Dear Ms. Gimbel,

As you know, the Colorado Water Trust ("CWT") is a non-profit organization that acquires water rights from willing parties in order to place those water rights in Colorado's Instream Flow Program. CWT is pleased to offer to the Colorado Water Conservation Board ("CWCB") a Temporary Loan of a water right pursuant to C.R.S. 37-83-105. This water right is decreed to the Thompson Pump #2, which diverts from the Colorado River, near Kremmling, in Grand County. CWT has worked with CWCB staff on this project, and believes this offer will benefit the CWCB's decreed instream flow water right on the Colorado River. CWT requests CWCB staff initiate the process described in ISF Rule 6k. for review and approval of Temporary Loans of Water to the Board.

CWT has entered into a lease agreement with the Bureau of Land Management to use in the Instream Flow Program 13.84 cubic feet per second of water that was historically diverted from the Colorado River, and was used to irrigate land in Grand County. CWT believes this Temporary Loan will bolster the existing decreed instream flow right, which was short in 2002, and will help preserve the natural environment in a year of record low flows. Moreover, the lease will continue to benefit the Instream Flow Program in future years, as the right holder is willing to lease the Thompson Pump #2 right, as provided by statute, for up to three years over a ten year period.

Over the past few months, CWT has worked closely with Linda Bassi and staff in the Stream and Lake Protection Section of the CWCB to make the following offer to you. We look forward to working with the CWCB to complete this transaction as well as other short-term leases to bolster instream flows in this extremely dry year.

Sincerely,

Amy W. Beatie
Executive Director

Enclosures (4): Signed Lease, Map, Decrees, Check for $100 for Division Engineer's filing fee

ATTACHMENT 7

CWCB RESPONSE LETTER TO CWT AND BLM

STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us

March 22, 2013

Amy W. Beatie, Executive Director
Colorado Water Trust
1420 Ogden Street, Suite A2
Denver, CO 80218

Kremmling Field Office
Bureau of Land Management
P.O. Box 68
Kremmling, CO 80459
Attn: Paula Belcher

RE: Temporary Loan Offer on Colorado River (Water Division 5)

Dear Ms. Beatie and Ms. Belcher:

The CWCB staff has reviewed the March 21, 2013 offer from the Colorado Water Trust and Bureau of Land Management of a temporary loan of water rights associated with the Thompson Pump No. 2 for instream flow use on the Colorado River in Water Division 5. Based upon that review, we believe that the proposed lease would benefit the CWCB's instream flow water rights on the Colorado River. I have directed the CWCB staff to coordinate with the Colorado Water Trust on preparing and submitting the necessary documentation to the State and Division Engineers to obtain approval of the lease, and on providing the statutorily required public notice of the proposed lease. Thank you for working with the CWCB to protect Colorado's streams.

Sincerely,

Jennifer L. Gimbel, Director