Joint Report

Review of Offset Account Operations 1997-2011

Submitted to the
Arkansas River Compact Administration

2012 ARCA Annual Meeting

December 6, 2012
Garden City, Kansas

Co-Authors: **Kevin Salter, KDWR**
Rachel Duran, KDWR
Kelley Thompson, CDWR
Bill Tyner, CDWR

John Martin Reservoir Photo credit – U.S. Army Corps of Engineers

This page intentionally blank

Table of Contents

List of Attachments

1. *Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping (Offset Account Resolution)*
2. *Stipulation RE Offset Account in John Martin Reservoir (Offset Account Stipulation)*
3. *Agreement Concerning The Offset Account In John Martin Reservoir For Colorado Pumping, Determination Of Credits For Delivery Of Water Released For Colorado Pumping, And Related Matters (Offset Account Crediting Agreement)*
4. Examples of Stateline delivery credit spreadsheet
5. *Agreement Regarding the Colorado Use Rules, PDF Evaluation, Implementation Processes, and Related Matters, and Not to Terminate the Offset Account Resolution* (Appendix A.4)
6. Example spreadsheet for storage charge accounting (2009)
7. Example of initial notice letter (2011) and final delivery letter (2011)
8. Example of Colorado monthly letter reports to Kansas (May 2011)
9. Highland Canal data input sheet (May 2011)
10. Example of Colorado monthly accounting spreadsheet (May 2011)

Definitions

acre foot (AF) – the volume of water required to cover one acre of land to a depth of one foot, which is equal to 325,851 gallons.

Appendix A.4 – the original version of Appendix A.4 to the *Decree* was entered by the States in 1997 and titled "Agreement Not to Terminate the Offset Account Resolution for a Specified Period and Related Matters." That agreement appendix was amended and replaced in June 2009 and now is titled "Amended Agreement Regarding the Colorado Use Rules, PDF Evaluation, Implementation Processes, and Related Matters, and Not to Terminate the Offset Account Resolution." It is available on the Supreme Court website for Special Master Reports, at http://www.supremecourt.gov/SpecMastRpt/SpecMastRpt.aspx

Arkansas River Compact Administration ("ARCA" or "Administration") – the entity created by Article VIII of the Compact.

Article II – see definition of Section II below.

Article III – see definition of Section III below.

cubic feet per second (cfs) – volumetric flow measurement of one cubic foot of flow per second

Colorado Water Conservation Board (CWCB) – is a State agency which is governed by a 15-member Board. The CWCB's responsibilities range from protecting Colorado's streams and lakes to water conservation, flood mitigation, watershed protection, stream restoration, drought planning, water supply planning and water project financing. The CWCB also works to protect the state's water apportionments in collaboration with other western states and federal agencies. Source: http://cwcb.state.co.us/about-us/about-the-cwcb/Pages/main.aspx

Colorado Water Protective & Development Association (CWPDA) – is a non-profit organization, incorporated in the State of Colorado in 1965. The stated primary purpose of the association is to protect and develop underground and surface waters of the Arkansas River Basin. Source: http://www.cwpda.org/

Compact – the Arkansas River Compact (63 Stat. 145 (1949); Kan. Stat. Ann. § 82a-520; Colo. Rev. Stat. § 37-69-101)

Compact year – the water accounting year of the Administration; it commences on November 1 of each year and extends to and includes the next succeeding October 31. Source: *1980 Operating Plan*.

conservation pool – that portion of the total storage space in John Martin reservoir lying below the flood control storage. Source: Compact.

consumable water – as defined in Appendix B.1 of the *Decree,* this is "water brought into the Arkansas River Basin from other river basins or water that may be consumed to

extinction." It is often water quantified as historical consumptive use in a change decree entered by the Colorado water court. Consumable water is also sometimes referred to as "consumptive use water" or "consumptive water."

Decree – the final judgment and decree entered in March 2009 in *Kansas v. Colorado* (No. 105, Original). *See* 556 U.S. 98 (2009), or links under "No. 105, Original" on the Supreme Court website for Special Master Reports, at http://www.supremecourt.gov/SpecMastRpt/SpecMastRpt.aspx

H-I Model – The Hydrologic-Institutional Model as described and documented in Appendix C.1 of the *Decree*. Source: *Decree*.

Lower Arkansas Water Management Association (LAWMA) – is a non-profit, member-owned corporation that makes replacements to the Arkansas River for the depletions caused by membership's groundwater use. Source http://lawma.net/

non-consumable water – water which cannot legally be consumed because it is to be made available to downstream users, usually representing historical return flows owed under a change decree entered by the Colorado water court. Non-consumable water is sometimes referred to as "non-consumptive water."

replacement – Delivery of water from Acceptable Sources of Water to prevent depletions caused by Groundwater Pumping. Source: *Decree*.

Section II – accounts created under Section II of the 1980 Operating Plan, sometimes referred to as Article II.

Section III – accounts created under Section III of the 1980 Operating Plan, sometimes referred to as Article III.

Stateline – means the geographical boundary line between Colorado and Kansas. Source: Compact.

useable Stateline flow – Stateline flow as simulated by the H-I Model and determined to be usable pursuant to the Durbin usable flow method with the Larson coefficients, as set out in Appendix C.2 of *Decree*. Source: *Decree*

Section I. Introduction

This joint report is a result of agreements documented within the *Offset Account Crediting Agreement* and in Appendix A.4. The States have agreed to review the following documents once every five years:

- Resolution Concerning An Offset Account In John Martin Reservoir For Colorado Pumping as Amended March 30, 1998
- Agreement Concerning The Offset Account In John Martin Reservoir For Colorado Pumping, Determination Of Credits For Delivery Of Water Released For Colorado Pumping, And Related Matters (September 29, 2005)

The purpose of this review is "to determine whether the provisions can be improved in the interest of continuing interstate comity and effective water management." This is the first review conducted under this provision. The review period for this joint report is from Compact years 1997 through 2011. This review has focused on the operations which have occurred. This report includes sections on governing documents (Section II), historical Offset Account operations (Section III), related operations (Section IV), and recommendations (Section V).

Background: In the Special Master's Second Report (*Kansas v. Colorado*, Section XI, 1996 Use Rules, Paragraph C beginning on page 68), the Special Master stated that *"Kansas introduced much evidence on the timing of replacement flows. Kansas experts spoke of 'real-time' compliance, which to them generally meant compliance on a monthly basis … That is, Kansas wanted a reasonable amount of replacement each month rather than "slugging the water to Kansas in a couple of months early or late … Colorado actually began releasing replacement water to the river in April, 1996 … Apparently there was little or no coordination between the states on the first delivery, but on subsequent releases Kansas did acknowledge "notice" and "communication." … Still Kansas was of the view that deliveries were made when they were most convenient and efficient for Colorado but not necessarily for Kansas."*

In describing testimony given by Kansas expert, Eugene Franzoy, the Special Master noted *"It was apparent, however, that even if depletions were made up on a monthly basis, the additional water would not be assured of matching the need in Kansas. Mr. Franzoy testified extensively about the timing of water applications on crop yields… And Mr. Franzoy concluded that it would be a "big benefit" if there were a system in place where replacement water would be delivered on their call."*

The Special Master then went on to provide an introduction to the Offset Account by stating *"Actually, the notion of establishing an account in John Martin Reservoir for replacement water that would be under the control of Kansas was discussed throughout this segment of the trial. Such an account was favored by both states, but the issues were more complex than might initially appear, and no agreement could be reached during these trial proceedings.*

Fortunately, action by the Arkansas River Compact Administration and a stipulation between the states reached on March 17, 1997, avoided the issue of whether such an account could, or should, be ordered."

From 1997 through 2011, the States negotiated various agreements and have operated an Offset Account in John Martin Reservoir. Those agreements and operations are described in the sections below.

Period of Review: The agreements between the States call for a five-year review of the Offset Account operations. Since this is the first review, the period being reviewed consists of more than five years. It was decided that this review would cover the Compact years 1997 through 2011. The next five year review period will include the period of Compact years 2012-2016.

For clarification purposes, the various "years" being used related to activities in the Arkansas River basin are described below:

- Calendar year – this period is used for the annual H-I Model updates;
- Compact year – the Compact year commences on November 1 of each year and extends to and includes the next succeeding October 31; and
- Augmentation/Replacement Plan year (referred to as "Plan year" in this report) – the Plan year commences on April 1 of each year and extends to and includes the next succeeding March 31.

Each of these years has certain activities associated, for example:

- the H-I Model is updated based on the calendar year,
- the Colorado State Engineer provides a report on the Offset Account based on the Compact year, and
- the major augmentation plans are approved on the Plan year.

Section II. Description of Offset Account Resolution, Offset Account Stipulation, Offset Account Crediting Agreement & Appendix A.4

The U.S. Supreme Court determined that the State of Colorado violated the Arkansas River Compact (Compact) as post-Compact well pumping caused depletions to usable Stateline flows of the Arkansas River. These depletions were due to the development of high capacity groundwater irrigation wells within the Arkansas River Basin between Pueblo and the Stateline. Colorado wanted to continue groundwater pumping in excess of the pre-Compact entitlement of 15,000 AF per year; however, depletions to the flows of the Arkansas River would need to be replaced. This section will describe the *Offset Account Resolution*, *Offset Account Stipulation*, *Offset Account Crediting Agreement*, & Appendix A.4 as they related to operations which offset depletions to Arkansas River surface water flows caused by groundwater pumping in Colorado.

This section is intended to provide an overview of these documents which are attached to this joint report. If there is any conflict between this section and the attached documents, then the provisions in the documents would prevail.

Offset Account Resolution

As the effects of surface water depletions were discussed in the course of the *Kansas v. Colorado* litigation, it was recognized that availability of irrigation water was time sensitive. Unmet crop needs could not be made up with later deliveries of water that exceeded the then existing needs. Colorado desired the ability to store replacement water as it was generated or was otherwise available. Kansas wanted control over when replacement water was delivered. Colorado and Kansas (States) negotiated an account which would allow the storage of replacement water in John Martin Reservoir (JMR). This account was created by the Arkansas River Compact Administration (Administration or ARCA) with the adoption of the *Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping (Offset Account Resolution)*. See Attachment 1. This was included in the *Decree* as Appendix L.

Versions: The Administration adopted the *Offset Account Resolution* on March 11, 1997. This resolution was signed by the ARCA representatives and was submitted to the U.S. Army Corps of Engineers (Corps), which subsequently approved this resolution on March 17, 1997.

The Offset Account Resolution was subsequently amended on March 25, 1998 by the Administration. The amended resolution addressed Paragraphs 5.B and 9. For Paragraph 5.B the language was modified to conform to the usable flow analysis being used in the H-I Model as approved in *Kansas v. Colorado*. For Paragraph 9 the provision for 500 acre feet (AF) storage charge to use the Offset Account was modified to allow the States the option to choose a later delivery date. The amended resolution was submitted to the U.S. Army Corps of Engineers (Corps), which subsequently approved this resolution on March, 30, 1998.

Overview: The Offset Account is one of several accounts residing within the John Martin Reservoir conservation pool. The Offset Account is included in the spill order provided for in the *Resolution Concerning an Operating Plan for John Martin Reservoir* (often referred to as the *1980 Operating Plan*) and the Offset Account is charged its pro rata share of the daily reservoir evaporation.

The Offset Account can store up to 20,000 AF, provided that an annual storage charge is paid. The Offset Account is composed of several subaccounts which are described in the *Offset Account Crediting Agreement*. These subaccounts along with the referenced *Offset Account Resolution* paragraphs are:

A. Colorado Consumable Subaccounts – Paragraphs 3 & 4
    i. Colorado Upstream Consumable Subaccount
    ii. Colorado Downstream Consumable Subaccount
B. Colorado Upstream – Paragraph 6
C. Instate Return Flow to Colorado Ditches – Paragraph 4
    i. Keesee Winter Return Flows
D. Kansas Consumable – Paragraph 5.B
E. Kansas Storage Charge – Paragraph 9
F. Kansas Stateline Return Flow – Paragraph 4 & 5
G. Stateline Return Flow – Paragraph 4
H. Stateline Return Flow Transit Loss – Paragraph 8

To utilize the first 10,000 AF, a 500 AF storage charge is to be delivered to the Offset Account by April 1st of each year, or at a later date if agreed to by the Colorado State Engineer and the Kansas Chief Engineer. If more than 10,000 AF is stored in any year period, then an additional 5% storage charge is assessed to water delivered in excess of the 10,000 AF. For the purpose of this storage charge, the year period is from April 1st to the next succeeding March 31st.

The water that is allowed to be stored in the Offset Account is authorized by the Colorado State Engineer. Prior to any delivery to the Offset Account, the Kansas Chief Engineer is provided with a notice that includes: source, quantity, reason, time of delivery, rate, extent to which the water is fully consumable, and return flow quantity, timing, and location.

The crediting for Offset Account releases was not included in the Offset Account Resolution but was addressed in the *Stipulation RE Offset Account in John Martin Reservoir*. The delivery crediting was further clarified in the *Offset Account Crediting Agreement*. Both of these documents are described below.

The *Offset Account Resolution* specified both monthly and annual reporting requirements. On a monthly basis, the Colorado State Engineer is to report on the timing and amount of deliveries made to the Offset Account, the monthly pumping amount by which Colorado has exceeded its pre-Compact entitlement, and Colorado's monthly accounting of estimated depletions and replacement requirements. An accounting of Offset Account operations for the previous Compact year is made to the Operations Committee & interested parties by December 1st of each year. This annual report is made to the Operations Committee and to the Administration at its annual meeting.

The Offset Account is an annual agreement, in the sense that it allows either State to provide notice of intent to terminate the Offset Account in any year. That termination provision in the *Offset Account Resolution* has been modified by Appendix A.4 of the *Decree* which is described below.

Offset Account Stipulation

In conjunction with the *Offset Account Resolution* approval by the Administration, the States agreed to a *Stipulation RE Offset Account in John Martin Reservoir (Offset Account Stipulation)* on March 17, 1997. This Stipulation provided for additional terms related to the Offset Account that were not included in the *Offset Account Resolution*. For instance, how the delivery was to be credited at the Stateline. See Attachment 2. This was included in the *Decree* as Appendix F.1.

Version: Kansas and Colorado negotiated the stipulation related to the Offset Account which was filed with the Special Master in *Kansas v. Colorado*. This stipulation was entered into by the States on March 17, 1997 and was filed on April 3, 1997.

Overview: The stipulation provided for how releases from the Offset Account would be credited at the Stateline: (1) the Offset Account release would be reduced by the transit losses incurred between John Martin Reservoir and the Stateline, and (2) the Offset Account release would be delivered on top of antecedent Stateline flows.

As Offset Account deliveries were made to the Stateline, a conflict arose with regard to the Offset Account Stateline delivery credit. Under the stipulation, Colorado calculated the Stateline delivery credit based on a calculated transit loss between John Martin Reservoir and the Stateline. This calculated credit did not match the actual Offset Account delivery performance based on Stateline flows. This, along with the extremely dry river conditions, led Kansas not to call for any water stored in John Martin Reservoir in 2003.

The Offset Account deliveries are to be made on top of the antecedent Stateline flows. However, a specific methodology for how to separate the Offset Account delivery from the antecedent Stateline flows was not included in this stipulation.

Offset Account Crediting Agreement

The States determined it was necessary to have a well-defined method to measure Offset Account deliveries at the Stateline that included a way to separate out the antecedent Stateline flows to resolve disagreements that arose. In order to resolve this and other concerns, the States negotiated the *Agreement Concerning The Offset Account In John Martin Reservoir For Colorado Pumping, Determination Of Credits For Delivery Of Water Released For Colorado Pumping, And Related Matters* (*Offset Account Crediting Agreement)*. See Attachment 3. This was included in the *Decree* as Appendix F.2.

Version: The States negotiated an *Offset Account Crediting Agreement* during 2005. The States agreed to this on September 29, 2005. This and other agreements are often referred to as the "Mission Inn Agreements," based on the location in Pasadena, California where these agreements were signed.

Overview: The States negotiated a method to determine Offset Account delivery credits at the Stateline. This agreement also defined terms, identified subaccounts, determined evaporation credit, assigned delivery transit losses, and disposition of Section II Account transfers, among other things. The Section II Accounts were established under Section II of the *1980 Operating Plan* and are often referred to as Article II Accounts. Both references are citing the same accounts.

As negotiated in the Offset Account Stipulation, the Offset Account release is to be delivered to the Stateline suffering transit losses incurred and accounted for on top of Stateline antecedent flows. The *Offset Account Crediting Agreement* recognized these aspects of Offset Account delivery and provided for a delivery envelope at the Stateline based on release rate and duration. Further refinement of the transit loss methodology was contemplated as part of the *Offset Account Crediting Agreement*. As a result of the *Offset Account Crediting Agreement*, the Offset Account delivery credits were recalculated for the years 1997 through 2004. The *Offset Account Crediting Agreement* has been used since 2005 to calculate Offset Account delivery credit at the Stateline. The specifics of this Stateline crediting of Offset Account deliveries are best described in that document.

As part of this agreement, the States' staff developed a delivery spreadsheet that determines the Stateline delivery credit for Offset Account and/or Kansas Section II releases. The inputs include specifics on the release (e.g., account, rate, start date & time) and flow information below John Martin Reservoir. The spreadsheet that calculates the transit loss, Granada target flow, antecedent flow, delivery envelope, and the Stateline delivery credits. Example pages are included as Attachment 4.

Another undefined aspect was the meaning of charging evaporation to Kansas under Paragraph 5.B of the *Offset Account Resolution*. The *Offset Account Crediting Agreement* explains the conditions used to determine if and when Colorado is eligible for credit against depletions to

usable Stateline flows for evaporation on Kansas Consumable subaccount water. Paragraph 4 of the *Offset Account Crediting Agreement* should be referred to for the specific details on the evaporation credit quantification.

Colorado is also provided a credit for a portion of the transit loss occurring on Offset Account deliveries. The credited portion of the transit loss is assigned to specific reaches below John Martin Reservoir. This provision also set a target flow at Granada that if not met would reduce the transit loss credit provided. This is further discussed in Section IV below.

Additionally, the *Offset Account Crediting Agreement* provides for: procedure for determining the timing and quantity of return flows from the Keesee Ditch, X-Y Graham Canal, and Stubbs Ditch and how those return flows are to be simulated in the H-I Model, resetting the monthly Colorado Compact compliance accounting based on the H-I Model ten-year compliance results, and operational guidelines, among other things.

Appendix A.4 -- Agreement Regarding the Colorado Use Rules, PDF Evaluation, Implementation Processes, and Related Matters, and Not to Terminate the Offset Account Resolution (as amended)

The *Agreement Regarding the Colorado Use Rules, PDF Evaluation, Implementation Processes, and Related Matters, and Not to Terminate the Offset Account Resolution* (Appendix A.4) addresses issues related to the Offset Account including its termination, use, five year review, and negotiations on replacement operations if it is terminated. The termination of the *Offset Account Resolution* is a concern to both States since the *Offset Account Resolution* is an annual agreement. As the title to Appendix A.4 indicates, this appendix also addressed other issues. See Attachment 5.

Versions: The original agreement was entered into on October 31, 2007 and was included as a *Decree* appendix. This Appendix was subsequently amended by the States on June 26, 2009. The amended Appendix A.4 has been posted on the Supreme Court website under Special Master Reports (http://www.supremecourt.gov/SpecMastRpt/SpecMastRpt.aspx). The June 2009 amendment added further clarity to several sections and included new sections on related issues. The relevant sections of Appendix A.4 will be described below.

Termination: The *Offset Account Resolution* is an annual agreement that can be terminated by either State with notice. This was modified by the original Appendix A.4, which provided that neither State would terminate the *Offset Account Resolution* prior to December 31, 2012, or a later date if extended by the States. That arrangement was further amended in 2009 to provide a five year period before the *Offset Account Resolution* could be terminated after notice to terminate Appendix A.4 is provided by either State. See Appendix A.4 Paragraphs 1 and 14. Such termination notice under Appendix A.4 would start a process to develop procedures to credit direct deliveries of replacement water to offset depletions to usable Stateline flows. See Appendix A.4 Paragraph 8. If the States have not developed such procedures within three years

from the termination notice, then the procedures to determine such credits shall be resolved under the Dispute Resolution Procedure as provided for in Appendix H of the *Decree* as a Non-Fast Track Issue.

Offset Account Use: Appendix A.4 provides that the Offset Account will be used for deliveries of replacement water to offset depletions to usable Stateline flow. This provision does allow for two exceptions: if the Offset Account is full or if the replacement source is not approved by a Colorado water court decree for storage in the Offset Account. Although the Keesee and Highland water rights are primarily used by the Lower Arkansas Water Management Association (LAWMA) to replace Stateline depletions, these sources can be used pursuant to Paragraph 2.c of Appendix A.4 to replace depletions to senior surface rights in Colorado.

Disputes: Appendix A.4 provides that any disputes related to water stored in the Offset Account or Offset Account credits will be resolved under the Dispute Resolution Procedure as provided for in Appendix H of the *Decree* as a Fast Track Issue.

Five-Year Review: The timelines for this joint review and future reviews of the *Offset Account Resolution* and the *Offset Account Crediting Agreement* were provided. This joint review is to be presented to the Administration during their 2012 Annual Meeting. Subsequent reviews will occur every five (5) years thereafter on a similar schedule. The next five year review will be started no later than September 30, 2015 with the joint report to be presented at the 2017 Annual Meeting of the Administration.

For purposes of this initial joint review, the review period is for Compact years 1997 through 2011. The next five year review will be for the Compact years 2012 through 2016.

Section III. Historical Operations

This section will discuss the Offset Account operations during the Compact years 1997 through 2011. As discussed above, the Offset Account was established early in 1997 and has been operated every year since. Specific Offset Account operations which will be described in this section include: Storage Charge for Offset Account Operations; Consumable Water Sources; Delivery Operations; Offset Account Spills; and Notices, Monthly Reports and Annual Reports.

The table below shows the Compact year operations including the daily maximum content for the Offset Account.

Compact Year	Inflows (AF)	Transfers In (AF)	Transfers Out (AF)	Releases (AF)	Evaporation (AF)	October 31st End of Day Content (AF)	Maximum End of Day Content (AF)
1997	3,844	4,513	0	2,713	287	5,357	6,389
1998	5,065	0	5,316	0	257	4,849	5,356
1999	6,404	977	7,905	2,026	303	1,998	5,990
2000	3,076	760	1,977	2,581	217	1,059	2,563
2001	1,970	5,052	2,263	2,660	471	2,687	3,225
2002	1,191	15,848	4,448	5,489	1,473	8,318	8,522
2003	6,235	8,704	6,258	99	6,028	10,882	11,958
2004	7,710	4,524	2,698	10,979	2,950	6,489	10,875
2005	11,290	7,100	830	16,941	2,255	4,857	9,727
2006	10,460	985	476	10,304	2,723	2,805	10,303
2007	8,407	2,408	0	9,208	1,246	3,165	8,917
2008	16,186	2,863	230	14,555	1,678	5,752	8,711
2009	9,617	1,850	6	8,685	2,345	6,186	12,913
2010	14,013	2,390	8	12,482	2,190	7,913	12,188
2011	5,284	1,435	0	8,741	2,807	3,092	8,987

Storage Charge for Offset Account Operations

The *Offset Account Resolution* was described in Section II above, including the annual storage charge requirements for operation of the Offset Account. The historical storage charge operations are provided below for the period 1997-2011. The annual storage charge is paid using fully consumable water, however the storage charge water is not counted as part of the Stateline

consumable water delivery credit or as part of the unconsumed transit loss on a delivery from John Martin Reservoir to Kansas.

A spreadsheet was developed to determine the utilization level of the Offset Account and document the point at which the initial 500 acre-foot storage charge for the first 10,000 acre-feet of storage is exceeded, triggering the 5% storage charge applied to all subsequent deliveries. An example spreadsheet for 2009 is provided in Attachment 6 to illustrate the storage charge accounting for utilization above 10,000 acre-feet.

1997: In the initial year of operation, LAWMA provided the storage charge to initiate the Offset Account by delivering fully consumable water leased from Colorado Springs Utilities from Lake Meredith to the Fort Lyon Canal headgate from March 27th through March 29th, 1997. The source of the fully consumable water was reusable Colorado Canal consumptive use water derived from the change of water right in Colorado water court Case No. 84CW062. Maintenance of historic return flows for this changed water right is handled pursuant to the same decree. To complete the operation, a transfer of Fort Lyon Canal Article III water was made in John Martin Reservoir to the Offset Account on March 31, 1997 at 24:00 hours. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 8,357 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

1998: The Offset Account spilled during January and John Martin Reservoir was in flood control operations from December 12, 1997 until March 31, 1998. Because the conservation pool was full, the Offset Account storage charge could not be provided by April 1st.

The States negotiated an Offset Account amendment allowing a later delivery of this storage charge upon agreement of the Colorado State and Kansas Chief Engineers because John Martin Reservoir was in flood control operations during this period. In accordance with Paragraph 9 of the *Offset Account Resolution* as amended March 30, 1998, the Colorado State Engineer and the Kansas Chief Engineer agreed that the 500 AF of fully consumable water for the storage charge could be delivered later than April 1, 1998. The letter describing the approved delayed delivery was provided to David Pope, Kansas Chief Engineer, on April 7, 1998.

The delivery of the storage charge was delayed until space was available in John Martin Reservoir conservation pool. The storage charge delivery was made by release of fully consumable water (reusable Colorado Canal consumptive use water) from Lake Meredith for delivery to John Martin Reservoir from June 28, 1998 to July 2, 1998. The water was leased from Colorado Springs Utilities by LAWMA. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 5,065 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

1999: LAWMA provided the storage charge by transferring water from its Stubbs, and X-Y Graham Article II accounts on March 31st at 24:00 hours. A transfer of 500.4 AF of consumable water was made to the Offset Account along with 333.6 AF of Stateline return flow associated

with these water rights. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 4,591 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

2000: LAWMA provided the storage charge by transferring water from its X-Y Graham Article II account on March 31st at 24:00 hours. A transfer of 500 AF of consumable water was made to the Offset Account along with 259.88 AF of Stateline return flow associated with these water rights. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 3,835 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

2001: LAWMA provided the storage charge by transferring water from its X-Y Graham Article II account on March 31st at 24:00 hours. A transfer of 500 AF of consumable water was made to the Offset Account for the storage charge. Separately, an additional 500 AF of fully consumable water was placed in the Colorado Downstream Consumable account from these same water rights. A total of 519.3 AF of Stateline return flow associated with these water rights and 168.81 AF of Stateline return flow transit loss. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 7,021 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

2002: LAWMA provided the storage charge by transferring water from LAWMA's X-Y Graham Article II account on March 31st at 24:00 hours. A transfer of 500 AF of consumable water was made to the Offset Account along with 259.7 AF of Stateline return flow associated with these water rights and 84.4 AF of Stateline return flow transit loss. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 3,835 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

2003: LAWMA provided the storage charge by delivering fully consumable water leased from the Colorado Water Protective & Development Association (CWPDA). CWPDA leased fully consumable water associated with the dry-up of the Rocky Ford Ditch leased from Aurora and allowed the consumable water from the lease to be delivered to the Fort Lyon Canal headgate. Maintenance of historic return flows for this changed water right is handled pursuant to the Colorado water court Case No. 99CW169. To complete the operation, a transfer of Fort Lyon Canal Article III water was made in John Martin Reservoir to the Offset Account on March 31, 2003 at 24:00 hours. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 8,597 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

2004: LAWMA provided the storage charge by delivering fully consumable water leased from the CWPDA. CWPDA leased fully consumable water from Pueblo Board of Water Works to be delivered to the Fort Lyon Canal headgate. To complete the operation, a transfer of Fort Lyon Canal Article III water was made in John Martin Reservoir to the Offset Account on March 31, 2004 at 24:00 hours. Total deliveries of water to the Offset Account, including the 500 AF

storage charge were 9,332 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

2005: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in September and October 2004. The net amount from this pre-delivery on March 31, 2005 was 414 AF. LAWMA transferred an additional 86 AF from their XY-Graham Article II account to complete the storage charge requirement. LAWMA also transferred approximately 60 AF to the Stateline return flow/return flow transit loss subaccounts as part of the storage charge transfer representing the historic return flows to the Stateline from the XY-Graham water rights. Total deliveries of water to the Offset Account, including the 500 AF storage charge, were 17,560 AF requiring additional storage charge of 5% to be provided for the amount above 10,000 AF. An additional storage charge of 378 AF was delivered concurrent with the Offset Account deliveries above 10,000 AF. The sources of this additional storage charge water are listed in the following subsection.

2006: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in August, September and October 2005. The net amount from this pre-delivery on March 31, 2006 was 310 AF. LAWMA transferred an additional 190 AF from their XY-Graham Article II account to complete the storage charge requirement. LAWMA also transferred approximately 118 AF to the Stateline return flow/return flow transit loss subaccounts as part of the storage charge transfer representing the historic return flows to the Stateline from the XY-Graham water rights. Total deliveries of water to the Offset Account, including the 500 AF storage charge, were 11,419 AF requiring additional storage charge of 5% to be provided for the amount above 10,000 AF feet. An additional storage charge of 70.95 AF was delivered concurrent with the Offset Account deliveries above 10,000 AF. The sources of this additional storage charge water are listed in the following subsection.

2007: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in August 2006. The net amount from this pre-delivery on March 31, 2007 was 457 AF. LAWMA transferred an additional 43 AF from their Keesee and XY-Graham Article II accounts to complete the storage charge requirement. LAWMA also transferred approximately 85 AF to the Stateline return flow/return flow transit loss subaccounts as part of the storage charge transfer representing the historic return flows to the Stateline from the Keesee and XY-Graham water rights and transferred approximately 26 acre-feet representing historic return flows to the Buffalo, Fort Bent, Amity and Lamar Article II accounts. Total deliveries of water to the Offset Account, including the 500 AF storage charge, were 10,761 AF requiring additional storage charge of 5% to be provided for the amount above 10,000 AF feet. An additional storage charge of 38.05 AF was delivered concurrent with the Offset Account deliveries above 10,000 AF. The sources of this additional storage charge water are listed in the following subsection.

2008: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in September and October of 2007. The net amount from this pre-delivery on March 31, 2008 was 442 AF. LAWMA transferred an additional 58 AF from their XY-Graham Article II account to complete the storage charge requirement. LAWMA also transferred approximately 36 AF to the Stateline return flow/return flow transit loss subaccounts as part of the storage charge transfer representing the historic return flows to the Stateline from the XY-Graham water rights and transferred approximately 1 acre-feet representing historic return flows to the Buffalo Article II account. Total deliveries of water to the Offset Account, including the 500 AF storage charge, were 18,857 AF requiring additional storage charge of 5% to be provided for the amount above 10,000 AF feet. An additional storage charge of 442.85 AF was delivered concurrent with the Offset Account deliveries above 10,000 AF. The sources of this additional storage charge water are listed in the following subsection.

2009: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in September and October of 2008. The net amount from this pre-delivery on March 31, 2009 was 499 AF. LAWMA transferred an additional 1 AF from their Keesee, Sisson-Stubbs and XY-Graham Article II accounts to complete the storage charge requirement. LAWMA also transferred approximately 1060 AF during this transfer to the Colorado Downstream Consumable subaccount, 469 AF to the Stateline return flow/return flow transit loss subaccounts as part of the overall transfer representing the historic return flows to the Stateline from the water rights involved and transferred approximately 118 acre-feet representing historic return flows to the Buffalo, Fort Bent, Amity and Lamar Article II accounts. Total deliveries of water to the Offset Account, including the 500 AF storage charge, were 11,442 AF requiring additional storage charge of 5% to be provided for the amount above 10,000 acre-fee feet. An additional storage charge of 72.1 AF was delivered concurrent with the Offset Account deliveries above 10,000 AF. The sources of this additional storage charge water are listed in the following subsection.

2010: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in September and October of 2009. The net amount from this pre-delivery on March 31, 2010 was 578 AF so no additional transfer was made by LAWMA for the initial storage charge. Total deliveries of water to the Offset Account, including the 500 AF storage charge, were 16,230 AF requiring additional storage charge of 5% to be provided for the amount above 10,000 AF feet. An additional storage charge of 311.5 AF was delivered concurrent with the Offset Account deliveries above 10,000 AF. The sources of this additional storage charge water are listed in the following subsection.

2011: LAWMA provided the storage charge by delivering fully consumable water from the Highland Canal to the Kansas Charge subaccount in the Offset Account in October of 2010. The net amount from this pre-delivery on March 31, 2011 was 24 AF. LAWMA transferred an additional 476 AF from their Keesee, Sisson-Stubbs and XY-Graham Article II accounts to

complete the storage charge requirement. LAWMA also transferred approximately 442 AF during this transfer to the Colorado Downstream Consumable subaccount, 411 AF to the Stateline return flow/return flow transit loss subaccounts as part of the overall transfer representing the historic return flows to the Stateline from the water rights involved and transferred approximately 138 acre-feet representing historic return flows to the Buffalo, Fort Bent, Amity and Lamar Article II accounts. Total deliveries of water to the Offset Account, including the 500 AF storage charge were 6,917 AF which did not exceed 10,000 AF, so no additional storage charge water was provided.

Consumable Water Sources

The following paragraphs list the source, amount, consumable amount and overall percent of consumable supply to the Offset Account by year following approval of the *Offset Account Resolution* in 1997. The "amount" column includes all associated with water delivered to the Offset Account; this can be fully consumable water or may have both consumable and non-consumable waters. Non-consumable water represents return flow components. Such non-consumable water may stay in the Offset Account or may be transferred to other accounts in John Martin Reservoir.

As discussed above, a portion of the consumable water is used to pay the storage charge for use of the Offset Account. The storage charge component of consumable water is not credited as a part of the Stateline consumable delivery and is also not credited for its portion of the unconsumed transit loss for replacement of depletions.

1997: In this initial year of operation, the following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
Colorado Springs Utilities Consumable	1185	1185	18.4%
LAWMA Article II	4000	2200	34.1%
Pueblo Board of Water Works and Aurora Consumable	1003	1003	15.5%
Highland Canal Consumable	2169	2066	32.0%
Totals	**8357**	**6454**	
Total to Storage Charge		**500**	

1998: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
Colorado Springs Utilities Consumable	1354	1354	27.6%
Highland Canal Consumable	3711	3552	72.4%
Totals	**5065**	**4906**	
Total to Storage Charge		**500**	

1999: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	834	500	11.8%
Highland Canal Consumable	3757	3725	88.2%
Totals	**4591**	**4225**	
Total to Storage Charge		**500**	

2000: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	760	500	14.0%
Colorado Springs Utilities Consumable	1236	1236	34.7%
Highland Canal Consumable	1828	1828	51.3%
Totals	**3824**	**3564**	
Total to Storage Charge		**500**	

2001: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	2789	1500	43.7%
Highland Canal Consumable	1929	1929	56.3%
Totals	**4718**	**3429**	
Total to Storage Charge		**500**	

2002: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	5844	3462	40.2%
Pueblo Board of Water Works	1960	1960	22.8%
Hyde Article II	1000	637	7.4%
Sisson Article II	1890	1044	12.1%
Fort Lyon Article III	706	372	4.3%
Highland Canal Consumable	1138	1138	13.2%
Totals	**12538**	**8613**	
Total to Storage Charge		**500**	

2003: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	1479	810	10.4%
Fort Lyon Article III	1000	1000	12.9%
Highland Canal Consumable	2477	2477	31.9%
Keesee Ditch Consumable	3642	3473	44.8%
Totals	**8598**	**7760**	
Total to Storage Charge		**500**	

2004: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	1367	780	7.4%
Fort Lyon Article III	500	500	5.7%
Highland Canal	4371	4371	50.0%
Keesee Ditch	3395	3226	36.9%
Totals	**9332**	**8742**	
Total to Storage Charge		**500**	

2005: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	3006	1822	11.2%
Pueblo Board of Water Works	4791	4791	29.5%
AGUA Excelsior Ditch Consumable	273	273	1.7%
Highland Canal Consumable	6153	6153	37.9%
Keesee Ditch Consumable	3337	3212	19.8%
Totals	**17560**	**16251**	
Total to Storage Charge		**878**	

2006: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	952	463	4.2%
Pueblo Board of Water Works	4670	4670	42.7%
Highland Canal Consumable	2917	2917	26.7%
Keesee Ditch Consumable	2880	2880	26.3%
Totals	**11419**	**10930**	
Total to Storage Charge		**571**	

2007: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	2408	1611	16.2%
Highland Canal Consumable	5571	5571	55.9%
Keesee Ditch Consumable	2782	2782	27.9%
Totals	**10761**	**9965**	
Total to Storage Charge		**538**	

2008: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	2633	1794	10.0%
Colorado Springs Utilities Consumable	3946	3946	21.9%
Pueblo West and Aurora Consumable	5100	5100	28.3%
Highland Canal Consumable	3840	3840	21.3%
Keesee Ditch Consumable	3337	3337	18.5%
Totals	**18856**	**18017**	
	Total to Storage Charge	**943**	

2009: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	1804	1213	11.2%
Colorado Springs Utilities	2980	2980	27.5%
Highland Canal Consumable	3555	3555	32.8%
Keesee Ditch Consumable	3097	3097	28.6%
Totals	**11436**	**10845**	
	Total to Storage Charge	**572**	

2010: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	3084	1969	12.4%
Colorado Springs Utilities Consumable	6380	6380	40.3%
AGUA Excelsior Ditch Consumable	445	445	2.8%
Highland Canal Consumable	3939	3939	24.9%
Keesee Ditch Consumable	3084	3084	19.5%
Totals	**16932**	**15817**	
	Total to Storage Charge	**812**	

2011: The following sources of water were provided to the Offset Account:

Source	Amount	Consumable Amount	Percent of Total Consumable
LAWMA Article II	1435	990	15.3%
Colorado Springs Utilities Consumable	1963	1963	30.3%
Highland Canal Consumable	987	987	15.3%
Keesee Ditch Consumable	2532	2532	39.1%
Totals	**6917**	**6472**	
Total to Storage Charge		**500**	

1997-2011: For 1997-2011 a summary of the sources of water that were provided to the Offset Account is shown below:

Source	Amount	Consumable Amount	Percent of Total Consumable
Highland Canal Consumable	48,342	48,048	35.5%
Keesee Ditch Consumable	28,086	27,623	20.4%
Colorado Springs Utilities Consumable	19,044	19,044	14.1%
LAWMA Article II	32,395	18,834	13.9%
Pueblo Board of Water Works	11,421	11,421	8.4%
Pueblo West and Aurora Consumable	5,100	5,100	3.8%
Fort Lyon Article III	2,206	1,872	1.4%
Sisson Article II	1,890	1,044	0.8%
Pueblo Board of Water Works and Aurora Consumable	1,003	1,003	0.7%
AGUA Excelsior Ditch Consumable	718	718	0.5%
Hyde Article II	1,000	637	0.5%
Totals	**151,205**	**135,344**	

Delivery Operations

Deliveries and Stateline credits were originally computed and reported by the Colorado Division Engineer/ARCA Operations Secretary in annual reports to the Administration for the years 1997 through 2005 for deliveries from the Offset Account to the Stateline based on an interpretation the *Offset Account Stipulation*. Kansas did not agree with the crediting based on this interpretation as described in Section II above.

The *Offset Account Crediting Agreement* was signed September 29, 2005 that established a methodology for computing credits from deliveries from the Offset Account. An Addendum to

the 1994 through 2005 Annual Reports of the Operations Secretary Concerning the Operation of John Martin Reservoir was approved by the Administration in December 2008 that established the delivery credits for the years up through 2005. Releases during all years after 2005 were conducted and accounted for in accordance with the 2005 agreement between the states. The delivery statistics presented below are all based on the methodology found in the *Offset Account Crediting Agreement*.

1997: Kansas called for two releases of water from the Offset Account during 1997. The releases are summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jun 23	Jun 24	600	1147	75.5%	536
Aug 28	Sep 2	153	1566	100%	1566
Totals			**2713**		**2102**

1998: There were no releases to Kansas from the Offset Account in 1998. Water supplies were relatively plentiful. There was water in Compact conservation storage until September 5, 1998. Kansas released Section II Account water to satisfy irrigation demands but still ended the Compact year with a Section II Account balance of 113,847 AF.

1999: There were no releases to Kansas from the Offset Account in 1999. Water supplies were relatively plentiful. There was water in Compact conservation storage the entire Compact year, with the exception of a couple of days in April. Kansas released Section II Account water to satisfy irrigation demands but still ended the Compact year with a Section II Account balance 123,712 AF.

2000: Kansas called for one release of water from the Offset Account during 2000. The release is summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jul 28	Aug 1	437	2581	67.4%	1277

2001: Kansas called for one release of water from the Offset Account during 2001. The release is summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jun 18	Jun 21	500	2660	90.4%	1581

2002: Kansas called for two releases of water from the Offset Account during 2002. The releases are summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Apr 10	Apr 19	200	3480	52.0%	1168
Jul 1	Jul 4	400	2009	61.1%	1246
Totals			**5489**		**2414**

2003: There were no releases to Kansas from the Offset Account in 2003. In fact, Kansas did not release any account water from John Martin Reservoir in 2003. This was due to both the dry river conditions and disagreements between the States over Stateline delivery accounting. Specific to the Offset Account, the disagreement was over the credit Colorado was taking for Offset Account deliveries compared to the amount of water delivered to the Stateline. As noted above, the adoption of the Offset Account Crediting Agreement resolved this particular disagreement.

2004: Kansas called for two releases of water from the Offset Account during 2004. In addition to the Stateline delivery credit, Colorado was credited for 1,850 AF of evaporation that had occurred on the Kansas Consumable Subaccount. The releases are summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Mar 26	Apr 4	600	10407	~~80.4~~75.3%	~~1059~~6364
Apr 11	Apr 11	600	436	~~91.1~~75.3%	~~46~~201
Totals			**10843**		**6565~~1105~~**

2005: Kansas called for two releases of water from the Offset Account during 2005. The releases are summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Apr 27	May 5	209	11572	85.2%	9859
Jun 11	Jun 21	250	5248	63.0%	2207
Totals			**16820**		**12066**

2006: Kansas called for one release of water from the Offset Account during 2006. The release is summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jul 8	Jul 18	500	10181	88.6%	8507

2007: Kansas called for one release of water from the Offset Account during 2007. The release is summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jul 19	Jul 28	510	9208	83.6%	6650

2008: Kansas called for one release of water from the Offset Account during 2008. This release was combined with Kansas Section II account water that was released July 5, 2008 through July 18, 2008. The Kansas release began with the Offset Account until it was effectively exhausted on July 5. The release then switched to the Kansas Section II account which ran until it was exhausted on July 18. The water that had accumulated in the Offset Account was then released from July 18 to July 23.

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jun 27 Jul 18	Jul 5 July 23	550	14555	86.2%	11617

2009: Kansas called for one release of water from the Offset Account during 2009. This release was combined with Kansas Section II account water that was released during the same period. The release is summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jul 16	Jul 23	635	8686	75.4%	5511

2010: Kansas called for one release of water from the Offset Account during 2010. The release is summarized in the table below:

Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jul 8	Jul 18	650	12868	90%	10241

2011: Kansas called for one release of water from the Offset Account during 2011. The release is summarized in the table below:

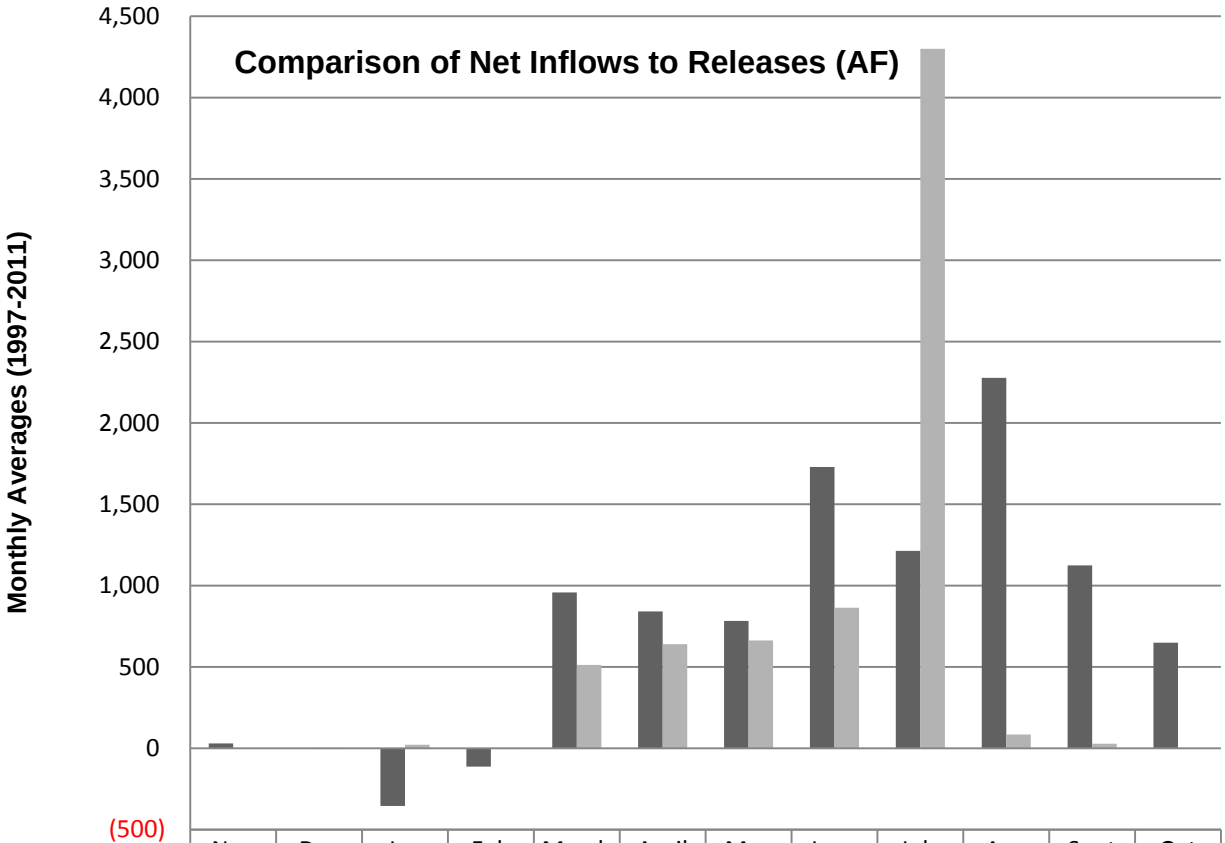
Start Date	End Date	Release Rate (cfs)	Released Amount (AF)	Offset Delivery Efficiency	Delivery Credit of Consumable Water (AF)
Jul 14	Jul 24	400	8741	84.2%	6436

1997-2011 Statistics

The table below summarizes the average start date, end data, release rate, released amount, delivery efficiency and total consumable water delivered over the period.

Average Start Date	Averaged End Date	Average Release Rate (cfs)	Average Released Amount (AF)	Average Offset Delivery Efficiency	Total Delivery Credit of Consumable Water (AF)
17-Jun	23-Jun	439	6,997	77.5%	75,241

The figure below compares the monthly average net inflows to the monthly releases from the Offset Account. The net inflows are the inflows plus transfers in minus the transfers out of the Offset Account. This figure graphically shows the difference between when water is put into the Offset Account compared to when Kansas has called for its release.



	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct
Net Inflows	30	0	(354)	(113)	958	841	783	1,729	1,214	2,277	1,124	649
Releases	0	2	22	2	512	640	663	864	4,300	85	28	1

Offset Account Spills

When the conservation pool of John Martin Reservoir exceeds it capacity, flood control operations begin. The 1980 Operating Plan describes how each of the accounts created under this plan is evacuated or is "spilled" during flood control operations. The Offset Account was added to the spill order by the Offset Account Resolution and subsequently in the amended 1980 Operating Plan. The Offset Account spilled four times between 1997 and 2011.

The first spill occurred beginning on January 14, 1998 and continuing until January 17, 1998 when the account was emptied. A total of 5,316 AF spilled during this event.

The second spill of the Offset Account occurred beginning on May 4, 1999 and ending that same day. A total of 5,986 AF spilled from the account during this event.

A third spill event occurred on August 8, 1999 when 304 AF spilled from the account.

The fourth spill event occurred from February 5, 2000 through February 7, 2000 when 1,977 AF spilled from the account.

No other spill events have occurred at John Martin Reservoir since 2000. The total amount of all water spilled from the Offset Account in all four events was 13,583 AF.

The Offset Account was included in the spill order provided in Section II.G. of the 1980 Operating Plan when it was amended in February 2010. The Section II.G. spill order is consistent with the spill order provided in the *Offset Account Resolution*.

Notices, Monthly Reports and Annual Reports

The Offset Account Resolution describes several types of notices and reports required to be prepared by the Colorado State Engineer or his delegate. Paragraph 3 states that "…the Colorado State Engineer or his delegate…may deliver or permit the delivery by Colorado water users of water to the Offset Account upon timely notice to the Kansas Chief Engineer or his delegate… Such notice shall specify and document the following: the source of the water delivered, the amount of water, the purpose for which the water is delivered, the time of delivery, the rate of delivery, the extent to which the water is fully consumable, and the quantity, timing and location of any associated return flows."

Colorado provides both an initial notice of delivery or transfer and a final notice of delivery to the Kansas Chief Engineer or delegated person. An example of an initial notice letter and a final delivery letter is included in Attachment 7.

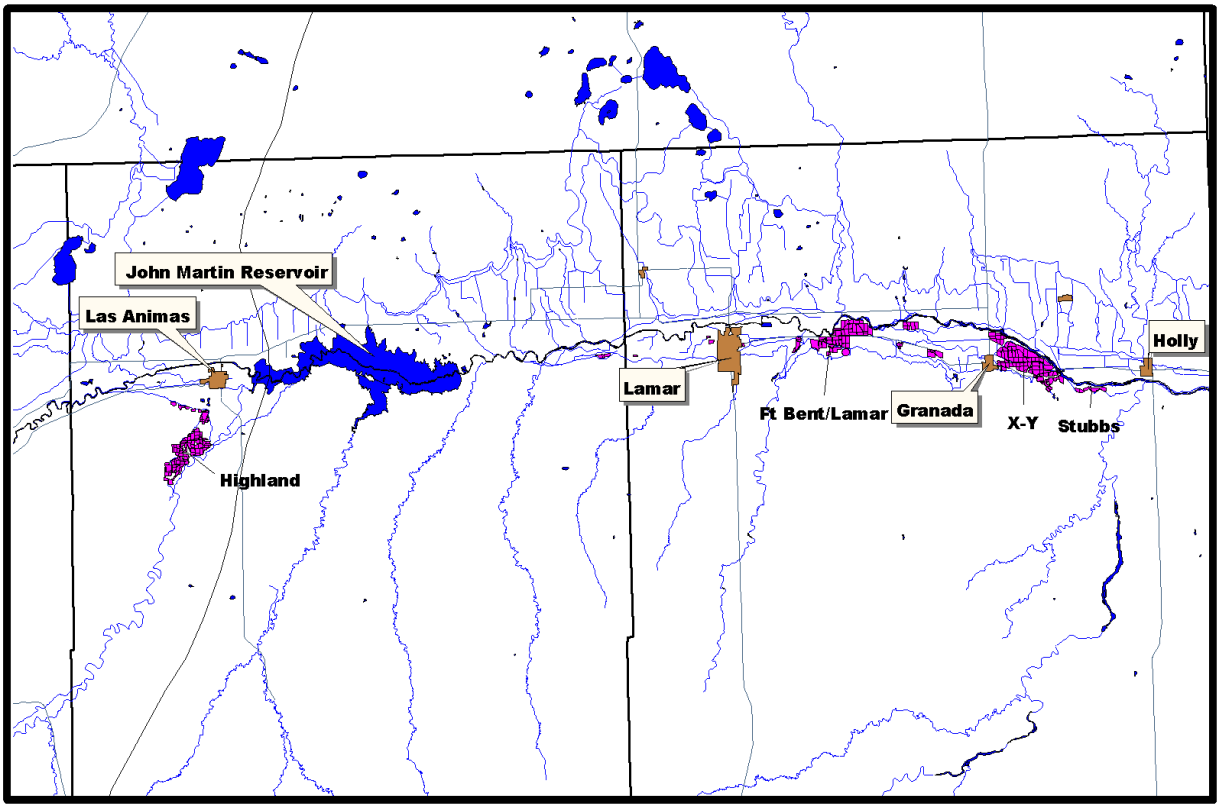
The Colorado State Engineer is also required to provide monthly notice to the Kansas Chief Engineer of the estimated monthly net depletion to usable Stateline flows caused by post-Compact diversions of tributary ground water from the Valley Fill Aquifer and surficial aquifers along the Arkansas River between Pueblo Dam and the Stateline pursuant to Paragraph 5. Monthly letters have been prepared and sent to Kansas for each month since the beginning of Offset Account operations. An example of the monthly letter is included in Attachment 8.

Not later than December 1 of each year, the Colorado State Engineer shall make an accounting of the operation under this Resolution for the previous Compact year available to the Operations Committee of the Administration and to interested parties. Reports for 1997 through 2011 have been prepared and delivered by December 1st of each year. These annual reports contain a report that describes operations, daily and monthly accountings, and all correspondence that occurred during the Compact year.

Section IV. Related Operations

Highland transit loss – H-I Model input

The Highland Canal water right owned by LAWMA was identified as a major source of water to the Offset Account during the years of operation discussed in this report in Section III above. In order to more fully describe the Highland Canal water right it is helpful to review the location and proximity of the water right to John Martin Reservoir. The map below shows the location of the historic Highland Canal irrigated lands. These lands have been dried up except for lands irrigated by a few shares not owned by LAWMA at the head of the ditch.



LAWMA's Highland Canal shares are measured at a stream gage adjacent to the Highland Canal measuring flume on the Purgatoire River (see photos below).

Figure 2 – Highland Canal Flume (for non-LAWMA shares)

Figure 3 – Purgatoire River near Highland Dam River Gage (for LAWMA shares)

Accounting for the Highland Canal water right is done on a daily basis using the average daily flows through the above gages. A copy of the data input sheet for May of 2011 is shown in Attachment 9. The accounting tracks both consumptive and non-consumptive water (return flows). Colorado has been estimating the transit losses occurring on the consumable portion of the Highland Canal water rights delivered to John Martin Reservoir. Transit losses on the Purgatoire River between the Highland Canal headgate and the confluence with the Arkansas River are estimated by using a Purgatoire River specific modification to the 1978 Livingston transit loss study. The 1978 Livingston transit loss study was developed specifically for the Arkansas River between Pueblo and John Martin Reservoirs, but has been modified by Colorado Division 2 staff for other reaches. For the Purgatoire River, the modifications were made to the transit loss calculation for the last reach just above John Martin Reservoir, adjusting to the conditions seen on the Purgatoire River. The estimated transit loss, less 10% assumed to be lost to evaporation, is input as special water to the H-I Model annual update. The States do not agree that 90% transit loss is unconsumed.

Delivery transit loss below John Martin Reservoir – H-I Model input

Offset Account deliveries suffer transit losses between John Martin Reservoir and the Stateline. A portion of these Offset Account delivery transit losses will be a special water input to the H-I Model replacing groundwater water pumping depletions. How the transit losses are determined and what portion is input as a special water was negotiated by the States as part of the *Offset Account Crediting Agreement* (30 September 2005). See Attachment 3.

Before the delivery begins, the transit losses in the three reaches below John Martin Reservoir are estimated. The three reaches are defined by USGS gages:

1. Arkansas River below John Martin Reservoir to the Arkansas River at Lamar,
2. Arkansas River at Lamar to the Arkansas River near Granada, and
3. Arkansas River near Granada to the Stateline (the sum of flows for the Frontier Ditch near Coolidge and the Arkansas River near Coolidge).

The transit calculation is based on modifications to the 1978 Livingston transit loss study for the Arkansas River between Pueblo and John Martin Reservoirs. Specifically, modifications were made to the transit loss calculation for the reach just above John Martin Reservoir. The input parameters include: antecedent flow conditions, release rate, and release duration.

Seventy-five percent (75%) of the transit losses experienced in the first two reaches is input as special water for the H-I Model annual update. For the last reach, a target flow is established for the delivery at the Granada USGS gage based on the estimated transit losses. If the Granada target is met, then 75% of the transit loss experienced on an Offset Account delivery will be input into this reach. If the Granada target flow is not met, then transit loss special water inputs

are reduced according to the *Offset Account Crediting Agreement* (See Attachment 3, Paragraph 5.C.)

Interaction between Offset Account, Colorado monthly accounting and H-I Model annual updates

Monthly Accounting: Colorado uses an array of engineering models, spreadsheets and databases to track groundwater well pumping on a monthly basis and to determine estimated stream flow depletions that are required to be replaced. In a similar fashion, Colorado tracks the supply of replacement water delivered or released to replace the predicted stream flow depletions. This includes the calculation of consumable return flows from transmountain and fully consumable water delivered to ditches below Pueblo Reservoir. It also records the amount of water measured back to the river from replacement sources derived by removing surface water from formerly surface water irrigated lands and delivering the associated consumable portion to replace stream depletions while also maintaining historical return flows. These tasks are performed in an effort to achieve monthly stream flow depletion replacement to protect senior surface water rights in Colorado and usable Stateline flow. This monthly accounting is also used to determine how much water should be delivered to the Offset Account to replace depletions to usable Stateline flow or how much Stateline credit can be accounted against depletions to usable Stateline flow. This monthly accounting is needed to assure near real-time replacement of stream flow depletions within the calendar year.

Colorado records operations and computations in a monthly accounting spreadsheet that is reviewed by the well associations and Kansas. An example of a monthly accounting spreadsheet is included in Attachment 10. The detailed backup data supporting the monthly accounting is provided to Kansas as required by Appendix B.1 of the Decree.

Utilizing the monthly updates of pumping and the corresponding pumping by pre-Compact wells in conjunction with other data reported in the monthly accounting, Colorado prepares monthly letter reports to Kansas as described above in Section II under the Offset Account Resolution and as shown in Attachment 8. These monthly letters serve as a guide to replacement operations and also help document data necessary to prepare the input for the annual H-I Model update.

H-I Model annual updates: The H-I Model is updated annually; adding data for the just concluded calendar year. Colorado compiles the update input data and runs the H-I Model providing the H-I Model results and associated backup data to Kansas by April 1st of each year. Kansas then reviews this information and recommends changes or revisions, if needed. The States are to agree on the H-I Model annual update by June 1st or the Decree Dispute Resolution Process (Appendix H) is initiated.

The results from the H-I Model update are then included in a ten-year Compact compliance table that also includes annual information about Offset Account operations and post-1985 depletions. The results for the current update and the previous nine years are used to determine if Colorado

is in compliance. The ten year sum of annual depletions and/or accretions is for the purposes of this report the "status" of the Stateline discussed below.

The status of the ten-year Compact compliance accounting may not match the Colorado monthly accounting status as of the end of the last year updated. After the H-I Model annual update and the ten-year Compact compliance accounting is agreed to, then the Colorado monthly accounting status is changed to match the ten-year Compact compliance accounting for December of the year being updated.

Offset Account: After the Colorado Monthly accounting is updated with the H-I Model results, a further check involves the status of water in the Kansas Consumable Subaccount (Offset Account). Colorado monthly accounting is used to determine if replacement water needs to be transferred to the Kansas Consumable Subaccount to replace depletions to usable Stateline flow. It is possible after the H-I Model update is agreed to that the Kansas Consumable Subaccount balance should be adjusted.

Operations when the Offset Account is Full

The Offset Account never reached the maximum capacity of 20,000 AF during the review period. The maximum daily content was 12,913 AF during Compact year 2009.

No specified procedure has been agreed upon by Colorado and Kansas for delivering water that has not been stored in the Offset Account to replace depletions to usable Stateline flow in the event that the Offset Account is full.

Operations if the Offset Account is Terminated

Neither State provided notice to terminate the Offset Account during the review period.

Appendix A.4 provides a process that would be initiated if either State provides notice to terminate the Offset Account Resolution. Although there is a process provided for that would allow for replacement operations absent an Offset Account, there may be some incentive to the States to agree on replacement operations should the Offset Account Resolution be terminated.

Section V. Recommendations

The authors of this report acknowledge that this is the first joint report reviewing the Offset Account operations. As such, we have developed a format that can be used for future reports and from which the States can review operations for improvements and better water management.

Our first recommendation is that comments provided by ARCA Representatives, Kansas and Colorado staff, and other parties on this report be incorporated into the second joint report.

Our second recommendation is that the operations presented herein be reviewed for any potential improvements to be suggested during the next review period.

Out third recommendation is that consideration be given to developing process for operations when the Offset Account is full.

The fourth recommendation is for the States to work to develop a method that would improve communications prior to and during a Kansas delivery, to make planning more efficient for both States. During the review period, LAWMA has made additional deliveries to the Offset Account while a Kansas release was occurring, or just after a release was concluded. Both States might have benefited from better communication related to a LAWMA delivery to the Offset Account, or from more advanced notice of a pending Kansas release. However, as shown in the figure above, the Offset Account deliveries occur throughout the irrigation season, while the Kansas releases occur primarily in July. The Offset Account was largely established to accommodate this difference in timing, since the replacement water availability may not match Kansas' irrigation needs.

Finally, Colorado has begun work in conjunction with the Southeastern Colorado Water Conservancy District (SECWCD) and the Colorado Water Conservation Board (CWCB), to fully implement and enhance the Transit Loss Application Program (TLAP) model prepared by Russ Livingston for ARCA to better estimate transit losses below John Martin Reservoir (including deliveries to Kansas). Additionally, a companion transit loss model developed by Russ Livingston to improve estimates of transit loss for deliveries from Pueblo Reservoir to downstream ditches and to John Martin Reservoir is being implemented and enhanced as part of this project anticipated to be complete in 2013. We recommend that Kansas and Colorado work cooperatively to review the work on this project and to determine whether improvements to the transit loss calculations could be made in accordance with Section 8 of the Offset Account Crediting Agreement.

This page intentionally blank

Attachment 1 - *Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping (Offset Account Resolution).*

This page intentionally blank

Appendix L

RESOLUTION CONCERNING AN OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING AS AMENDED MARCH 30, 1998

WHEREAS, ARTICLE IV-D of the Arkansas River Compact provides as follows:

> This Compact is not intended to impede or prevent future beneficial development of the Arkansas River basin in Colorado and Kansas by Federal or State agencies, by private enterprise, or by combination thereof, which may involve construction of dams, reservoirs and other works for the purposes of water utilization and control, as well as the improved or prolonged functioning of existing works: Provided, that the waters of the Arkansas River, as defined in Article III, shall not be materially depleted in usable quantity or availability for use to the water users in Colorado and Kansas under this Compact by such future development or construction;

and

WHEREAS, the United States Supreme Court has determined that post-Compact well pumping in the State of Colorado has caused material depletions of usable Stateline flows of the Arkansas River in violation of the Arkansas River Compact [hereinafter the "Compact"], Kansas v. Colorado, 115 S.Ct 1733 (1995); and

WHEREAS, the State of Colorado [hereinafter "Colorado"] desires to continue to allow ground water pumping by its water users in excess of the pre-Compact pumping entitlement of 15,000 acre-feet per year determined by the United States Supreme Court as long as any depletions to usable Stateline flows caused by such pumping are replaced; and

WHEREAS, Section 2 of the Act of Congress approving the Compact provides in relevant part as follows:

> [T]he Chief of Engineers is hereby authorized to operate the conservation features of the John Martin Reservoir Project in a manner conforming to such Compact with such exceptions as he and the Administration created pursuant to the Compact may jointly approve[;]

and

WHEREAS, the issue of Compact compliance by Colorado is presently pending before the Special Master appointed by the United States Supreme Court; and

WHEREAS, an account in John Martin Reservoir [hereinafter the Reservoir"] is not necessary for Colorado's compliance with the Compact, but an account would of benefit to Colorado by facilitating compliance with the Compact by Colorado and its water users to the extent that Colorado allows post-Compact well pumping by its water users in excess of the pre-Compact entitlement of 15,000 acre-feet per year, and Colorado has requested such an account; and

WHEREAS, the Offset Account [as hereinafter defined] would create benefits for water users in Kansas but also monitoring and accounting burdens for the State of Kansas [hereinafter "Kansas"]; and

WHEREAS, the existence of an account in the Reservoir does not, in and of itself, assure compliance with the Compact by Colorado and its water users; and

WHEREAS, the Arkansas River Compact Administration [hereinafter the "Administration"] recognizes that it has the authority to create the Offset Account as provided for herein, but that neither the Administration nor either of its member states has any obligation to create the account provided for in this Resolution; and

WHEREAS, concurrently with the adoption of the original form of this Resolution, Colorado and Kansas entered into a Stipulation Re Offset Account in John Martin Reservoir [hereinafter the "Stipulation"]; and

WHEREAS, this Resolution is being readopted as amended;

NOW THEREFORE, BE IT RESOVLED that, pursuant to Section 2 of the Act of Congress approving the Compact, the Administration and the Chief of Engineers of the Corps of Engineers or his duly authorized representative, jointly approve a storage account in the Reservoir to be established and operated as follows:

1. There is hereby established a new storage account in the Reservoir to be known as the "Offset Account in John Martin Reservoir for Colorado Pumping" [hereinafter the "Offset Account"]. The size of the Offset Account shall be 20,000 acre-feet. Deliveries of water to the Offset Account shall be stored in the conservation pool but shall not be inflows into the Reservoir which accrue to conservation storage, and water in the Offset Account shall reside below elevation 3,851 feet above mean sea level (bottom of flood control storage). The establishment of the Offset Account is for the primary purpose of facilitating Compact compliance by Colorado and its water users after the effective date of this Resolution and is not for the purpose of repayment for violations of the Compact by Colorado prior to the effective date of this Resolution or replacement to Colorado ditches except as authorized herein. The intent of this Resolution is that, to the extent that Colorado allows post-Compact well pumping in Colorado in excess of the pre-Compact entitlement of 15,000 acre-feet per year, any depletions to usable Stateline flows caused by such pumping by contemporaneously offset by delivering replacement water to the

Stateline or by making replacement water available in the Offset Account where it can be called for by Kansas in accordance with this Resolution.

2. The Offset Account shall be separate from and in addition to the accounts established by the Administration's Resolution Concerning an Operating Plan for John Martin Reservoir as revised through December 11, 1984 [hereinafter the "1980 Operating Plan"] and the John Martin Reservoir Permanent Pool authorized by the Administration Resolution of August 14, 1976 [hereinafter the "Permanent Pool"].

3. The Colorado State Engineer or his delegate [hereinafter the "Colorado State Engineer"] may deliver or permit the delivery by Colorado water users of water to the Offset Account upon timely notice to the Kansas Chief Engineer or his delegate [hereinafter the "Kansas Chief Engineer"]. Such notice shall specify and document the following: the source of the water delivered, the amount of water, the purpose for which the water is delivered, the time of delivery, the rate of delivery, the extent to which the water is fully consumable, and the quantity, timing, and location of any associated return flows.

4. Only water approved for storage in the Offset Account by the Colorado State Engineer may be delivered to the Offset Account, provided that adequate transit losses shall be charged during delivery of water to the Offset Account, which losses shall be determined by the Colorado State Engineer using the method set out in U.S. Geological Survey Water Resources Investigations 78-75 (Sept. 1978) [hereinafter the "Livingston Formula"]. At the time of delivery of water to the Offset Account, the Colorado State Engineer shall determine the extent to which water delivered to the Offset Account is fully consumable and shall thereafter demand the release of any water necessary to maintain historical return flows to Colorado ditches and the Stateline from deliveries of

water historically used for agricultural irrigation; provided however, that the Kansas Chief Engineer may, at his option, direct that water necessary to maintain historical return flows to the Stateline [hereinafter "Stateline Return Flow"] remain in the Offset Account or be transferred to the Kansas account provided for in Section II of the 1980 Operating Plan [hereinafter "Kansas Section II Account"] for later release, and provided further, that the Colorado State Engineer's determination of the extent to which water delivered to the Offset Account is fully consumable shall not be binding on the Administration or Kansas. Once the Colorado State Engineer has determined the extent to which the water delivered to the Offset Account is fully consumable or is Stateline Return Flow, and has notified the Kansas Chief Engineer in accordance with paragraph 3 above, the Kansas Chief Engineer may demand the release of the water in the Offset Account which is fully consumable at any time and at any rate and may demand the release or direct the transfer of water in the Offset Account which is Stateline Return Flow at any time and at any rate.

5. Evaporation charges shall be made against water stored in the Offset Account in the manner set forth in Subsection II F of the 1980 Operating Plan. The evaporation charges shall be prorated amongst conservation storage and the accounts, including the Offset Account, according to the amounts in them. Evaporation from water in the Offset Account shall be charged against Colorado until:

    A. The water is released or transferred in accordance with this Resolution, or

    B. Thirty days after the Colorado State Engineer has determined and notified the Kansas Chief Engineer of the estimated monthly net depletion to usable Stateline flows caused by post-Compact diversions of tributary

ground water from the Valley Fill Aquifer and surficial aquifers along the Arkansas River between Pueblo Dam and Stateline ("the estimated monthly net depletion of usable Stateline flows"), to the extent the Kansas Chief Engineer has not previously demanded the release of water available for replacement in the Offset Account in an amount equal to or greater than the estimated monthly net depletion to usable Stateline flows, the evaporation loss on that amount of water or portion thereof shall thereafter be charged to Kansas. In order to determine the estimated monthly net depletion to usable Stateline flows for purposes of this paragraph only, the Colorado State Engineer shall use the following procedure unless he and the Kansas Chief Engineer agree otherwise: the Colorado State Engineer shall use the presumptive stream depletions established in Rule 4.2 of the Amended Rules and Regulations Governing the Diversion and Use of Tributary Ground Water in the Arkansas River Basin, Colorado, effective June 1, 1996 [hereinafter "Amended Rules"] and unit response functions presently utilized in accordance with the Amended Rules to determine stream depletions at the Stateline caused by post-Compact diversions of tributary ground water from the Valley Fill Aquifer and surficial aquifers along the Arkansas River Between Pueblo Dam and the Stateline. Further, the Colorado State Engineer shall use the same procedures currently used under the Amended Rules to determine the timing and location of return flows from diversions of imported waters and other augmentation water in determining net stream depletions at the Stateline. For the summer storage

season in the Reservoir (April 1 – October 31), the Colorado State Engineer shall assume that net depletions to usable Stateline flows are 81.9 percent of the net stream depletions at the Stateline, and for the winter storage season (November 1 – March 31), the Colorado State Engineer shall assume that net depletions to usable Stateline flows are 34.9 percent of the net stream depletions at the Stateline; provided that during the summer storage season, if 72 percent of the measured monthly Stateline flow exceeds 30,000 acre-feet, or during the winter storage season, 25 percent of the measured monthly Stateline flows exceeds 7,500 acre-feet, the Colorado State Engineer shall assume that net depletions to usable Stateline flows are 9.9% of the net stream depletions at the Stateline for such months. In addition, if, during the summer storage season, 72% of the measured Stateline flow, limited to 30,000 acre-feet per month, exceeds 140,000 acre-feet, then the Colorado State Engineer shall assume that net depletions to usable Stateline flows thereafter within that summer storage season shall be 9.9% of the net stream depletions at the Stateline. The computation of depletions to usable Stateline flows described in this paragraph shall only be for the purpose of assigning the evaporation charge for water stored in the Offset Account.

Notwithstanding paragraph B above, until thirty days after the Colorado State Engineer has determined and notified the Kansas Chief Engineer of the quantity and timing of any estimated Stateline Return Flow in the Offset Account, and the time for release of such water

to the Stateline has passed, the evaporation loss on that amount of Stateline Return Flow shall be charged to Colorado, but shall thereafter be charged to Kansas.

6. In accordance with the provisions of paragraphs 3 and 4 above, the Colorado State Engineer may deliver or permit the delivery of water by Colorado water users to the Offset Account, in an amount not to exceed 1,500 acre-feet per Compact year, for the purpose of replacing depletions to the inflows to conservation storage caused by post-Compact well pumping in Colorado and may (1) direct the transfer of such water from the Offset Account to conservation storage to replace depletions to the inflows to conservation storage, or (2) to the extent such that water is not needed to replace depletions to the inflows to conservation storage, may change the prior designation of water previously designated for the purpose of transfer to conservation storage. Once the Colorado State Engineer has notified the Kansas Chief Engineer of the change of designation, such water be released or transferred in accordance with this Resolution.
7. Releases from the Offset Account may be made simultaneously with deliveries into the Offset Account. However, such simultaneous releases and deliveries cannot create a deficit in the Offset Account.
8. Transit losses for releases from the Offset Account shall not be replenished from the Kansas transit loss account. Transit losses associated with the release of Stateline Return Flow from the Offset Account shall be replaced by the entity which delivered such Stateline Return flow to the Offset Account, provided that any increase in transit losses which results if the Kansas State Engineer directs that Stateline Return Flow in the Offset Account and calls for the release such Stateline Return Flow at a later time shall be borne by Kansas. Such transit losses on releases of Stateline Return Flow shall be determined

using the Livingston Formula for Subreach 6, removing bank and channel storage from the calculation, unless the Colorado State Engineer and the Kansas Chief Engineer agree otherwise. In order to ensure the arrival of releases of Stateline Return Flow at the Stateline if the Kansas Chief Engineer calls for the release of such Stateline Return Flow during the summer storage season in the Reservoir (April 1- October 31), an amount of water equal to the transit losses determined using the Livingston Formula for Subreach 6, including bank and channel storage, shall be released with the Stateline Return Flow and shall be charged to the entity which delivered the Stateline Return Flow, except that Kansas shall bear any increase in evaporation resulting from the summer storage release.

9. Notwithstanding other provisions of this Resolution, 500 acre-feet of fully consumable water shall be delivered by Colorado or Colorado water users to the Offset Account by April 1 of each year, or at a later time in any one year if agreed to by the Colorado State Engineer and the Kansas Chief Engineer, which delivery shall be a prerequisite for Colorado's right to deliver or permit the delivery by Colorado water users of up to 10,000 acre-feet of water (including the said 500 acre-feet) to the Offset Account pursuant to this Resolution during the period until the next succeeding April 1. For delivery of water to the Offset Account in excess of 10,000 acre-feet during each period, five percent of the amount delivered shall be allocated to Kansas. The said 500 acre-feet and five percent of any water delivered in excess of 10,000 acre-feet during each period [hereinafter "Storage Charge Water"] shall be allocated to Kansas, not for offset of depletions of usable flow at the Stateline but as part of Kansas' equitable share of the benefits arising from the creation of the Offset Account in the Reservoir. The Kansas Chief Engineer may direct the Storage Charge Water be transferred to the Kansas Section II Account or may

demand the release of Storage Charge Water at any time and at any rate. If Storage Charge Water is retained in the Offset Account, Kansas shall bear the evaporation after April 1. Colorado water users shall bear the evaporation prior to April 1. Any shortfall due to evaporation in the 500 acre-foot April 1 delivery requirement shall be made up out of the next delivery of water after April 1 by Colorado water users. Kansas shall bear the transit losses associated with the release of Storage Charge Water. Such transit losses shall be calculated using the Livingston Formula for Subreach 6, unless the Colorado State Engineer and the Kansas Chief Engineer agree otherwise.

10. No transfers, releases or exchanges shall be made of water in the Offset Account except releases and transfers authorized by this Resolution or approved by the Administration.

11. Not later than December 1 of each year, the Colorado State Engineer shall make an accounting of the operation under this Resolution for the previous Compact year available to the Operations Committee of the Administration and to interested parties.

12. In recognition of the fact that the operation of the Offset Account is for the primary purpose of facilitation Compact compliance by Colorado in connection with increased post-Compact pumping by Colorado water users, the Colorado State Engineer shall report to the Administration and the Kansas Chief Engineer on a monthly basis the timing and amount of deliveries to the Offset Account, the monthly pumping in location and amount in excess of Colorado's pre-Compact entitlement, and Colorado's monthly accounting of Compact compliance, including documentation not already provided and a report of the status of water delivered to the Offset Account, within two months of the end of the month reported. The Administration recognizes that use of this Offset Account to facilitate Compact compliance by Colorado after the effective date of this Resolution may

result in additional monitoring costs to Kansas. The Administration recognizes that Kansas is not waiving its right to claim reasonable compensation from Colorado for such additional monitoring expenses incurred by Kansas after the effective date of this Resolution. The Colorado State Engineer shall timely share relevant information with the Kansas Chief Engineer concerning use of the Offset Account in a manner the will minimize Kansas' monitoring costs. Each year the Colorado State Engineer and the Kansas Chief Engineer shall discuss further ways to minimize such costs.

13. In the event the runoff conditions occur in the Arkansas River basin upstream from the Reservoir that cause water to spill from the Reservoir, then water stored in the Permanent Pool in excess of 10,000 acre-feet shall spill before water stored in the accounts granted in Subsections III A, B, and C of the 1980 Operating Plan, which shall spill before the water stored in the Offset Account, which shall spill before the accounts granted in Section II of the Operating Plan, which shall spill before the Kansas Transit Loss Account, all of which shall spill before conservation storage.

14. Water available under priority rights decreed to the ditches of Colorado Water District 67 [hereinafter "District 67"] may be stored in the Offset Account only when no water in accruing to conservation storage, provided that return flows shall be maintained and accounted for in accordance with paragraphs 3 and 4 above; and water may be transferred into the Offset Account from accounts of the ditches of District 67 in the Reservoir provided for in Section II of the 1980 Operating Plan in accordance with this Resolution; provided that such storage or transfers are in accordance with the Amended Rules adopted by the Colorado State Engineer and, with respect to transfers from District 67 accounts, shall include both the consumable and return flow portions of such water.

15. Neither the adoption of this Resolution nor the establishment or operation of the Offset Account shall constitute a waiver of either State's rights under the Compact (if such a waiver is possible as a matter of law) or prejudice the ability of either State to represent its interests in present or future cases or controversies before the Administration or any court of competent jurisdiction, except as provided in the Stipulation.

16. All terms employed in this Resolution which are defined in the Compact or the 1980 Operating Plan shall have the same meaning as set out in the Compact or the 1980 Operating Plan, as the case may be.

17. The effective date of this Resolution shall be the date on which the Chief of Engineers of the Corps of Engineers, or his duly authorized representative, gives his approval by signing and dating below in the space provided. This Resolution shall not be affected by the termination of the 1980 Operating Plan, except that operations contemplated in this Resolution which rely on the existence of the 1980 Operating Plan shall no longer occur if the 1980 Operating Plan is terminated. This Resolution shall be in full force and effect until March 31, 1998, and year-to-year thereafter subject to the following provisions:

    A. Either Colorado or Kansas, through its Compact delegation, may terminate this Resolution effective March 31 by giving written notice to the Administration by February 1 of the same Compact year.

    B. In the event that this Resolution is terminated, water in the Offset Account at that time may remain in storage in the Offset Account and be released or transferred as provided above until no water remains in the Offset Account, at which time the Offset Account shall be terminated.

18. Colorado may, as it sees fit, fulfill or, as a condition to delivery of water to the Offset Account by Colorado water users, require its water users to fulfill the delivery requirements and be responsible for evaporation and transit loss charges imposed on Colorado by this Resolution, provided that Colorado shall require Colorado water users who wish to deliver water to the Offset Account to comply with this Resolution in all respects and shall require immediate cessation of the use of the Offset Account by any Colorado water user or users in the event of any substantial failure by such Colorado water user or users to comply with this Resolution.

19. Any releases of water from the Offset Account shall not exceed the channel capacity as determined by the Corps of Engineers.

JOINTLY APPROVED:

/s/ Larry E. Trujillo, Sr.
Chairman
Arkansas River Compact
Administration

/s/ Mary Louise Clay
Recording Secretary
Arkansas River Compact
Administration

/s/ Lloyd S. Wagner
District Engineer, Albuquerque District,
Duly Authorized Representative of the
Chief of Engineers
U.S. Army Corps of Engineers

30 March 1998
Date

This page intentionally blank

Attachment 2 - *Stipulation RE Offset Account in John Martin Reservoir (Offset Account Stipulation)*

This page intentionally blank

Appendix F.1

IN THE SUPREME COURT OF THE UNITED STATES

STATE OF KANSAS,	)	
	)	
Plaintiff,	)	No. 105, Original
	)	October Term 1996
v.	)	
	)	
STATE OF COLORADO,	)	
	)	
Defendant,	)	
	)	
and	)	
	)	
UNITED STATES OF AMERICA,	)	
	)	
Defendant-Intervenor.	)	
_____	)	

STIPULATION
RE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR

(Filed Apr. 03, 1997)

This Stipulation is entered into this 17th day of March, 1997, by the State of Kansas [hereinafter "Kansas"] and the State of Colorado [hereinafter "Colorado"], subject to approval by the Special Master of the United States Supreme Court.

RECITALS:

WHEREAS, Article IV-D of the Arkansas River Compact provides as follows:

> This Compact is not intended to impede or prevent future beneficial development of the Arkansas River basin in Colorado and Kansas by Federal or State agencies, by private enterprise, or by combinations thereof, which may involve construction of dams, reservoirs and other works for the purposes of water utilization and control, as well as the improved or prolonged functioning of

> existing works: Provided, that the waters of the Arkansas River, as defined in Article III, shall not be materially depleted in usable quantity or availability for use to the water users in Colorado and Kansas under this Compact by such future development or construction;

and

WHEREAS, the United States Supreme Court has determined that post-Compact well pumping in Colorado has caused material depletion of the usable Stateline flows of the Arkansas River in violation of the Arkansas River Compact [hereinafter the "Compact"], *Kansas v. Colorado*, 115 S.Ct. 1733 (1995); and

WHEREAS, Colorado desires to continue to allow ground water pumping by its water users in excess of the pre-Compact entitlement of 15,000 acre-feet per year determined by the United States Supreme Court as long as any depletions to usable Stateline flows caused by such pumping are replaced; and

WHEREAS, the issue of Compact compliance by Colorado is presently pending before the Special Master appointed by the United States Supreme Court; and

WHEREAS, an account in John Martin Reservoir [hereinafter the "Reservoir"] is not necessary for Colorado's compliance with the Compact, but an account would be of benefit to Colorado by facilitating compliance with the Compact by Colorado and its water users to the extent that Colorado allows post-Compact well pumping by its water users in excess of the pre-Compact pumping entitlement of 15,000 acre-feet per year, and Colorado has requested such as account; and

WHEREAS, the Arkansas River Compact Administration [hereinafter the "Administration"] has the authority to create the Offset Account as Provided for in the Resolution Concerning as Offset Account in John Martin Reservoir for Colorado

Pumping [hereinafter the "Resolution"], but neither the Administration nor either of its member states has any obligation to create the Offset Account; and

WHEREAS, the Offset Account will create benefits for water users in Kansas but also monitoring and accounting burdens for Kansas; and

WHEREAS, the existence of an account in the Reservoir does not, in and of itself, assure Colorado's compliance with the Compact; and

WHEREAS, the Administration and the Chief of Engineers of the Army Corps of Engineers are jointly approving concurrently herewith the Resolution Establishing a new storage account in the Reservoir known as the "Offset Account in John Martin Reservoir for Colorado Pumping" [hereinafter the "Offset Account"]; and

WHEREAS, Kansas and Colorado desire to reach an agreement of the credit which Colorado shall receive for the delivery of water released from the Offset Account upon demand by Kansas, subject to approval by the Special Master of the united States Supreme Court;

NOW, THEREFORE, Kansas and Colorado stipulate and agree as follows:

1. In accordance with the Resolution, the Colorado State Engineer shall determine the extent to which water delivered to the Offset Account is fully consumable. Colorado understands that Kansas may not agree with the Colorado State Engineer's determination and agrees that the Colorado State Engineer's determination shall not be binding on Kansas in the event of a disagreement. However, both States recognize that it is useful to have the Colorado State make the determination in the first instance. In the event that Kansas disagrees with the Colorado State Engineer's determination of the extent to which water is fully consumable, Kansas shall notify Colorado within a reasonable period of

time and the States shall make a good-faith attempt to resolve the disagreement. In the event the disagreement cannot be resolved by the States, Colorado agrees that it shall have the burden to establish the extent to which water delivered to the Offset Account is fully consumable.

2. With regard to water delivered to the Offset Account for the purpose of offsetting depletions to usable Stateline flows, which is released at the demand of Kansas pursuant to the Resolution, Colorado shall receive credit for the delivery of such water at the Stateline(less transit losses determined in accordance with paragraph 3 below) as a replacement of depletions to usable Stateline flows which occur after the effective date of the Resolution to the extent such water is fully consumable; provided, however, that a demand for a release of water from the Offset Account by Kansas shall not constitute and admission by Kansas that the water released from the Offset Account and delivered to the Stateline was in fact full consumable. Antecedent flows at the Stateline shall not be included in the calculated delivery. To the extent the credit for the delivery of water at the Stateline to offset depletions to usable Stateline flows exceeds calculated depletions to usable Stateline flows which occurred after the date of the Resolution, the credit shall be applied to reduce future depletions to usable Stateline flows. Colorado shall receive no credit, however, of Storage Charge Water (as defined in the Resolution) or Stateline Return Flow (as defined in the Resolution) as a replacement of depletions to usable Stateline flows.

3. Transit losses on releases of water form the Offset Account for delivery to the Stateline for the purposes of offsetting depletions to usable Stateline flows shall be determined using the transit losses for Subreach 6, including bank and channel storage, as

set forth in the U.S. Geological Survey Water Resources Investigations 78-75, unless the States agree to use a different method or the United States Supreme Court directs otherwise. The States agree to cooperate with each other, the Administration, and the U.S. Geological Survey to improve the method of determining transit losses between John Martin Dam and the Stateline. Transit losses on releases from the Offset Account for delivery to the Stateline for the purpose of offsetting depletions to usable Stateline flow shall be borne by such releases.

4. Colorado acknowledges that use of the Offset Account may result in additional monitoring costs to Kansas. Colorado agrees that Kansas is not waiving its right to claim reasonable compensation from Colorado for such additional monitoring expenses incurred by Kansas after effective date of the Resolution. Colorado shall timely share relevant information with Kansas concerning use of the Offset Account in a manner that will minimize Kansas' monitoring costs. Each year, the States shall discuss further ways to minimize such costs.

5. Neither the adoption of the Resolution nor the establishment or operation of the Offset Account shall constitute a wavier of either State's rights under the Compact (if such a wavier is possible as a matter of law) interests in present or future cases or controversies before the Administration or any court of competent jurisdiction; except that actual storage of water in the Offset credits for deliveries of water to the Stateline in accordance with this Stipulation shall be considered in determining Colorado's Compact compliance; and provided further that Colorado shall receive credit for the delivery of water the Stateline as a replacement of depletions to usable Stateline flows in accordance with this Stipulation.

DATED, this 17 day of March, 1997.

STATE OF KANSAS

/s/ John B. Draper
JOHN B. DRAPER
Counsel of Record
Special Assistant Attorney General

MONTGOMERY & ANDREWS, P.A.
P.O. Box 2307
Santa Fe, NM 87504-2307
Telephone: 505-986-2525

Attorneys for the State of Kansas

STATE OF COLORADO

/s/ David W. Robbins
DAVID W. ROBBINS
Special Assistant Attorney General
Counsel of Record

DENNIS M. MONTGOMERY
Special Assistant Attorney General

HILL & ROBBINS, P.C.
1441 – 18TH Street, #100
Denver, Colorado 80202
Telephone: 303-296-8100

Attorneys for the State of Colorado

APPROVED:
/s/ Arthur L. Littleworth
Arthur L. Littleworth
Special Master

Attachment 3 - *Agreement Concerning The Offset Account In John Martin Reservoir For Colorado Pumping, Determination Of Credits For Delivery Of Water Released For Colorado Pumping, And Related Matters* (*Offset Account Crediting Agreement)*

This page intentionally blank

Appendix F.2

AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF CREDTIS FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND RELATED MATTERS

September 29, 2005

This Agreement is entered into by the State of Colorado and the State of Kansas (hereinafter referred to as "Colorado" and "Kansas") in the interests of interstate comity to resolve accounting issues relating to the Offset Account in John Martin Reservoir for Colorado Pumping (hereinafter "Offset Account"). The crediting and implementation principles described herein will be applied to Offset Account deliveries and H-I Model input sets for the years 1997 through 2004 as well as future years.

Acceptance of this Agreement by Colorado and Kansas does not prejudice or constitute a waiver of their respective rights under the Arkansas River Compact, the April 24, 1980 Resolution Concerning an Operating Plan for John Martin Reservoir (as revised on May 10, 1984, and December 11, 1984), the March 17, 1997 Stipulation Re Offset Account in John Martin Reservoir in *Kansas v. Colorado*, No. 105 Original, or the Amended March 30, 1998 Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping.

Colorado and Kansas agree as follows:

1. Definitions: The following terms will be defined in this agreement as follows:

A. **Colorado Consumable Subaccount** – a subaccount of the Offset Account into which fully consumable water, as determined by the Colorado State Engineer pursuant to Paragraphs 3 and 4 of the Offset Account Resolution, is delivered or transferred. This subaccount is further segmented into:
   i. Colorado Upstream Consumable Subaccount
   ii. Colorado Downstream Consumable Subaccount.

B. **Colorado Upstream Subaccount** – a subaccount of the Offset Account for the storage of water with the purpose of replacing depletions to conservation storage inflows pursuant to Paragraph 6 of the Offset Account Resolution.

C. **Consumable Portion of the Release** – the water released from the Kansas Consumable and Colorado Consumable subaccounts of the Offset Account. This would not include waters released from any other subaccounts of the Offset Account.

D. **H-I Model** – the Hydrologic-Institutional Model developed jointly by the States to assist in the determination of Stateline depletions to usable streamflows.

E. **Instate Return Flow to Colorado Ditches Subaccount** – a subaccount of the Offset Account where the water necessary to maintain historical return flows to Colorado ditches from deliveries of water historically used for agricultural irrigation is deposited.
    i. Keesee Winter Return Flows
F. **Kansas Consumable Subaccount (KCS)** – a subaccount of the Offset Account for the storage of that part of the total account for which evaporation is charged to Kansas, pursuant to Paragraph 5B of the Offset Account resolution.
G. **Kansas Storage Charge Subaccount** – a subaccount of the Offset Account for the storage of fully consumable water which is a prerequisite for Colorado or its water users to store water in the Offset Account as provided for in Paragraph 9 of the Offset Account Resolution.
H. **Kansas Stateline Return Flow Subaccount** – a subaccount of the Offset Account for those Stateline return flows which, based on historic patterns, would have been delivered to the Stateline, but which are held in the Offset Account pursuant to Paragraph 4 of the Offset Account Resolution.
I. **Muskingum method** – a routing method as described in the following reference: McCarthy, G.T., 1938: 'The Unit Hydrograph and Flood Routing', presented at conference of North Atlantic Division, U.S. Corps of Engineering, June 1938 (see also 'Engineering Construction - Flood Control', pp. 147-156, the Engineer School, Ft. Belvoir, VA, 1940).
J. **Offset Account Resolution (OAR)** – the "Resolution concerning an Offset Account in John Martin Reservoir for Colorado Pumping as amended March 30, 1998," or as it is subsequently amended.
K. **Provisional data** -- streamflow and ditch diversion data collected on the day the administrative action is taken.
L. **Reasonable Opportunity** – is the first day during the period of April 1st to June 30th when the mean Stateline daily flow is 100 cfs or greater for at least 15 days in the previous 30-day period, even if the 30 days precede April 1.
M. **Stateline flow** – the flow of the waters of the Arkansas River as determined by gaging stations located at or near the Stateline, more specifically the combined flow as measured by USGS gaging stations: Frontier Ditch near Coolidge and the Arkansas River near Coolidge.
N. **Stateline Return Flow Subaccount** – a subaccount of the Offset Account for water that will be required to maintain historical Stateline return flows pursuant to Paragraph 4 of the Offset Account resolution.
O. **Stateline Return Flow Transit Loss Subaccount** – a subaccount of the Offset Account for the associated transit loss water needed to deliver historical Stateline return flows to the Stateline Pursuant to Paragraph 8 of the Offset Account Resolution.

2. Subaccounts currently approved for the Offset Account.

The Offset Account, as provided for by the **Offset Account Resolution (OAR)**, shall consist of the following subaccounts:

A. Colorado Consumable Subaccounts (OAR Paragraphs 3 & 4)
    i. Colorado Upstream Consumable Subaccount
    ii. Colorado Downstream Consumable Subaccount
B. Colorado Upstream (OAR Paragraph 6)
C. Instate Return Flow to Colorado Ditches (OAR Paragraph 4)
    i. Keesee Winter Return Flows
D. Kansas Consumable (OAR Paragraph 5.B.)
E. Kansas Storage Charge (OAR Paragraph 9)
F. Kansas Stateline Return Flow (OAR Paragraph 4 & 5, 5 deals with the evaporation on Stateline Return Flows after Kansas has been noticed)
G. Stateline Return Flow (OAR Paragraph 4)
H. Stateline Return Flow Transit Loss (OAR Paragraph 8)

Additional subaccounts may be approved only by mutual agreement by both States. Notice of a proposed subaccount (including a detailed written description of the need and justification for the subaccount) must be given from one state to the other; and the response is due from the notified State within two weeks upon receipt.

3. Determination of Credits for the Delivery of Water Released from the Offset Account

The States agree to determine credits for the delivery of water released from the Offset Account on Kansas' demand based on measured **Stateline flow** in accordance with the criteria described below.

A. Release accounting and stream flow data used in the evaluation of all deliveries will be as follows:

    i. Accounting records of the Operations Secretary for Offset Account releases, including hourly records of gate changes identifying the beginning and end of releases.

    ii. Provisional, hourly, and daily satellite data from pertinent gaging stations between John Martin Reservoir and the Stateline. Stateline deliveries for which Colorado will receive credit will be based on the mean daily **Stateline flow**.

    iii. The United States Geological Survey (USGS) provides the State of Colorado with a data feed of shift-corrected discharge values on an hourly basis. The data provided is in a non-aggregated time step, typically 15-minute measurement intervals. Once data is loaded into the Colorado Division of Water Resources database, it is not updated with subsequent data from the USGS. Therefore, data used for water administration remains the same as during the time the water was administered. Colorado will daily extract 15 minute discharge data for the Arkansas River at Granada, the Frontier Ditch, and the Arkansas at Coolidge gages for the previous 24-hour period to update previously transmitted data and export this and previous data for the most

recent 7-day period as a delimited text file to an ftp directory accessible by persons designated by the Colorado State Engineer or Kansas Chief Engineer. **Provisional data** shall be used for all the calculations described in this agreement. Colorado will provide and maintain the auto-executable program to periodically update databases maintained in their respective offices with this data to ensure identical stream flow data sets to be used to evaluate deliveries of water from John Martin Reservoir to Kansas.

B. The antecedent flow during the Offset Account delivery will be determined as follows:

i. Use the mean daily **Stateline flow** for the 10 full days preceding the date of delivery arrival, provided that the variability within the period does not depart from the 10-day average by more than 10%. The date of delivery arrival for the purpose of this Paragraph shall be two days after the initiation of the release with the first day of release being day zero. Days of **Stateline flow** which exceed 110% of the initial average will be removed until an average base flow with less than +/- 10% variability is achieved to remove interference caused by precipitation or the effect of Colorado ditch operations during the 10-day period. No more than two iterations of antecedent flow calculation will be performed and no fewer than 6 days out of the preceding 10-day period will be used in determining the antecedent flow except as provided in the following two paragraphs.

ii. If an Offset Account release follows within 10 days of any other release from a Kansas account (including the Offset Account), the antecedent flow for the current Offset Account release shall be the same as the antecedent flow determined for the previous release using the same procedures as described above in Paragraph 3.B.i.

iii. If the average flow for the 10-day period preceding the 10 days (i.e. days 11 through 20 prior to arrival of the release) used to determine antecedent flow is more than twice the computed antecedent flow computed above in Paragraph 3.B.i., the antecedent flow will be adjusted to be the average of: a) the antecedent flow as described above in Paragraph 3.B.i. and b) the hydrograph flow value using the **Muskingum method** described below in Paragraph 3.C. on the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero.

C. For Offset Account releases occurring without consecutive Kansas Section II Account releases, the credit component of the Offset Account release at the Stateline for which Colorado will receive 100% credit as a replacement of depletions to usable Stateline flow will be determined as follows:

i. The mean daily release from the Offset Account will be multiplied by 1.05.

ii. These adjusted mean daily values will be routed to the Stateline using the **Muskingum method** with the following parameters: K = 60 hours, x = 0.15 and t=24 hours.

iii. The resulting Muskingum hydrograph will be lagged one day, in addition to the lag included within the Muskingum routing.

iv. The Stateline delivery for the purpose of determining Offset credit will be determined as the lesser of: a) the **Stateline flow** less antecedent flow or b) the lagged Muskingum hydrograph.

v. The Stateline delivery determination will end the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.

vi. The Offset Account delivery efficiency will be the Stateline delivery determined in the manner described above divided by the total Offset Account release.

vii. Under no circumstances shall more than 100% of the total volume released from the Offset Account over the entire period of the release be determined to be delivered under these procedures.

viii. The credit for the **Consumable Portion of the Release** will be determined as the Offset Account delivery efficiency multiplied by the **Consumable Portion of the Release**.

D. For combined releases of Offset Account and Kansas Section II Account water, the credit component for the Offset Account release at the Stateline for which Colorado will receive 100% credit as a replacement of depletions to usable **Stateline flow** and the Equivalent Stateline Flow (ESF) volume for determining transit losses associated with Kansas Section II Account release will be determined as follows:

i. The mean daily release from the sum of the Offset Account and the Kansas Section II Account releases will be multiplied by 1.05.

ii. These adjusted mean daily values will be routed to the Stateline using the **Muskingum method** with the following parameters: K = 60 hours, x = 0.15 and t=24 hours.

iii. The resulting Muskingum hydrograph will be lagged one day, in addition to the lag included within the Muskingum routing.

iv. The Stateline delivery, for the purpose of determining Offset credit, will be determined as the lesser of: a) the **Stateline flow** less antecedent flow or b) the lagged Muskingum hydrograph.

v. The Stateline delivery determination will end the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.

vi. The Offset Account delivery efficiency will be the Stateline delivery determined in the manner described above divided by the total of Offset Account and Kansas Section II Account releases.

vii. The credit for the **Consumable Portion of the Release** will be determined as the Offset Account delivery efficiency multiplied by the **Consumable Portion of the Release**.

viii. The ESF delivery will be determined as the lesser of: a) the **Stateline flow** or b) the lagged Muskingum hydrograph.

ix. The ESF delivery determination will end the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.

x. The ESF percentage will be calculated as the ESF delivery (determined using Sub-paragraphs 3.D.i through 3.D.iii and 3.D.viii through 3.D.ix) divided by the total of the releases from the Offset Account and Kansas Section II Account.

xi. The volume of the Kansas Section II ESF is the total of the Kansas Section II releases multiplied by the ESF percentage.

xii. If the ESF volume for the Kansas Section II Account delivery is less than the Kansas Section II Account volume released, the resulting transit loss will be replenished to the Kansas Section II Account.

xiii. Under no circumstances shall more than 100% of the total of either the release from the Offset Account or the Kansas Section II Account over the entire period of the release be determined to be delivered for that account under these procedures.

xiv. For the purposes of these determinations, the volume of multiple releases from the same account during the combined releases will be summed and treated as a single value.

4. Credit for evaporation from water stored in the "Kansas Consumable Subaccount" (KCS).

As provided in the **Offset Account Resolution (OAR)**, once Kansas has received a 30-day notice and evaporation is now being assigned to the KCS, Colorado may accumulate the

evaporation for later credit as determined below in this Paragraph. Commencing April 1 of each year, the content of the KCS will be subject to the following accounting procedures and shall be used to establish evaporation eligible for credit from the KCS:

A. During the period of April 1 through June 30, if Kansas does not call for water from the KCS, evaporation eligible for credit as a replacement of depletions to usable Stateline flows for water stored in the KCS will begin the day following a **Reasonable Opportunity** for Kansas to call for water. If a **Reasonable Opportunity** has occurred and Kansas has chosen not to call for water from the KCS, evaporation eligible for credit as a replacement of depletions to usable Stateline flows for all water stored in the KCS will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first. However, if Kansas chooses to call for water from the KCS, evaporation eligible for credit will commence on the date of release and will continue until either the KCS is exhausted, or until the succeeding April 1, whichever comes first.

B. During the period of April 1 through June 30, if Kansas does not call for water from the KCS and there is no **Reasonable Opportunity** for Kansas to call for water, the evaporation eligible for credit as a replacement of depletions to usable Stateline flows for all water stored in the KCS will begin on July 1 and will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.

C. During the period of April 1 through June 30, if Kansas does call for water from the KCS, evaporation eligible for credit from additional water delivered to and stored in the KCS that is less than 3,500 acre-feet will be deferred until July 1 but will then continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.

D. During the period of April 1 through June 30, if Kansas does call for water from the KCS, evaporation eligible for credit from additional water delivered to and stored in the KCS that is equal to or greater than 3,500 acre-feet will begin on the date the 3,500 acre-feet for the total volume was achieved and will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.

E. During the period of July 1 through September 30 evaporation eligible for credit for additional water delivered to and stored in the KCS from July 1 through September 30 will begin on the day water is delivered and stored in the KCS and will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.

F. Colorado shall receive no credit as a replacement of depletions to usable Stateline flows for evaporation from additional water delivered to and stored in the KCS during the period October 1 through March 31.

G. Commencing April 1 of each succeeding year, the accounting and procedures as described in this Paragraph 4 shall be used to establish initial conditions for assigning evaporation eligible for credits from the KCS for that year.

H. The evaporation credit component for offsetting usable depletions to Stateline flows will be computed by applying the Offset Account delivery efficiency for the next Offset Account release, as set forth in Paragraph 3 above, to the quantity of KCS evaporation eligible for credit. Colorado will not seek credit for the computed transit loss component of this water. Kansas Storage Charge water and the Kansas Stateline Return Flow water shall not be placed into the KCS, nor shall evaporation from these subaccounts be eligible for credit.

5. Assignment of Transit Losses

The **Consumable Portion of the Release** from the Offset Account that is not credited as a delivery at the Stateline, as determined in Paragraph 3 above, will be considered to be transit loss and a portion of that amount, as determined below, will be input into the **H-I Model** as a special water and assigned to reaches between John Martin Reservoir and the Stateline. The transit loss to the three reaches between stream gages below John Martin Reservoir (JMR to Lamar, Lamar to Granada, Granada to Stateline) will be determined in proportion to the percentages of transit loss determined using the Livingston Reach 6 factors with the antecedent flows at the stream gages at JMR, Lamar and Granada. However, if through the cooperative efforts of the States, an improved method of determining transit losses between John Martin Reservoir and the Stateline is devised, that method may be utilized through amendment of this agreement pursuant to Paragraph 11. In determining the portion of the transit loss that will be included in the **H-I Model**, the flows through the Granada gage will be used to assess Colorado's efforts to administer the released water past Colorado ditch headgates. The procedure to determine the amount of transit loss to be input into the **H-I Model** as a special water will be as follows:

A. Upon a call for an Offset Account release from John Martin Reservoir, the flows will be evaluated for the prior ten-day period in a manner consistent with Sub-paragraph 3.B above for the Arkansas River below John Martin Reservoir, the Arkansas River at Lamar and the Arkansas River near Granada river gages to compute a target flow rate at the Granada gage computed as the Granada antecedent flow plus the Offset Account release rate less the transit loss based on Livingston Reach 6 factors. During the Offset Account release, Colorado will administer the release to attempt to maintain the target flow rate at the Granada gage. Changes in the Offset Account release rate will cause a change in the Granada gage target rate (based on the original calculation using the Livingston Reach 6 factors), computed by the new release rate multiplied by the original transit loss percentage plus the antecedent flow.

B. At the conclusion of the release, the actual volume delivered through the Granada gage will be determined using mean daily flows from the **Provisional Data** for the Granada gage for the target evaluation period, which is from the date of the first day of release arrival at the Stateline through the day following the last full day of release at John

Martin Reservoir. This value will be compared to the volume calculated using the delivery target flow rate at Granada multiplied by the number of days between release arrival at the Stateline and one day following the last full day of release at John Martin Reservoir. If the volume of actual delivery through the Granada gage for this period is greater than or equal to the target volume delivery, 75% of the transit losses determined for the delivery will be input into the **H-I Model** as special water. See Table A below for a sample computation.

C. If the volume of actual delivery through the Granada gage for the target evaluation period is less than the target volume delivery, the amount of the transit loss in the JMR to Lamar reach that is eligible for use as a transit loss input for the **H-I Model** is reduced by the ratio of the target transit loss in that reach derived using the Livingston Reach 6 factors to the actual transit loss in that reach calculated from the difference between the target flow rate at Granada and the actual delivery flow rate at Granada. The portion of the total delivery transit loss attributed to that reach is multiplied by this ratio to obtain the amount of the transit loss in the JMR to Lamar reach that is eligible for use as a transit loss input. The same computation is performed to determine the amount of the transit loss in the Lamar to Granada reach that is eligible for use as a transit loss input for the **H-I Model**. The transit loss eligible for input into the **H-I Model** in the Granada to Stateline reach is unchanged. Seventy-five percent of the transit loss determined for each of the three reaches will be input into the **H-I Model** as a special water. See Table A below for a sample computation for this case.

Table A: Sample computation for assignment of Transit Loss

Delivery Target Met							
	JMR	JMR to Lamar Reach	Lamar	Lamar to Granada Reach	Granada (Delivery Target)	Granada to Stateline Reach	Stateline
Flow Rates	250 cfs		237.5 cfs		225 cfs		200 cfs
Transit Losses		12.5 cfs		12.5 cfs		25 cfs	
% of total TL		25%		25%		50%	
CU Delivery Transit Loss							1000 ac-ft
Transit Loss by Reach		250 ac-ft		250 ac-ft		500 ac-ft	
75% of TL input as Special Water		187.5 ac-ft		187.5 ac-ft		375 ac-ft	750 ac-ft
Delivery Target Not Met							
	JMR	JMR to Lamar Reach	Lamar	Lamar to Granada Reach	Granada (Delivery Target)	Granada to Stateline Reach	Stateline
Flow Rates	250 cfs		237.5 cfs		225 cfs		200 cfs
Transit Losses		12.5 cfs		12.5 cfs		25 cfs	
% of total TL		25%		25%		50%	
CU Delivery Transit Loss							1000 ac-ft
Transit Loss by Reach		250 ac-ft		250 ac-ft		500 ac-ft	
Actual Delivery Rate					200 cfs		
Actual Transit Loss		25 cfs		25 cfs			
Adjusted Transit Loss		125 ac-ft		125 ac-ft		500 ac-ft	750 ac-ft
75% of Adjusted TL input as Special Water		93.75 ac-ft		93.75 ac-ft		375 ac-ft	562.5 ac-ft

6. Disposition of return flow water from Keesee Ditch, XY-Graham Canal, and Stubbs Ditch Section II accounts that is transferred into the Offset Account.

The procedure used to determine the timing and quantity of return flows is described herein. When Colorado transfers water from one of the subject Section II accounts to the Offset Account under the provisions of paragraph 4 of the **Offset Account Resolution**, the water transferred from the Section II account will be split into its consumptive use, in-state return flow and Stateline return flow components as described in Attachment A.

In-state return flows and the associated transit loss will be simulated in the **H-I Model** as a special water input, either as an input to the river in Reach 11 if return flows are actually released to the river, or as an input to individual Section II accounts of Colorado ditches, as actually occurs.

The consumptive use water, Stateline return flows and the associated transit loss and evaporation that is transferred to the Offset Account will be disposed of in accordance with the provisions of paragraphs 4, 5, and 8 of the **Offset Account Resolution**. The Stateline return flow will be simulated in the **H-I Model** as follows: (1) For return flows that remain in the Offset Account at the direction of the Kansas Chief Engineer, Stateline return flows will be simulated in the **H-I Model** by adding a special water equal to the return flow according to the schedules in Attachment A. Seventy-five percent of the transit loss water will be added to Reach 11. (2) For water transferred into the Kansas Section II account at the direction of the Kansas Chief Engineer, a special water input equal to the amount of the transfer will be made. (3) For Stateline return flows delivered to the river, a special water input equal to the amount of the release will be made to Reach 11, unless this water is delivered past the headgates of canals in Colorado, in which case it will be added to the reach to which it was delivered. In either case, seventy-five percent of the transit loss release will be input to Reach 11. Nothing in this subsection relating to the distribution of Stateline return flow or simulation of Stateline return flow in the **H-I Model** will affect the assignment of evaporation charges as set out in the **Offset Account Resolution**, paragraph 5.B.

7. Using H-I Model 10-year compliance results to determine additional amounts of water for delivery to the Offset Account by Colorado and to reset the status of Colorado's monthly accounting for the purpose of evaporation accounting under the provisions of the Offset Account Resolution.

To use the **H-I Model** to determine Compact compliance in accordance with the Special Master's recommendations in the Fourth Report, two steps are required. The first step is to run the **H-I Model** in both the historic and Compact modes to determine the accretions or depletions to usable Stateline flows for the previous 10-year period resulting from post-Compact well pumping and replacement sources represented in the **H-I Model**. The second step is to sum Colorado's Stateline delivery credits for fully consumable water delivered from the Offset Account to the Stateline for the previous 10-year period including any credits for evaporation from water stored in the KCS that Colorado is entitled to. The resulting quantities from these two steps are then used to calculate the final determination of accretions or depletions to usable

Stateline flows for the previous 10-year period. This final quantity is shown as Accretion A or Depletion A in Table B below.

In the monthly accounting performed by Colorado to replace well pumping depletions using the methods used to implement the Amended Use Rules, the credits that Colorado is entitled to as a result of deliveries from the **Colorado Consumable Subaccounts** to the Stateline are used to balance stream depletions that are calculated each month until these delivery credits are exhausted. These credits are shown as Accretion B in Table B below.

Analysis of the **H-I Model** runs used to determine Accretion A or Depletion A should be completed by mid-March of the year following the 10 calendar year period for which Compact compliance is being determined. Prior to the first full 10-year period, this accounting will be performed using years 1997 through 2005. When this analysis is completed, the actions summarized in the table below should be taken to reset the credit/depletion status of Colorado's monthly accounting.

Table B: Actions to reset the credit/depletion status of Colorado's monthly accounting

Results of the **H-I Model** analysis for the most current 10 year compliance period	Monthly Accounting Status at the end of December of the last year of the 10 year compliance period	Reset Action for Accretion B (Monthly Accounting Status for the beginning of the current calendar year)
IF	**AND IF**	**THEN**
Accretion A	Accretion B > 0 (Credits are used in monthly accounting before any further water is transferred to the KCS)	Reset to Accretion A (Credits are used in monthly accounting before any further water is transferred to the KCS)
Accretion A	Accretion B = 0 (Water is transferred to the KCS after monthly accounting)	Reset to Accretion A (Move KCS back to Colorado CU sub account for Jan-Mar of current year. Credits are used in monthly accounting before any further water is transferred to the KCS)
Depletion A	Accretion B = 0 (Water is transferred to the KCS after monthly accounting)	Place CU water = Depletion A into the Offset Account (Water is transferred to the KCS after monthly accounting)
Depletion A	Accretion B > 0 (Credits are used in monthly accounting before any further water is transferred to the KCS)	Reset Accretion B = 0 Place CU water = Depletion A into the Offset Account (Water is transferred to the KCS after monthly accounting)

8. New accounting procedures or calculations developed through collaborative efforts, including improved methodology to determine transit losses between John Martin Reservoir and the Colorado-Kansas Stateline, may be implemented or substituted with existing procedures or calculations upon modification of this agreement pursuant to Paragraph 11.

9. Colorado will employ best water administrative practices and enforcement activities to assure the timely delivery of Offset Account releases from John Martin Reservoir to the Colorado-Kansas Stateline in order to maximize delivery of such water to the Stateline.

10. If Kansas calls for more than 10,000 AF from the **Colorado Consumable** and/or **Kansas Consumable Subaccounts** during the period of November 1 to March 31 in any consecutive three years period, the transit losses on that part of the releases exceeding 10,000 AF, will be input into the **H-I Model** as special waters in the following April using the procedures provided for in Paragraph 5.

11. The States may agree to modify this Agreement, or any portion thereof, provided any amendment is not inconsistent with the Compact and the decisions of the Court in this case. Either State may seek modification of this Agreement by giving notice to the other State's Chief or State Engineer in writing. The States will cooperate in a good-faith effort to resolve issues raised by the proposed modification. The States may modify this Agreement only by mutual agreement or, if the States are unable to agree on a proposed modification to this Agreement, a State may submit the matter to the dispute resolution process included in the final decree in this case, including binding arbitration.

The States also agree to review this Agreement and the **Offset Account Resolution** every five years to determine whether the provisions can be improved in the interest of continuing interstate comity and effective water management. The first review shall occur five years from the effective date of this Agreement.

OPERATIONAL GUIDELINES

Although not mandatory, to enhance the efficient and timely delivery of water released from the Offset Account, the States also agree to the following guidelines:

1. Kansas should avoid calling for releases from the Offset Account during the period November 1 through March 31. Exceptions may be made whenever stream conditions are favorable for a release and the water is needed in Kansas, or when a spill is expected.

2. When antecedent flow is 100 cfs, or less, Kansas will call for releases from the Offset Account at a flow rate of at least 250 cfs and for a minimum of 7 days, although Kansas may reduce or terminate a release from the Offset Account if a precipitation event diminishes the demand for water in Kansas. Further, Kansas may request a release from

the Offset Account of shorter duration than 7 days if it is made in conjunction with a consecutive release from the Kansas Section II Account.

3. Unless Kansas specifies otherwise, releases from Offset subaccounts will be made in the following order:

    A. Kansas Consumable Subaccount
    B. Kansas Storage Charge Subaccount
    C. Kansas Stateline Return Flows Subaccount
    D. Colorado Consumable Subaccount
    E. Stateline Return Flow Subaccount and Stateline Return Flow Transit Loss Subaccount

4. Kansas will use its best efforts to maximize the efficiency of Offset Account deliveries, including but not limited to, the release of Kansas Storage Charge water in conjunction with water released from other subaccounts.

JOINTLY APPROVED: 9-30-2005

/s/ Hal D. Simpson

Hal D. Simpson

Colorado State Engineer

/s/ David L. Pope

David L. Pope

Kansas Chief Engineer

/s/ David W. Robbins

David W. Robbins

Special Assistant to the Colorado Attorney General

/s/ John B. Draper

John B. Draper

Special Assistant to the Kansas Attorney General

Attachment 4 – Examples of Stateline delivery credit spreadsheet

This page intentionally blank

Data Input Sheet for Section II/Offset Account Delivery June-July 2011

Type of Release	C	Start Time	10:00 AM	Rate	400	Did any other release occur within	
Release Start Date	6/30/2011	Offset Release Start Date	7/13/2011			ten days prior to this release?	No
Release End Date	7/24/2011	Offset Release End Date	7/24/2011			If yes, enter Antecedent Flow from Prior Release >	
Ending Hour	8:23 AM	Enter Cumulative Evap Credit AF			0.00	If yes, enter Granada Antecedent Flow from Prior Release >	

	Gage Data					Release Amounts					
	Stateline Flow Data		Intermediate Gage Data			Offset Account		Offset Account Release	Kansas Section II	Transit Loss	Total
Date	Coolidge (cfs)	Frontier (cfs)	Below JMR (cfs)	Lamar (cfs)	Granada (cfs)	Consumable (af)	All Other (af)		(af)	(af)	(af)
6/11/2011	32.9	18.8	596.8	91.0	34.2			0.0			0.0
6/12/2011	54.8	17.8	582.3	86.3	37.3			0.0			0.0
6/13/2011	50.1	19.0	543.3	69.6	36.3			0.0			0.0
6/14/2011	37.9	20.6	532.2	67.2	27.7			0.0			0.0
6/15/2011	32.3	19.8	538.2	70.0	18.8			0.0			0.0
6/16/2011	30.1	19.5	562.6	76.6	15.9			0.0			0.0
6/17/2011	27.5	22.1	576.6	97.5	18.0			0.0			0.0
6/18/2011	34.7	22.3	576.2	101.1	27.1			0.0			0.0
6/19/2011	47.7	23.6	576.9	103.2	27.5			0.0			0.0
6/20/2011	168.9	17.0	623.5	137.7	130.1			0.0			0.0
6/21/2011	400.8	0.0	614.0	122.0	269.4			0.0			0.0
6/22/2011	215.5	0.0	570.7	25.0	134.3			0.0			0.0
6/23/2011	152.2	0.0	547.0	14.2	81.4			0.0			0.0
6/24/2011	120.2	1.2	547.3	12.6	48.3			0.0			0.0
6/25/2011	87.7	19.7	546.0	12.1	32.7			0.0			0.0
6/26/2011	76.4	18.7	546.5	18.5	26.7			0.0			0.0
6/27/2011	68.4	18.0	562.2	23.2	23.1			0.0			0.0
6/28/2011	63.1	17.3	596.0	33.0	22.7			0.0			0.0
6/29/2011	58.6	26.8	636.0	32.7	33.7			0.0			0.0
6/30/2011	52.4	26.3	952.5	88.3	33.4			0.0	462.8	92.6	555.4
7/1/2011	51.2	25.9	1139.2	421.6	105.2			0.0	793.40	158.7	952.1
7/2/2011	106.4	25.3	1048.8	484.5	283.3			0.0	793.40	158.7	952.1
7/3/2011	191.0	25.7	1014.4	543.8	347.3			0.0	793.40	158.7	952.1
7/4/2011	242.2	26.0	1004.4	548.7	402.1			0.0	793.40	158.7	952.1
7/5/2011	282.5	26.6	998.6	501.6	398.3			0.0	793.40	158.7	952.1
7/6/2011	307.7	26.1	1004.9	499.9	395.5			0.0	793.40	158.7	952.1
7/7/2011	371.4	26.3	1016.7	534.1	588.4			0.0	793.40	158.7	952.1
7/8/2011	440.3	26.5	1203.2	537.1	479.7			0.0	793.40	158.7	952.1
7/9/2011	408.7	26.8	1310.0	558.2	502.0			0.0	793.40	158.7	952.1
7/10/2011	450.0	27.0	1275.8	534.5	523.8			0.0	793.40	158.7	952.1
7/11/2011	473.8	27.1	1122.9	458.0	516.0			0.0	793.40	62.1	855.5
7/12/2011	463.3	26.9	990.4	434.6	445.0			0.0	793.40		793.4
7/13/2011	406.2	26.7	942.8	497.0	444.1		529.6	529.6	263.81		793.4
7/14/2011	424.9	27.0	906.4	470.4	430.6	717.7	75.7	793.4			793.4
7/15/2011	415.2	27.1	884.4	466.4	420.9	793.4		793.4			793.4
7/16/2011	421.5	27.4	838.4	452.4	418.2	793.4		793.4			793.4
7/17/2011	396.6	27.1	803.9	410.9	384.7	793.4		793.4			793.4
7/18/2011	366.9	27.2	852.7	413.9	352.5	793.4		793.4			793.4
7/19/2011	353.3	27.1	892.8	504.0	379.6	793.4		793.4			793.4
7/20/2011	382.8	27.0	905.3	506.1	401.3	793.4		793.4			793.4
7/21/2011	422.3	27.1	906.5	508.4	419.8	793.4		793.4			793.4
7/22/2011	443.6	27.2	900.3	495.2	409.3	793.4		793.4			793.4
7/23/2011	408.0	27.0	894.4	482.8	393.4	576.8	216.65	793.4			793.4
7/24/2011	415.0	27.0	646.9	424.5	396.6	2.37	274.63	277.0			277.0
7/25/2011	391.3	26.9	507.6	163.5	264.8			0.0			0.0
7/26/2011	269.5	27.0	534.4	128.5	167.0			0.0			0.0
7/27/2011	220.9	26.9	551.9	77.4	145.2			0.0			0.0
7/28/2011	188.6	26.8	553.7	48.4	110.2			0.0			0.0
7/29/2011	160.9	26.1	466.0	34.7	86.4			0.0			0.0

Data Input Sheet for Section II/Offset Account Delivery June-July 2011

Date	Gage Data					Release Amounts					
	Stateline Flow Data		Intermediate Gage Data			Offset Account		Offset Account Release	Kansas Section II	Transit Loss	Total
	Coolidge (cfs)	Frontier (cfs)	Below JMR (cfs)	Lamar (cfs)	Granada (cfs)	Consumable (af)	All Other (af)		(af)	(af)	(af)
7/30/2011	141.0	26.1	434.5	37.5	69.3			0.0			0.0
7/31/2011								0.0			0.0
8/1/2011								0.0			0.0
8/2/2011								0.0			0.0
8/3/2011								0.0			0.0
8/4/2011								0.0			0.0
8/5/2011								0.0			0.0
8/6/2011								0.0			0.0

Granada Transit Loss Check Worksheet

Date	Mean Daily Flow below JMR	Mean Daily Flow at Lamar	Mean Daily Flow at Granada	Antecedent Flow Calculations												Target Flow at Granada	Shortage or Excess at Granada
				Below JMR				Lamar				Granada					
	CFS	CFS	CFS	Initial Average=	578.91			Initial Average=	43.10			Initial Average=	70.57			CFS	CFS
6/11/2011	597	91	34													0	0
6/12/2011	582	86	37													0	0
6/13/2011	543	70	36													0	0
6/14/2011	532	67	28													0	0
6/15/2011	538	70	19													0	0
6/16/2011	563	77	16													0	0
6/17/2011	577	98	18													0	0
6/18/2011	576	101	27													0	0
6/19/2011	577	103	28													0	0
6/20/2011	623	138	130	YES	2			NO	1			NO	1			0	0
6/21/2011	614	122	269	YES	3			NO	2			NO	2			0	0
6/22/2011	571	25	134	YES	5			YES	5			NO	3			0	0
6/23/2011	547	14	81	YES	8			YES	8			YES	4			0	0
6/24/2011	547	13	48	YES	7			YES	9			YES	7			0	0
6/25/2011	546	12	33	YES	10			YES	10			YES	8			0	0
6/26/2011	546	19	27	YES	9			YES	7			YES	9			0	0
6/27/2011	562	23	23	YES	6			YES	6			YES	10			0	0
6/28/2011	596	33	23	YES	4			YES	3			YES	5			0	0
6/29/2011	636	33	34	YES	1			YES	4			YES	6			0	0
6/30/2011	952	88	33	Adjusted Average		578.91	5789.10	Adjusted Average		21.42	171.37	Adjusted Average		31.50	220.52	0	0
7/1/2011	1139	422	105	YES			10.00	NO			8.00	NO			7.00	0	0
7/2/2011	1049	484	283	YES				NO				NO				0	0
7/3/2011	1014	544	347	YES				YES				NO				0	0
7/4/2011	1004	549	402	YES				YES				YES				0	0
7/5/2011	999	502	398	YES				YES				YES				0	0
7/6/2011	1005	500	396	YES				YES				YES				0	0
7/7/2011	1017	534	588	YES				YES				YES				0	0
7/8/2011	1203	537	480	YES				YES				YES				0	0
7/9/2011	1310	558	502	YES				YES				YES				0	0
7/10/2011	1276	534	524	YES				YES				YES				0	0
7/11/2011	1123	458	516	Adjusted Average		578.91	5789.10	Adjusted Average		21.42	171.37	Adjusted Average		31.50	220.52	0	0
7/12/2011	990	435	445				10.00				8.00				7.00	0	0
7/13/2011	943	497	444	Computations for < 6 days				Computations for < 6 days				Computations for < 6 days				0	0
7/14/2011	906	470	431	Enter date of 6th day			0.00	Enter date of 6th day			0.00	Enter date of 6th day			0.00	0	0
7/15/2011	884	466	421	Enter date of 5th day			0.00	Enter date of 5th day			0.00	Enter date of 5th day			0.00	409	12
7/16/2011	838	452	418	Enter date of 4th day			0.00	Enter date of 4th day			0.00	Enter date of 4th day			0.00	409	9
7/17/2011	804	411	385	Enter date of 3rd day			0.00	Enter date of 3rd day			0.00	Enter date of 3rd day			0.00	409	-24
7/18/2011	853	414	353	Average with 6th day		578.91		Average with 6th day		21.42		Average with 6th day		31.50		409	-57
7/19/2011	893	504	380													409	-30
7/20/2011	905	506	401													409	-8
7/21/2011	906	508	420													409	11
7/22/2011	900	495	409													409	0
7/23/2011	894	483	393													409	-16
7/24/2011	647	424	397													409	-13
7/25/2011	508	163	265													409	-144
7/26/2011	534	128	167													0	0
7/27/2011	552	77	145													0	0
7/28/2011	554	48	110													0	0
7/29/2011	466	35	86													0	0
7/30/2011	435	37	69													0	0
7/31/2011	0	0	0													0	0
8/1/2011	0	0	0													0	0
8/2/2011	0	0	0													0	0
8/3/2011	0	0	0													0	0
																4501	-260 cfs
																Number of Target Days = 11	-515 af
																Expected T-Loss = 460	
																Actual T-Loss= 975	
																T - Loss Ratio = 47.2%	

Summary of Key Information for Section II - Offset Delivery June-July 2010

11/28/2012

Date	Flow Data: Mean Daily Stateline (SL) Flow		Flow Data: SL flow less antecedent flow	Release Data: Offset Consumable Release	Release Data: Offset Non-Consumable Release	Release Data: Section 2 Release	Release Data: Transit Loss Release	Muskingum routing: Total Release	Muskingum routing: Total Release Times 1.05	Muskingum routing: Routed release	Muskingum routing: Routed release, lagged one day	Delivery Calculations: Stateline Delivery Hydrograph	Delivery Calculations: Equivalent Stateline Flow Hydrograph
			176.4										
	CFS	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
6/11/2011	52	103	0	0	0	0	0	0	0	0	0	0	0
6/12/2011	73	144	0	0	0	0	0	0	0	0	0	0	0
6/13/2011	69	137	0	0	0	0	0	0	0	0	0	0	0
6/14/2011	59	116	0	0	0	0	0	0	0	0	0	0	0
6/15/2011	52	103	0	0	0	0	0	0	0	0	0	0	0
6/16/2011	50	99	0	0	0	0	0	0	0	0	0	0	0
6/17/2011	50	98	0	0	0	0	0	0	0	0	0	0	0
6/18/2011	57	113	0	0	0	0	0	0	0	0	0	0	0
6/19/2011	71	141	0	0	0	0	0	0	0	0	0	0	0
6/20/2011	186	369	192	0	0	0	0	0	0	0	0	0	0
6/21/2011	401	795	619	0	0	0	0	0	0	0	0	0	0
6/22/2011	216	427	251	0	0	0	0	0	0	0	0	0	0
6/23/2011	152	302	125	0	0	0	0	0	0	0	0	0	0
6/24/2011	121	241	64	0	0	0	0	0	0	0	0	0	0
6/25/2011	107	213	37	0	0	0	0	0	0	0	0	0	0
6/26/2011	95	189	12	0	0	0	0	0	0	0	0	0	0
6/27/2011	86	171	0	0	0	0	0	0	0	0	0	0	0
6/28/2011	80	160	0	0	0	0	0	0	0	0	0	0	0
6/29/2011	85	169	0	0	0	0	0	0	0	0	0	0	0
6/30/2011	79	156	0	0	0	463	93	463	486	23	0	0	0
7/1/2011	77	153	0	0	0	793	159	793	833	216	23	0	23
7/2/2011	132	261	85	0	0	793	159	793	833	451	216	85	216
7/3/2011	217	430	253	0	0	793	159	793	833	597	451	253	430
7/4/2011	268	532	356	0	0	793	159	793	833	687	597	356	532
7/5/2011	309	613	437	0	0	793	159	793	833	742	687	437	613
7/6/2011	334	662	486	0	0	793	159	793	833	777	742	486	662
7/7/2011	398	789	613	0	0	793	159	793	833	798	777	613	777
7/8/2011	467	926	749	0	0	793	159	793	833	812	798	749	798
7/9/2011	435	864	687	0	0	793	159	793	833	820	812	687	812
7/10/2011	477	946	770	0	0	793	159	793	833	825	820	770	820
7/11/2011	501	993	817	0	0	793	62	793	833	828	825	817	825
7/12/2011	490	972	796	0	0	793	0	793	833	830	828	796	828
7/13/2011	433	858	682	0	530	264	0	793	833	831	830	682	830
7/14/2011	452	896	720	718	76	0	0	793	833	832	831	720	831
7/15/2011	442	877	701	793	0	0	0	793	833	832	832	701	832
7/16/2011	449	890	714	793	0	0	0	793	833	833	832	714	832
7/17/2011	424	840	664	793	0	0	0	793	833	833	833	664	833
7/18/2011	394	782	605	793	0	0	0	793	833	833	833	605	782
7/19/2011	380	754	578	793	0	0	0	793	833	833	833	578	754
7/20/2011	410	813	636	793	0	0	0	793	833	833	833	636	813
7/21/2011	449	891	715	793	0	0	0	793	833	833	833	715	833
7/22/2011	471	934	757	793	0	0	0	793	833	833	833	757	833
7/23/2011	435	863	686	577	217	0	0	793	833	833	833	686	833
7/24/2011	442	877	700	2	275	0	0	277	291	807	833	700	833
7/25/2011	418	829	653	0	0	0	0	0	0	597	807	653	807
7/26/2011	297	588	412	0	0	0	0	0	0	369	597	412	588
7/27/2011	248	491	315	0	0	0	0	0	0	229	369	315	369
7/28/2011	215	427	251	0	0	0	0	0	0	142	229	229	229
7/29/2011	187	371	195	0	0	0	0	0	0	88	142	142	142
7/30/2011	167	331	155	0	0	0	0	0	0	0	29	29	29
7/31/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/1/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/2/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/3/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/4/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/5/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/6/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/7/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
8/8/2011	0	0	0	0	0	0	0	0	0	0	0	0	0
			Totals	7644	1097	10247	1741	18988	19937	19795	19737	15988	19338

Antecedent Flow Calculations

Initial Average=	218.10	
NO	1	
NO	2	
NO	3	
YES	4	
YES	5	
YES	6	
YES	8	
YES	7	
YES	9	
YES	10	
Adjusted Average	185.55	1298.87
NO		7.00
NO		
NO		
NO		
YES		
YES		
YES		
YES		
YES		
YES		
Adjusted Average	176.36	1058.19
Final Baseflow	88.92	6.00
Computations for < 6 days		
Enter date of 6th day		0.00
Enter date of 5th day		0.00
Enter date of 4th day		0.00
Average with 6 days	176.36	

Paragraph 3.b.iii check	
Average for prior days 11-20	211.56
Is value twice the computed Antecedent Flow Value?	No
Muskingum Day 6 =	#N/A
Para. 3.b.iii AF Value	#N/A

Total Offset =	8741
Transit Loss on Consumable =	1208
Granada Transit Loss Credit Percentage =	47.2%
Transit Loss Model Input JMR to Lamar =	53
Transit Loss Model Input Lamar to Granada =	208
Transit Loss Model Input Granada to Stateline =	351
Total Transit Loss Model Input =	613

Muskingum
Derivation of factors

K (hr)=	60	cO=	0.048
x =	0.15	c1 =	0.333
t (hr) =	24	c2 =	0.619
		c0+c1+c2 =	1.00

K t ratio check

2Kx <	t	< 2K(1-x)
18	24	102

Offset Delivery Efficiency =	84.20%
Offset Net Delivery =	7360
Offset Consumable Delivery =	6436
ESF Delivery Efficiency =	101.8%
Section II Delivery =	10247
Section II Delivery Transit Loss =	0
Evaporation Delivery Credit	0

Attachment 5 – *Agreement Regarding the Colorado Use Rules, PDF Evaluation, Implementation Processes, and Related Matters, and Not to Terminate the Offset Account Resolution* (Appendix A.4)

This page intentionally blank

APPENDIX A.4

AMENDED AGREEMENT REGARDING THE COLORADO USE RULES, PDF EVALUATION, IMPLEMENTATION PROCESSES, AND RELATED MATTERS, AND NOT TO TERMINATE THE OFFSET ACCOUNT RESOLUTION

As amended June 2009

This amended agreement ("Agreement") is entered into by the State of Colorado and the State of Kansas (referred to herein individually as "State" and collectively as "States").

Recitals

WHEREAS, in 1995, the Colorado State Engineer adopted Amended Rules and Regulations Governing the Diversion and Use of Tributary Ground Water in the Arkansas River Basin, Colorado ("Use Rules") to prohibit diversions of tributary ground water for irrigation use within the Hydrologic Institutional (H-I) Model domain (with the exception of the 15,000 acre-feet precompact allowance) unless replacement water is provided to offset depletions to usable Stateline flows, which were approved by the Colorado Water Judge effective on June 1, 1996; and

WHEREAS, Rule 4.2 of the Use Rules also establishes presumptive stream depletion percentages to determine stream depletions for certain irrigation uses of ground water to be used by the Colorado State Engineer and Division Engineer for Water Division No. 2 ("State and Division Engineers") in approving and administering plans to replace out-of-priority depletions to senior surface water rights in Colorado; and

WHEREAS, Section IV.A of the Judgment and Decree in *Kansas v. Colorado*, No. 105, Original, U.S. Supreme Court ("Decree"), provides that the Court retains jurisdiction for a limited period of time after the end of the initial ten-year startup period (which ended in 2006) for the purpose of evaluating the sufficiency of the Use Rules and their administration and

whether changes to the Decree are needed to ensure Compact compliance ("Retained Jurisdiction"); and

WHEREAS, in accordance with procedures set out in Part VII of Appendix B.1 to the Decree, the States exchanged reports on their evaluations of the sufficiency of the Use Rules and their administration on October 3, 2008, and November 7, 2008; and

WHEREAS, experts for the States met on October 21, 2008, and conducted a telephone conference on December 15, 2008, to discuss their respective reports and to work together informally to try to resolve the differences regarding the evaluations; and

WHEREAS, Kansas gave notice to Colorado and the Special Master on December 16, 2008, that there was a dispute concerning the sufficiency and the administration of the Use Rules that was being submitted to the Dispute Resolution Procedure in the Decree as a Non-Fast Track Issue and designated the Kansas experts; and

WHEREAS, the Colorado State Engineer designated the Colorado experts to participate in discussions to attempt to resolve the disputed issues in accordance with the Dispute Resolution Procedure; and

WHEREAS, the States and their experts have reached an agreement to resolve the differences regarding the sufficiency of the Use Rules and their administration; and

WHEREAS, the Arkansas River Compact Administration ("Administration") adopted a *Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping* dated March 17, 1997, as amended twice on March 30, 1998 ("Offset Account Resolution") (Appendix L to the Decree), establishing an Offset Account in John Martin Reservoir for Colorado Pumping ("Offset Account"); and

WHEREAS, paragraph 17.A of the Offset Account Resolution provides that either State, through its Compact delegation, may terminate the Offset Account Resolution effective March 31 by giving written notice to the Administration by February 1 of the same Compact year; and

WHEREAS, the States have entered into a *Stipulation Re Offset Account in John Martin Reservoir* filed April 3, 1997, and approved by Special Master Arthur L. Littleworth (Appendix F.1 to the Decree) and have entered into agreements concerning the determination of credits, transit losses, and evaporation credits for water stored and released from the Offset Account; and

WHEREAS, both States derive benefits from the Offset Account; and

WHEREAS, the States entered an *Agreement Not To Terminate The Offset Account Resolution For A Specified Period And Related Matters* jointly approved on October 31, 2007, which is included as Appendix A.4 to the Decree; and

WHEREAS, the States have agreed that this Agreement shall replace the October 31, 2007 version of Appendix A.4 to the Decree.

Agreement

NOW, THEREFORE, during the term of this Agreement, the States agree as follows:

1. Right to Terminate the Offset Account Resolution.

Neither State will exercise its right to terminate the Offset Account Resolution pursuant to paragraph 17.A of the Offset Account Resolution unless this Agreement has terminated in accordance with paragraph 14 of this Agreement.

2. Use of the Offset Account.

The State and Division Engineers will require well users subject to Rules 3 and 4 of the Use Rules, except for well users subject to Rule 4.1.b, and ground water users with post-

1985 structures or uses located downstream of John Martin Reservoir that are included in the Lower Arkansas Water Management Association ("LAWMA") plan for augmentation decreed in Case No. 02CW181 ("LAWMA Decree") to deliver replacement water to the Offset Account to replace their depletions to usable Stateline flow, to the extent LAWMA can do so legally and physically, as a condition of approval of the annual replacement plans in accordance with the Use Rules; provided, however, that:

a. Delivery of replacement water to the Offset Account shall not be required if the Offset Account is full;

b. If the Offset Account is full, Colorado will be given credit for the consumptive portion of the direct-flow yield of the Highland Canal water rights as input to the H-I Model as a special water at John Martin Reservoir; and

c. Delivery of replacement water to the Offset Account shall not be required for sources that are not approved to be delivered to the Offset Account pursuant to the terms and conditions of a Water Court decree or when downstream sources cannot be stored by exchange in the Offset Account because no exchange potential exists to allow upstream storage. The Keesee and Highland water rights will be used primarily to replace depletions to usable Stateline flow, but may be used to replace depletions to senior surface water rights in Colorado and shall not be used to make physical deliveries to Kansas outside of the Offset Account except as provided in subparagraphs (a) and (b) of this paragraph. Accordingly, to the extent Keesee and/or Highland water rights are not needed to replace

depletions to usable Stateline flow, LAWMA shall not be required to deliver these water rights to the Offset Account. Should LAWMA receive Administration approval to allow water available under the Keesee water rights to be delivered to the John Martin Reservoir Permanent Pool ("Permanent Pool"), that portion of the Keesee water rights used to deliver water to the Permanent Pool would be exempt from this Agreement during times when such water is being delivered to the Permanent Pool under the Keesee water rights.

Replacement for depletions below the Buffalo Canal headgate during the months of April through October and replacement for depletions downstream of John Martin Reservoir during the months of November through March, to the extent not generated by direct-flow sources, or portions of direct-flow sources, specifically approved by the LAWMA Decree or replacements generated by the Sisson water right operated in a manner consistent with the Stubbs portion of the LAWMA Decree, shall be delivered to the Offset Account, subject to the conditions stated above.

3. Presumptive Stream Depletion Percentage to be Used through December 31, 2012.

The State and Division Engineers will determine stream depletions for plans required by Rules 3 and 4 of the Use Rules, except for diversions subject to Rule 4.1.b, using a presumptive stream depletion percentage ("PDF value") of thirty-nine percent (39%) of the amount diverted for supplemental flood and furrow irrigation ("supplemental irrigation") unless the use of a PDF value of 39% is prohibited by a final Water Court order. If the use of a PDF value of 39% for supplemental irrigation for such plans is prohibited by a final Water Court

order, (a) stream depletions shall be determined using the PDF value specified in the Use Rules for supplemental irrigation and (b) well users shall be required to deliver an additional amount of water to the Offset Account equal to the difference between a PDF value of 39% for supplemental irrigation and the PDF value specified in the Use Rules for supplemental irrigation. In addition, if a final Water Court order requires the use of a PDF value of more than 39% for diversions of ground water used for supplemental irrigation for some, but not all, diversions of ground water used for supplemental irrigation by users in any such plan, then the State and Division Engineers shall determine the PDF value for supplemental irrigation for all users in the plan using a weighted average and shall then require well users in the plan to deliver an additional amount of water to the Offset Account equal to the difference between a PDF value of 39% and the weighted average, if the weighted average for the PDF value is less than 39%.

4. Presumptive Stream Depletion Percentages to be Used after December 31, 2012.

Beginning in 2012, Colorado will conduct an annual evaluation ("Evaluation" and collectively "Evaluations") of the PDF values to be used to determine stream depletions for plans required by Rules 3 and 4 of the Use Rules, except for diversions subject to Rule 4.1.b. The Evaluations will be conducted according to the process described below. The annual Evaluations will occur after June 1, 2012, and after June 1st of each year thereafter. Colorado shall provide a written report and supporting documentation of the annual Evaluation to Kansas by September 1, 2012, and by September 1st of each year thereafter.

a. Evaluation Review Period: For Evaluations conducted before 2017, the Evaluation Review Period will be from 1997 through the year for which the H-I Model has most

recently been updated. For example, the Evaluation Review Period for the Evaluation in 2012 will be from 1997 through 2011.

For Evaluations conducted in 2017 and in years thereafter, the Evaluation Review Period will include the previous 20 years, consisting of the year for which the H-I Model has most recently been updated and the previous nineteen years. For example, the Evaluation Review Period for the Evaluation conducted in 2017 will be from 1997 through 2016. This will result in the evaluation of eleven ten-year Compact compliance periods.

b. Coordination between the States: Experts for the States will coordinate their review of the Colorado Evaluation and attempt to agree on the PDF values by December 1, 2012, and by December 1st of subsequent years for implementation in the next replacement plan year in the manner described in paragraph 5 below. If the experts are unable to agree on the PDF values, the interim PDF values will be the average of both States' PDF values as determined by the process provided for herein. Disagreement on the PDF values may be submitted to the Dispute Resolution Procedure as set out in Appendix H to the Decree.

c. Determination of PDF value(s) by Colorado Water Court: If a final Water Court order requires the use of a PDF value less than the PDF value determined in accordance with the Evaluation ("Evaluation PDF") to determine stream depletions for plans required by Rules 3 and 4 of the Use Rules, except for diversions subject to Rule 4.1.b., then the State and Division Engineers shall require well users subject to that order to deliver an additional amount of water to the Offset Account equal to the difference between the amount of replacement water required using the PDF value ordered by the Water Court and the amount required using the Evaluation PDF. If a final Water Court order requires the use of a PDF value greater than the

Evaluation PDF value to determine stream depletions for plans required by Rules 3 and 4 of the Use Rules, except for diversions subject to Rule 4.1.b., then no further adjustments will be made.

d. Use of Ground Water Accounting Model (GWAM): Unless the States agree otherwise, the Evaluations will be based on the replacement requirements that are determined by Colorado using the Ground Water Accounting Model (GWAM) that is used by the State and Division Engineers in their monthly administration of replacement plans. The GWAM is included as Exhibit 1 on the attached compact disk. The same monthly historical supplemental and sole source pumping that was used as an input for the H-I Model will be used as an input for the GWAM in order to determine the replacement requirements. The GWAM will use the same unit response functions for each ditch service area that are used in the H-I Model, including any subsequent changes to the unit response functions agreed to by the States or implemented pursuant to the procedures in Appendix B to the Decree.

A Replacement Input File for the H-I Model will be created using the monthly depletions determined using the GWAM for supplemental and sole source pumping using the various PDF values being examined. The replacement requirements determined using the GWAM will be modified for appropriate reaches and months using the Durbin usable flow method with the Larson coefficients for reaches below John Martin Reservoir.

e. Use of the H-I Model: A "no replacement" version of the update.dat file will be used. In the "no replacement" version of update.dat, all special waters will be removed, dried-up acreage will be redistributed to surface water only and supplemental acreage, all spill factors will be set to zero, transmountain deliveries will be removed, any unexchanged transmountain return flows from Fountain Creek will be removed, and fractions of consumable water placed in the Winter Water undistributed pool will be set to zero. The Evaluation is

intended to determine the sufficiency of replacement water required by the PDF values by substituting the Replacement Input File for actual replacement operations and transmountain return flows.

Using the Replacement Input File and the "no replacement" version of the update.dat file, runs of the H-I Model (including any changes to the H-I Model agreed to by the States or implemented pursuant to the procedures in Appendix B to the Decree) will be made for both the Historical run and the Compact run. Depletions or accretions to usable Stateline flows will be determined for each year in the Evaluation Review Period. Using these annual depletions or accretions to usable Stateline flows, a ten-year Compact compliance accounting will be computed for each ten-year period in the Evaluation Review Period. The ten-year accounting for each ten-year period in the Evaluation Review Period will not include any separate delivery credits from the Offset Account. This process will be repeated, adjusting only the supplement PDF value, unless otherwise agreed to by the States, until PDF values are determined that result in Compact compliance (i.e., no Shortfall) for each of the ten-year Compact compliance periods in the Evaluation Review Period. See Exhibit 2 attached hereto as hardcopy and included in the attached compact disk. Colorado will report these PDF values to Kansas in accordance with the first paragraph of this paragraph 4, together with the annual results for each year in the Evaluation Review Period.

5. Implementation of PDF values.

For the replacement plan year beginning in April 2013 and for each replacement plan year thereafter, the State and the Division Engineers will determine stream depletions for plans required by Rules 3 and 4 of the Use Rules, except for diversions subject to Rule 4.1.b,

using the PDF values determined by the Evaluation in the previous year as provided in this Agreement.

a. The State and Division Engineers will not use new PDF values lower than the PDF values provided in Rule 4.2 of the Use Rules (supplemental = 30%; sole source = 50%; sprinkler = 75%) to determine stream depletions .

b. Nothing in this Agreement prevents the State and Division Engineers from increasing the PDF values or requiring additional replacement water in excess of the amount necessary to replace stream depletions pursuant to this Agreement if the State and Division Engineers determine that such increases are required to prevent a Shortfall.

6. Dispute Resolution regarding Inflows or Credits to the Offset Account.

Unless the States agree otherwise, disputes between the States regarding inflows or credits to the Offset Account delivered pursuant to paragraph 4 of the Offset Account Resolution will be resolved in accordance with the Fast Track Issue Resolution Procedure in the Dispute Resolution Procedure set forth in Appendix H of the Decree.

7. Five-Year Review.

The review of the operations of the Offset Account Resolution and the Agreement Concerning the Offset Account in John Martin Reservoir for Colorado Pumping, Determination of Credits for Delivery of Water Released for Colorado Pumping, and Related Matters dated September 29, 2005, ("Offset Account Crediting Agreement") (Appendix F.2 to the Decree), as well as the provisions of the October 31, 2007 version of Appendix A.4, required by paragraph 5 of the October 31, 2007 version of Appendix A.4 and paragraph 11 of the Offset Account Crediting Agreement is hereby modified and replaced as follows: The States will conduct a review of the operations of the: (a) Offset Account Resolution; and (b) the Offset Account

Crediting Agreement beginning no later than September 30, 2010. The review by the States shall be completed and a joint report presented to the Administration at its December 2012 annual meeting. Notwithstanding anything in the Offset Account Crediting Agreement to the contrary, this review shall satisfy the requirements for the first five-year review required by paragraph 11 of the Offset Account Crediting Agreement. Thereafter, the five-year review required by paragraph 11 of the Offset Account Crediting Agreement shall be presented to the Administration every five years starting in 2017.

8. Negotiations on Procedures if the Offset Account does not Exist.

Not later than ninety days after the written notice of intent to terminate this Agreement is provided by either State, the States will commence work on an agreement as to how credit for direct deliveries of water to the Stateline for replacement of depletions to usable Stateline flow and credit to make up a Shortfall shall be determined if the Offset Account does not exist. If such an agreement is not completed within the three years of the notice of intent to terminate this Agreement, then each State shall submit a proposal to the other State as to how credit for such deliveries shall be determined if the Offset Account does not exist, and the procedures to determine such credits shall be resolved under the Dispute Resolution Procedure set forth in Appendix H of the Decree as a Non-Fast Track Issue. Nothing in this agreement prevents the States from reaching agreement on how to credit for direct deliveries of water to the Stateline for replacement of depletions to usable Stateline flow and credit to make up a Shortfall if the Offset Account does not exist.

9. Annual Reports to Kansas.

Colorado will prepare an annual calendar-year report summarizing the operation of replacement plans approved under Rule 14 of the Use Rules using the format of the draft

report included as Exhibit 3 on the attached compact disc, with any modifications agreed to by the States ("Annual Report"). Colorado will provide the Annual Report to Kansas by March 31st of the following year, beginning in 2010 for the 2009 calendar year.

10. Implementation of Rule 4.2 of the Use Rules.

The State and Division Engineers will implement procedures to increase the PDF value for diversions of ground water used as a supplemental supply for flood and furrow irrigation by well users who do not have a reasonably adequate surface supply for the acreage irrigated in accordance with Rule 4.2 of the Use Rules based on farm-unit interviews to determine if an adjustment of the PDF values for such diversions above the Evaluation PDF determined pursuant to this Agreement is indicated.

11. Implementation of Rule 6 of the Use Rules.

Rule 6 of the Use Rules limits the number of years that certain water rights which have not been decreed for augmentation use can be used as a source of augmentation water in a plan approved by the State and Division Engineers pursuant to the Use Rules. For such water rights, the State and Division Engineers will require that the well user or plan proponent file an application for a change of water right(s) approving the use of the water right for augmentation use if the water right has been included as a source of augmentation water in any plan approved pursuant to the Use Rules ("Rule 14 Plan") for a total of three years. For such water rights that have been included as a source of augmentation water in a Rule 14 Plan approved prior to the date of this Agreement, this requirement will be implemented as provided below in this paragraph. Thereafter, the State and Division Engineers will not approve such sources as augmentation water in a Rule 14 Plan where no decree has been obtained, except that, for a reasonable time after an application for a change of water right has been filed, the State and

Division Engineers may approve such sources as augmentation water in a Rule 14 Plan while such filed application is pending, provided that a reasonable time shall not exceed five years after the filing of such application unless the well user or plan proponent has demonstrated to the State and Division Engineers that the delay in obtaining a decree has been justifiable and that not being able to continue operating under a Rule 14 Plan until a decree is entered will cause undue hardship to the well user or plan proponent; and provided, further, that in no case shall such approval be for more than seven years after the filing of the application.

A well user or plan proponent may not avoid the above requirements and deadlines by substituting mutual ditch company shares used for augmentation in a prior Rule 14 plan with: (1) other shares in the same mutual ditch company that were used as part of the same farm unit, (2) other shares used to irrigate the same acres identified for dry-up or (3) other shares, in the same mutual ditch company, owned or controlled by the same owner or entity of the shares being substituted for, or shares that have been used to augment depletions from other wells in a Rule 14 Plan in three prior years.

To implement the provisions of this paragraph, the State and Division Engineers will notify well associations, either through the Plan Expectations Letter sent to the well associations in January each year or through other correspondence, that certain sources of augmentation water meeting the above criteria will be subject to this requirement and that an application for a change of water right must be filed with the Water Court no later than January 31, 2011, in order to be used in the 2011-2012 Rule 14 Plans or in any subsequent plan. Approval letters for 2010-2011 plans will also include a similar term and condition to enforce the requirement to apply to Water Court.

12. Implementation of Rule 12 of the Use Rules.

When a report of monthly ground water use is not received or is incorrectly or falsely reported by a well user or entity acting on behalf of well users, the Division Engineer will estimate or adjust the pumping amount and then update the pumping data when the correct meter reading is received. The State and Division Engineers will use their enforcement authority pursuant to Rule 12 of the Use Rules or section 37-92-503(6)(b), Colo.Rev.Stat., to minimize the need for such changes to the monthly pumping data supplied to Kansas.

13. Deadline for Nomination of Dry-Up Parcels.

The State and Division Engineers will implement procedures to require replacement plan proponents to select and nominate parcels for dry-up credit and provide other information required to comply with deadlines for nomination of dry-up parcels in accordance with Exhibit A to Appendix B.3 to the Decree to provide notice to Kansas of parcels that will be dried up and any parcels that will be irrigated by a sole source well, and will enforce those deadlines.

14. Termination of this Agreement.

After December 31, 2012, either State may terminate this Agreement by giving notice in writing to the other State of its intent to terminate this Agreement. Such notice shall be sent by registered mail addressed to the chief official of the other State charged with the administration of water rights, with a copy to the Attorney General of that State and a copy to the Administration. Such notice shall be effective on the date of mailing. In the event that either State provides such notice, this Agreement shall terminate five years after December 31 of the year such notice was given, unless the notice is rescinded. If this Agreement has terminated in

accordance with the preceding sentence, then either State may thereafter exercise its right to terminate the Offset Account Resolution in accordance with paragraph 17.A of the Offset Account Resolution, and the provisions of this Agreement shall be of no further force and effect.

15. By entering into this Agreement the States have accomplished the purpose of the Retained Jurisdiction. The States will take such further actions, if any, as may be necessary for the U.S. Supreme Court to relinquish the Retained Jurisdiction.

16. This Agreement replaces the October 31, 2007 version of Appendix A.4 to the Decree.

JOINTLY APPROVED AS OF June 26, 2009.

STATE OF COLORADO

David W. Robbins
Special Assistant Attorney General

STATE OF KANSAS

John B. Draper
Special Assistant Attorney General

Dick Wolfe
Colorado State Engineer

David W. Barfield
Kansas Chief Engineer

EXHIBITS

TO

AMENDED AGREEMENT REGARDING THE COLORADO USE RULES, PDF EVALUATION, IMPLEMENTATION PROCESSES, AND RELATED MATTERS, AND NOT TO TERMINATE THE OFFSET ACCOUNT RESOLUTION

As amended June 2009

1. Electronic version of the Ground Water Accounting Model (GWAM) (on attached compact disk).

2. Results of Evaluation of PDF Values, as Described in Paragraph 4.e (attached as hard copy and included on attached compact disk).

3. Draft Annual Report as Described in Paragraph 9 (on attached compact disk).

Exhibit 2
To Amended Appendix A.4
Dated June, 2009

Results of Evaluation of PDF Values, as Described in Paragraph 4.e.

A. Example of Insufficient PDF (i.e., Shortfall)

PDF = 38% supplemental / 50% sole source / 75% sole source sprinkler fails to produce results without depletions in one 10-year total in Evaluation Review Period

Year of Evaluation Review Period	Calendar Year	Usable Stateline Depletions (+) / Accretions (-) (acre-feet)	10-Year Period	10-year Sum of Usable Stateline Depletions (+) / Accretions (-) (accretions required) (acre-feet)
1	1997	-4,551		
2	1998	-269		
3	1999	-467		
4	2000	-189		
5	2001	163		
6	2002	32		
7	2003	1,868		
8	2004	276		
9	2005	-171		
10	2006	-331	1997 - 2006	-3,639
11	2007	-708	1998 - 2007	204
12	2008	____	1999 - 2008	____
13	2009	____	2000 - 2009	____
14	2010	____	2001 - 2010	____
15	2011	____	2002 - 2011	____
16	2012	____	2003 - 2012	____
17	2013	____	2004 - 2013	____
18	2014	____	2005 - 2014	____
19	2015	____	2006 - 2015	____
20	2016	____	2007 - 2016	____

Exhibit 2
To Amended Appendix A.4
Dated June, 2009

Results of Evaluation of PDF Values, as Described in Paragraph 4.e.

B. Example of Sufficient PDF (i.e., no Shortfall)

PDF = 39% supplemental / 50% sole source / 75% sole source sprinkler produces results without depletions in any 10-year total in Evaluation Review Period

Year of Review Period	Calendar Year	Usable Stateline Depletions (+) / Accretions (-)	10-Year Period	10-year Sum of Usable Stateline * Depletions (+) / Accretions (-) (accretions required)
1	1997	-4,743		
2	1998	-380		
3	1999	-549		
4	2000	-265		
5	2001	7		
6	2002	-189		
7	2003	1,735		
8	2004	-128		
9	2005	-289		
10	2006	-466	1997 - 2006	-5,268
11	2007	-791	1998 - 2007	-1,316
12	2008	____	1999 - 2008	____
13	2009	____	2000 - 2009	____
14	2010	____	2001 - 2010	____
15	2011	____	2002 - 2011	____
16	2012	____	2003 - 2012	____
17	2013	____	2004 - 2013	____
18	2014	____	2005 - 2014	____
19	2015	____	2006 - 2015	____
20	2016	____	2007 - 2016	____

Attachment 6 - Example spreadsheet for storage charge accounting (2009)

This page intentionally blank

OFFSET ACCOUNT
STORAGE CHARGE COMPUTATIONS FOR 2009

PLAN YEAR 2009 MONTH	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN (Non-Offset) A.F.	ACCOUNT TRANSFER-IN (Internal-Offset) A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
APRIL	7000.19	905.14	203.75		162.84			7946.24
MAY	7946.24	1158.21	19.62		289.75			8834.33
JUNE	8834.33	4208.09	39.96		371.20			12711.18
JULY	12711.18	1015.13	0.00		495.97		8685.49	4544.84
AUGUST	4544.84	1023.03			312.98			5254.89
SEPTEMBER	5254.89	662.17			249.72			5667.34
OCTOBER	5667.34	645.40			126.23			6186.51
NOVEMBER	6186.51							6186.51
DECEMBER	6186.51							6186.51
JANUARY	6186.51							6186.51
FEBRUARY	6186.51							6186.51
MARCH	6186.51							6186.51
TOTALS		9617.17	263.33	0.00	2008.69	0.00	8685.49	

Total Deliveries* = 10380.50 acre-feet
Storage Charge 0-10,000 af = 500.00 acre-feet
Storage Charge 10,001-20000 af = 19.03 acre-feet
Total Storage Charge for 2010 = 0.00 acre-feet

* Includes 500 af Storage Charge

This page intentionally blank

Attachment 7 - Example of initial notice letter (2011) and final delivery letter (2011)

This page intentionally blank

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES

John W. Hickenlooper
Governor

Mike King
Executive Director

Dick Wolfe, P.E.
Director/State Engineer

Steven J. Witte, P.E.
Division Engineer

March 31, 2011

Kevin Salter
Kansas Department of Agriculture (By E-Mail)

Dear Kevin,

The purpose of this letter is to provide you with initial information of a transfer of water to the Offset Account in John Martin Reservoir. The Lower Arkansas Water Management Association (LAWMA) has initiated actions to transfer **476.4 acre-feet** of fully consumable water to the Offset Account for the purpose of satisfying the Storage Charge prerequisite for using the Offset Account as provided for in paragraph 9 of the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping As Amended March 30, 1998** ("Resolution"). LAWMA delivered Highland Canal consumable water to the Offset Account in October of 2010 and transferred that consumable water into the Kansas Charge subaccount as pre-payment of the Offset Account Charge for 2011. As of 24:00 hours on March 30, 2011, the Kansas Charge subaccount balance was at 261.64 acre feet, including a storage charge balance paid for 2011 of 23.6 acre feet. The net amount of pre-paid 2011 Storage Charge water is therefore 23.6 acre-feet leaving **476.4 acre-feet** to be delivered at 24:00 hours on March 31, 2011 to fulfill the 500 acre-foot obligation to initiate storage in the Offset Account for 2011. A spreadsheet is attached showing the computations of storage charge and evaporation.

The Lower Arkansas Water Management Association (LAWMA) also initiated actions to transfer approximately **442.3 acre-feet** of fully consumable water to the Colorado Downstream Consumable Water subaccount of the Offset Account. The transfer will be made at 24:00 hours on March 31, 2011.

Using the procedures described in the **"AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF CREDITS FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND RELATED MATTERS",** Paragraph 6 and Attachment A, 1467.6 acre-feet of water will be transferred from LAWMA's **XY-Graham Article II, Keesee and Sission-Stubbs** accounts. The following distribution of the 1467.6 acre-feet will be made in the Offset Account.

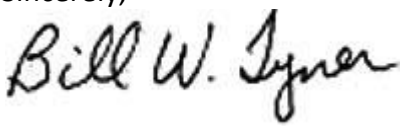
On March 31, 2011:	
Colorado Downstream Consumable Water Subaccount	442.3 acre-feet
Return Flow Subaccount	372.9 acre-feet
Return Flow Transit Loss Subaccount	38.3 acre-feet

Additionally on March 31, 2011, the following amounts representing the in-state return flow portion will be transferred to the Article II accounts of the various ditches:

Fort Bent Winter Stored Subaccount	14.7 acre-feet
Amity Winter Stored Subaccount	72.2 acre-feet
Lamar Winter Stored Subaccount	40.8 acre-feet
Buffalo Winter Stored Subaccount	10.1 acre-feet

I will provide you with a formal notification, which will have all of the details concerning the transfer into the Offset Account. If you have any questions in the meantime, please call me.

Sincerely,



Bill W. Tyner, P.E.
Assistant Division Engineer

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES

John W. Hickenlooper
Governor

Mike King
Executive Director

Dick Wolfe, P.E.
Director/State Engineer

Steven J. Witte, P.E.
Division Engineer

September 12, 2011

David Barfield
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283

Dear Mr. Barfield:

The purpose of this letter is to provide the notice required by paragraph 3 of the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping as Amended March 30, 1998** ("Resolution") of transfers of water to the Offset Account.

The Lower Arkansas Water Management Association (LAWMA) transferred **918.76 acre-feet** of fully consumable water to the Colorado Downstream Consumable subaccount of the Offset Account on March 31, 2011. A total of **1467.75 acre-feet** of water was transferred from LAWMA's X-Y, Sisson-Stubbs and Keesee Article II accounts. 476.4 acre-feet was placed in the Kansas Charge subaccount to fulfill the 500 acre-foot storage charge for 2011 (23.6 acre-feet remained from LAWMA's Highland Canal deliveries to the Offset Account in late 2010 as pre-payment of the storage charge). An additional 442.36 acre-feet was delivered to the Colorado Downstream Consumable subaccount, 372.94 acre-feet was placed in the Return Flow subaccount, 38.33 acre-feet was placed in the Return Flow Transit Loss subaccount of the Offset Account and 137.73 acre-feet was transferred to the Fort Bent, Amity, Lamar and Buffalo Section II accounts representing in-state return flow.

A copy of the accounting spreadsheet for John Martin Reservoir for March 31, 2011 is attached at Enclosure 1. This accounting shows the transfer of water into the subaccounts referenced above.

Using the procedures described in the **"AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF CREDITS FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND RELATED MATTERS",** Paragraph 6 and Attachment A, **1467.75 acre-feet** of water was transferred from LAWMA's XY-Graham, Sisson-Stubbs and Keesee Article II accounts. The following distribution of the **1467.75** acre-feet was made.

The following information is provided in accordance with paragraph 3 of the Resolution.

Source of Water Transferred: LAWMA XY-Graham, Sisson-Stubbs and Keesee Article II Accounts.

Time Associated With Transfer: 2400 hours, March 31, 2011

Extent Water is Fully Consumable:

LAWMA XY-Graham Article II Account water is 60.9% consumable.
LAWMA Sisson-Stubbs Article Account water is 64.1% consumable.
LAWMA Keesee Article II Account water is 64.3% consumable.

Stateline Return Flow Information

Quantity: 411.26 acre-feet

Timing: Simulated per Attachment A of the **"AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF CREDITS FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND RELATED MATTERS".**

Location: Return Flow subaccount.

In-State Return Flow Information

Location	Quantity
Buffalo Article II Account	10.08 af
Fort Bent Article II Account	14.73 af
Amity Article II Account	72.17 af
Lamar Article II Account	40.75 af

The Lower Arkansas Water Management Association (LAWMA) transferred **71.21 acre-feet** of fully consumable water to the Colorado Downstream Consumable subaccount of the Offset Account on April 18, 2011. A total of **114.39 acre-feet** of water was transferred from LAWMA's X-Y, Sisson-Stubbs and Keesee Article II accounts. 71.21 acre-feet was placed in the Colorado Downstream Consumable subaccount, 31.14 acre-feet was placed in the Return Flow subaccount, 3.13 acre-feet was placed in the Return Flow Transit Loss subaccount of the Offset Account and 8.91 acre-feet was transferred to the Fort Bent, Amity, Lamar and Buffalo Section II accounts representing in-state return flow.

A copy of the accounting spreadsheet for John Martin Reservoir for April 18, 2011 is attached at Enclosure 2. This accounting shows the transfer of water into the subaccounts referenced above.

Using the procedures described in the **"AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF CREDITS FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND RELATED MATTERS",** Paragraph 6 and Attachment A, **114.39 acre-feet** of water was transferred from LAWMA's XY-Graham, Sisson-Stubbs and Keesee Article II accounts. The following distribution of the **114.39** acre-feet was made.

The following information is provided in accordance with paragraph 3 of the Resolution.

Source of Water Transferred: LAWMA XY-Graham, Sisson-Stubbs and Keesee Article II Accounts.

Time Associated With Transfer: 2400 hours, April 18, 2011

Extent Water is Fully Consumable:

LAWMA XY-Graham Article II Account water is 60.9% consumable.
LAWMA Sisson-Stubbs Article II Account water is 64.1% consumable
LAWMA Keesee Article II Account water is 64.3% consumable.

Stateline Return Flow Information

Quantity: 34.27 acre-feet

Timing: Simulated per Attachment A of the **"AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF**

CREDITS FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND RELATED MATTERS".

Location: Return Flow subaccount.

In-State Return Flow Information

Location	Quantity
Buffalo Article II Account	0.95 af
Fort Bent Article II Account	0.92 af
Amity Article II Account	4.50 af
Lamar Article II Account	2.54 af

Please contact me if you have any questions or require additional information.

Sincerely,

Steven J. Witte
Division Engineer
Colorado Division of Water Resources

2 Enclosures

cc: Kevin Salter Dale Book Dick Wolfe
Eve McDonald Don Higbee Randy Hendrix Bill Tyner

Enclosure 1

John Martin Offset Accounting for March 31, 2011

Acct	Date	PrevBal.	Inflow	TIn	TOut	Rel.	Evap	Balance
Storage								
City								
City/LAMAR	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation								
Summer Compact	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Winter Compact	3/31/2011	21,608.31	127.00	0.00	0.00	0.00	16.18	21,719.13
Other Water								
Winter Water	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pool								
Permanent Pool	3/31/2011	9,643.66	0.00	0.00	0.00	0.00	6.69	9,636.97
Flood Pool	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage	**Totals:**	**31,251.97**	**127.00**	**0.00**	**0.00**	**0.00**	**22.87**	**31,356.10**
Agreement								
InterState								
Kansas Kansas	3/31/2011	1,338.25	0.00	0.00	0.00	0.00	1.08	1,337.17
Transit Loss	3/31/2011	1,950.27	0.00	0.00	0.00	0.00	1.26	1,949.01
Article III								
Amity	3/31/2011	10,302.10	0.00	0.00	0.00	0.00	8.28	10,293.82
Ft. Lyon	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Animas	3/31/2011	-63.64	0.00	0.00	0.00	0.00	0.00	-63.64
CO Art II								
Prev Winter Stored Keesee	3/31/2011	420.18	0.00	0.00	419.87	0.00	0.31	0.00
Prev Winter Stored Ft Bent	3/31/2011	25.99	0.00	0.00	0.00	0.00	0.02	25.97
Prev Winter Stored Amity	3/31/2011	42.29	0.00	0.00	0.00	0.00	0.03	42.26
Prev Winter Stored Lamar	3/31/2011	333.76	0.00	0.00	0.00	0.00	0.25	333.51
Prev Winter Stored Hyde	3/31/2011	237.43	0.00	0.00	0.00	0.00	0.18	237.25
Prev Winter Stored Manvel	3/31/2011	438.26	0.00	0.00	0.00	0.00	0.32	437.94
Prev Winter Stored X-Y	3/31/2011	563.07	0.00	0.00	562.65	0.00	0.42	0.00
Prev Winter Stored Buffalo	3/31/2011	1,569.87	0.00	0.00	0.00	0.00	1.18	1,568.69
Prev Winter Stored Sisson	3/31/2011	156.89	0.00	0.00	156.77	0.00	0.12	0.00
Prev Winter Stored Stubbs	3/31/2011	62.54	0.00	0.00	62.49	0.00	0.05	0.00
CO Art II								
Crnt Winter Stored Keesee	3/31/2011	43.42	0.00	0.00	0.00	0.00	0.05	43.37
Crnt Winter Stored Ft Bent	3/31/2011	306.14	0.00	14.73	0.00	0.00	0.23	320.64
Crnt Winter Stored Amity	3/31/2011	0.00	0.00	72.17	0.00	0.00	0.00	72.17
Crnt Winter Stored Lamar	3/31/2011	612.41	0.00	40.75	0.00	0.00	0.46	652.70
Crnt Winter Stored Hyde	3/31/2011	40.15	0.00	0.00	0.00	0.00	0.03	40.12
Crnt Winter Stored Manvel	3/31/2011	-73.43	0.00	0.00	0.00	0.00	0.06	-73.49
Crnt Winter Stored X-Y	3/31/2011	716.99	0.00	0.00	0.00	0.00	0.12	716.87
Crnt Winter Stored Buffalo	3/31/2011	420.28	0.00	10.08	0.00	0.00	0.20	430.16
Crnt Winter Stored Sisson	3/31/2011	65.48	0.00	0.00	0.00	0.00	0.02	65.46
Crnt Winter Stored Stubbs	3/31/2011	-11.79	0.00	0.00	0.00	0.00	0.01	-11.80
CO Art II								
Summer Stored Keesee	3/31/2011	71.12	0.00	0.00	71.07	0.00	0.05	0.00
Summer Stored Ft Bent	3/31/2011	306.14	0.00	0.00	0.00	0.00	0.23	305.91
Summer Stored Amity	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Lamar	3/31/2011	612.41	0.00	0.00	0.00	0.00	0.46	611.95
Summer Stored Hyde	3/31/2011	535.36	0.00	0.00	0.00	0.00	0.40	534.96
Summer Stored Manvel	3/31/2011	1,433.81	0.00	0.00	0.00	0.00	1.08	1,432.73
Summer Stored X-Y	3/31/2011	157.75	0.00	0.00	157.63	0.00	0.12	0.00
Summer Stored Buffalo	3/31/2011	3,340.87	0.00	0.00	0.00	0.00	2.50	3,338.37
Summer Stored Sisson	3/31/2011	99.14	0.00	0.00	26.85	0.00	0.02	72.27
Summer Stored Stubbs	3/31/2011	4.42	0.00	0.00	10.43	0.00	0.01	-6.01
Agreement	**Totals:**	**26,057.91**	**0.00**	**137.73**	**1,467.75**	**0.00**	**19.55**	**24,708.35**
OffsetAccount								
Consumable								
Upstream	3/31/2011	449.58	0.00	0.00	0.00	0.00	0.00	449.58
Downstream	3/31/2011	8,451.31	0.00	442.36	0.00	0.00	5.23	8,888.44
Kansas	3/31/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas Charge	3/31/2011	293.31	0.00	476.40	0.00	0.00	0.20	769.51
ReturnFlow								
Return Flow	3/31/2011	132.90	0.00	372.94	0.00	0.00	0.10	505.74
RF Transit Loss	3/31/2011	62.54	0.00	38.33	0.00	0.00	0.05	100.82
Keesee Winter	3/31/2011	100.07	0.00	0.00	0.00	0.00	0.00	100.07
OffsetAccount	**Totals:**	**9,489.72**	**0.00**	**1,330.01**	**0.00**	**0.00**	**5.58**	**10,814.15**
Reservoir	**Totals:**	**66,799.60**	**127.00**	**1,467.75**	**1,467.75**	**0.00**	**48.00**	**66,878.60**

Colorado Article II Summary								
Keesee	3/31/2011	534.72	0.00	0.00	490.94	0.00	0.41	43.37
Ft Bent	3/31/2011	638.27	0.00	14.73	0.00	0.00	0.48	652.52
Amity	3/31/2011	42.29	0.00	72.17	0.00	0.00	0.03	114.43
Lamar	3/31/2011	1,558.58	0.00	40.75	0.00	0.00	1.17	1,598.16
Hyde	3/31/2011	812.93	0.00	0.00	0.00	0.00	0.61	812.32
Manvel	3/31/2011	1,798.64	0.00	0.00	0.00	0.00	1.46	1,797.18
X-Y	3/31/2011	1,437.80	0.00	0.00	720.27	0.00	0.66	716.87
Buffalo	3/31/2011	5,331.02	0.00	10.08	0.00	0.00	3.88	5,337.21
Sisson	3/31/2011	321.50	0.00	0.00	183.62	0.00	0.16	137.73
Stubbs	3/31/2011	55.17	0.00	0.00	72.91	0.00	0.07	-17.81
Colorado Article II	**Totals:**	**12,530.93**	**0.00**	**137.73**	**1,467.75**	**0.00**	**8.93**	**11,191.99**

Enclosure 2

John Martin Offset Accounting for April 18, 2011

Acct	Date	PrevBal.	Inflow	TIn	TOut	Rel.	Evap	Balance
Storage								
City								
City/LAMAR	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation								
Summer Compact	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Winter Compact	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Water								
Winter Water	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pool								
Permanent Pool	4/18/2011	9,445.02	0.00	0.00	0.00	0.00	14.02	9,431.00
Flood Pool	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage	**Totals:**	**9,445.02**	**0.00**	**0.00**	**0.00**	**0.00**	**14.02**	**9,431.00**
Agreement								
InterState								
Kansas Kansas	4/18/2011	10,694.88	0.00	0.00	0.00	0.00	17.36	10,677.52
Transit Loss	4/18/2011	1,912.85	0.00	0.00	0.00	0.00	2.64	1,910.21
Article III								
Amity	4/18/2011	10,056.20	0.00	0.00	0.00	0.00	17.36	10,038.84
Ft. Lyon	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Animas	4/18/2011	-63.64	0.00	0.00	0.00	0.00	0.00	-63.64
CO Art II								
Prev Winter Stored Keesee	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Ft Bent	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Amity	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Lamar	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Hyde	4/18/2011	232.13	0.00	0.00	0.00	0.00	0.37	231.76
Prev Winter Stored Manvel	4/18/2011	428.50	0.00	0.00	0.00	0.00	0.68	427.82
Prev Winter Stored X-Y	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Buffalo	4/18/2011	1,534.91	0.00	0.00	0.00	0.00	2.47	1,532.44
Prev Winter Stored Sisson	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Stubbs	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO Art II								
Crnt Winter Stored Keesee	4/18/2011	335.10	0.00	0.00	0.00	0.00	0.58	334.52
Crnt Winter Stored Ft Bent	4/18/2011	1,431.19	0.00	0.92	0.00	63.87	2.30	1,365.94
Crnt Winter Stored Amity	4/18/2011	4,547.68	0.00	4.50	0.00	176.34	7.31	4,368.53
Crnt Winter Stored Lamar	4/18/2011	1,670.50	0.00	2.54	0.00	105.36	2.69	1,564.99
Crnt Winter Stored Hyde	4/18/2011	205.02	0.00	0.00	0.00	0.00	0.33	204.69
Crnt Winter Stored Manvel	4/18/2011	230.91	0.00	0.00	0.00	0.00	0.60	230.31
Crnt Winter Stored X-Y	4/18/2011	1,363.75	0.00	0.00	0.00	0.00	1.29	1,362.46
Crnt Winter Stored Buffalo	4/18/2011	1,508.10	0.00	0.95	0.00	0.00	2.17	1,506.88
Crnt Winter Stored Sisson	4/18/2011	174.16	0.00	0.00	0.00	0.00	0.22	173.94
Crnt Winter Stored Stubbs	4/18/2011	31.70	0.00	0.00	0.00	0.00	0.09	31.61
CO Art II								
Summer Stored Keesee	4/18/2011	30.64	0.00	0.00	30.59	0.00	0.05	0.00
Summer Stored Ft Bent	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Amity	4/18/2011	178.82	0.00	0.00	0.00	178.53	0.29	0.00
Summer Stored Lamar	4/18/2011	6.32	0.00	0.00	0.00	6.31	0.01	0.00
Summer Stored Hyde	4/18/2011	503.02	0.00	0.00	0.00	13.97	0.81	488.24
Summer Stored Manvel	4/18/2011	1,433.90	0.00	0.00	0.00	0.00	2.30	1,431.60
Summer Stored X-Y	4/18/2011	67.94	0.00	0.00	67.83	0.00	0.11	0.00
Summer Stored Buffalo	4/18/2011	3,051.87	0.00	0.00	0.00	53.40	4.91	2,993.56
Summer Stored Sisson	4/18/2011	83.69	0.00	0.00	11.40	0.00	0.02	72.27
Summer Stored Stubbs	4/18/2011	-1.44	0.00	0.00	4.56	0.00	0.01	-6.01
Agreement	**Totals:**	**41,648.69**	**0.00**	**8.91**	**114.39**	**597.78**	**66.97**	**40,878.47**
OffsetAccount								
Consumable								
Upstream	4/18/2011	449.58	0.00	0.00	0.00	0.00	0.00	449.58
Downstream	4/18/2011	8,865.69	11.61	71.21	0.00	0.00	11.89	8,936.62
Kansas	4/18/2011	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas Charge	4/18/2011	753.62	0.00	0.00	0.00	0.00	1.16	752.46
ReturnFlow								
Return Flow	4/18/2011	494.87	0.00	31.14	0.00	0.00	0.80	525.21
RF Transit Loss	4/18/2011	98.66	0.00	3.13	0.00	0.00	0.16	101.63
Keesee Winter	4/18/2011	100.07	0.00	0.00	0.00	0.00	0.00	100.07
OffsetAccount	**Totals:**	**10,762.48**	**11.61**	**105.48**	**0.00**	**0.00**	**14.01**	**10,865.56**
Reservoir	**Totals:**	**61,856.20**	**11.61**	**114.39**	**114.39**	**597.78**	**95.00**	**61,175.03**

Colorado Article II Summary								
Keesee	4/18/2011	365.74	0.00	0.00	30.59	0.00	0.63	334.52
Ft Bent	4/18/2011	1,431.19	0.00	0.92	0.00	63.87	2.30	1,365.94
Amity	4/18/2011	4,726.50	0.00	4.50	0.00	354.87	7.60	4,368.53
Lamar	4/18/2011	1,676.82	0.00	2.54	0.00	111.67	2.70	1,564.99
Hyde	4/18/2011	940.16	0.00	0.00	0.00	13.97	1.51	924.68
Manvel	4/18/2011	2,093.31	0.00	0.00	0.00	0.00	3.58	2,089.73
X-Y	4/18/2011	1,431.69	0.00	0.00	67.83	0.00	1.40	1,362.46
Buffalo	4/18/2011	6,094.88	0.00	0.95	0.00	53.40	9.55	6,032.88
Sisson	4/18/2011	257.85	0.00	0.00	11.40	0.00	0.24	246.20
Stubbs	4/18/2011	30.26	0.00	0.00	4.56	0.00	0.10	25.59
Colorado Article II	**Totals:**	**19,048.40**	**0.00**	**8.91**	**114.39**	**597.78**	**29.61**	**18,315.54**

This page intentionally blank

Attachment 8 - Example of Colorado monthly letter reports to Kansas (May 2011)

This page intentionally blank

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES

John W. Hickenlooper
Governor

Mike King
Executive Director

Dick Wolfe, P.E.
Director/State Engineer

Steven J. Witte, P.E.
Division Engineer

July 8, 2011

Mr. David Barfield
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283

Ms. Stephanie Gonzales
Recording Secretary
Arkansas River Compact Administration
P.O. Box 1106
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for May 2011

Dear Mr. Barfield and Ms. Gonzales:

The purpose of this letter is to provide the monthly report required by paragraph 12 of the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping as Amended March 30, 1998** ("Resolution"). This letter reports the monthly pumping in excess of Colorado's pre-Compact entitlement, Colorado's monthly accounting of Compact compliance, and the status of water delivered to the Offset Account, all during the month of May, 2011.

Table 1 shows the amount of pumping during the month of May 2011 by irrigation wells pumping from the Valley Fill Aquifer and surficial aquifers along the Arkansas River between Pueblo and the Stateline, as well as the corresponding wellhead depletions, by user group. The wellhead depletions were computed using the presumptive stream depletions in Rule 4.2 of the **AMENDED RULES AND REGULATIONS GOVERNING THE DIVERSION AND USE OF TRIBUTARY GROUND WATER IN THE ARKANSAS RIVER BASIN, COLORADO** ("Rules") approved in Case No. 95CW211.

Table 2 shows the wellhead depletions due to pumping by irrigation wells in the user groups below John Martin Reservoir that are in excess of the pre-Compact entitlements.

Since the depletions caused by pumping above John Martin Reservoir were fully replaced, and that accounting has been provided to Kansas, the accounting in this report shows only remaining depletions caused by irrigation pumping in excess of the pre-Compact entitlements for those river reaches where no replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

These stream depletions were computed using the wellhead depletions shown in Table 2 with the Ground Water Accounting Model. Please note that in Reaches 11, 12, and 13, replacements to senior surface water rights in Colorado replaced 100% of the stream depletions caused by pumping affecting those reaches since there was a call by a Colorado surface water right in those reaches during all of the days in May. Also note that in Reaches 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 100% of the

stream depletions caused by pumping affecting those reaches since there was a call by a Colorado surface water right in those reaches during all of the days in May.

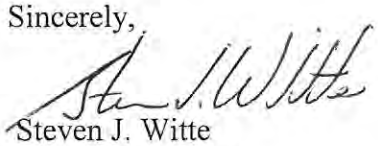
The remaining depletions shown in Table 3 are the estimated stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements remaining after replacements were made to senior surface water rights in Colorado. Table 3 also shows the estimated depletions to usable Stateline flow, which were calculated using the assumptions in paragraph 5.B of the Resolution, and the replacements to Stateline flows, which were made during the month.

A delivery of water to the Offset Account continued during the month of May 2011 by LAWMA using consumptive use credits from their ownership in the Highland Canal and Keesee Ditch. The delivery netted 413.68 acre-feet of fully consumable water into the Offset Account during May 2011.

As of May 31, 2011, a total of 8584.80 acre-feet was stored in the Offset Account. The accounting spreadsheet for the Offset Account for the month of May is attached at Enclosure 1.

Please contact me if you have any questions or require additional information.

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc:

Kevin Salter	Robin Jennison	John Draper	Randy Hayzlett
Dale Book	David A. Brenn	Eve McDonald	Dick Wolfe
Jennifer Gimbel	Randy Hendrix	Colin Thompson	
Matt Heimerich	Dale Straw	Bill Tyner	

TABLE 1
Pumping By Rule 3 Irrigation Wells
May 2011

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	BESSEMER	1698.25	767.27
2	BOOTH ORCHARD	55.18	37.14
3	EXCELSIOR	377.63	287.97
4	COLLIER	10.26	4.00
5	COLORADO	510.72	362.97
6	ROCKY FORD HIGHLINE	1059.00	422.01
7	OXFORD	1067.78	584.17
8	OTERO	54.43	22.72
9	CATLIN	1919.39	1067.65
10	FORT LYON US	1947.32	932.89
11	ROCKY FORD	233.52	210.47
12	HOLBROOK	434.30	257.20
13	LAS ANIMAS CONSOLIDATED	214.63	104.33
14	BALDWIN-STUBBS	432.17	245.90
15	FORT BENT	182.46	111.01
16	KEESE	0.00	0.00
17	AMITY	1109.09	589.68
18	LAMAR/MANVEL	872.84	441.49
19	HYDE	39.51	19.12
20	FORT LYON DS	858.46	435.81
21	XY GRAHAM	1576.42	861.14
22	BUFFALO	156.47	69.55
23	SISSON	243.04	206.57
24	STATELINE SOLE SOURCE	1676.85	1214.80
601	LAWMA A.P.D.	0.00	0.00
602	LAWMA A.P.D.	41.94	31.46
	Totals	**16771.66**	**9287.32**

TABLE 2
Wellhead Depletions from Irrigation Wells below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
May 2011

USER NUMBER

15	16	17	18	19	20	21	22	23	24	Total
76.79	0.00	569.54	441.49	8.03	412.88	321.99	69.55	108.35	1190.99	3199.61

TABLE 3
Remaining Depletions to Usable Stateline Flow (Acre-Feet)
May 2011

REACH NUMBER		11	12	13	14	15	16	17	18	21	Sum	
Balance Forward from Apr 2011		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	
Remaining Depletion		30.47	61.31	273.90	194.78	142.08	163.80	307.11	834.20	15.79	2023.44	
Depletion to Usable SL Flow		0.00	0.00	0.00	0.00	0.00	0.00	251.53	683.21	12.93	947.67	
Replacements	Carry Forward Credit											Credit to Next Month
FRY-ARK Return Flows	0.00	0.00	0.00	0.00	0.00						0.00	0.00
PBWW TM & AG Return Flows	0.00	0.00	0.00	0.00	0.00						0.00	0.00
CO Beef - Lamar Center Farm	0.00				0.00						0.00	0.00
DOW - Lamar Center Farm	0.00					0.00					0.00	0.00
LAWMA-Ft Bent Ditch Shares	0.00				0.00						0.00	0.00
LAWMA-Stubbs Direct Flow	0.00								0.00		0.00	0.00
LAWMA-XY Direct Flow	0.00					0.00					0.00	0.00
LAWMA-Manvel Direct Flow	0.00					0.00					0.00	0.00
Offset Account Release Credit*	17158.04									947.67	947.67	16210.37
Offset Account Transit Loss	0.00										0.00	0.00
Offset Account Water	0.00	0.00									0.00	0.00
Total Replacements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.00	947.67	947.67	
Depletions Carried Forward	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

* Note that 0 acre-feet of the Offset Account release credit was applied to depletions from LAWMA's decreed augmentation plan and SWSP's as part of the Offset Account Release Credit total replacement.

Enclosure 1

John Martin Offset Accounting for May 2011

OffsetAccount-Totals

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						8952.68
1	23.37	0.00	0.00	0.00	14.01	8962.04
2	22.15	0.00	0.00	0.00	2.71	8981.48
3	20.62	0.00	0.00	0.00	15.41	8986.69
4	13.75	0.00	0.00	0.00	15.96	8984.48
5	13.75	0.00	0.00	0.00	16.28	8981.95
6	2.04	0.00	0.00	0.00	22.34	8961.65
7	2.33	0.00	0.00	0.00	22.91	8941.07
8	3.02	0.00	0.00	0.00	22.92	8921.17
9	2.31	0.00	0.00	0.00	28.19	8895.29
10	1.72	0.00	0.00	0.00	27.19	8869.82
11	1.25	0.00	0.00	0.00	18.65	8852.42
12	0.00	0.00	0.00	0.00	17.17	8835.25
13	0.00	0.00	0.00	0.00	8.52	8826.73
14	0.00	0.00	0.00	0.00	8.55	8818.18
15	0.00	0.00	0.00	0.00	9.05	8809.13
16	20.62	0.00	0.00	0.00	27.47	8802.28
17	20.62	0.00	0.00	0.00	12.41	8810.49
18	20.62	0.00	0.00	0.00	15.07	8816.04
19	16.05	0.00	0.00	0.00	11.57	8820.52
20	0.23	0.00	0.00	0.00	16.08	8804.67
21	0.23	0.00	0.00	0.00	16.08	8788.82
22	0.20	0.00	0.00	0.00	16.33	8772.69
23	0.19	0.00	0.00	0.00	14.20	8758.68
24	0.23	0.00	0.00	0.00	23.43	8735.48
25	0.22	0.00	0.00	0.00	12.55	8723.15
26	0.19	0.00	0.00	0.00	15.85	8707.49
27	2.93	0.00	0.00	0.00	26.99	8683.43
28	3.04	0.00	0.00	0.00	27.70	8658.77
29	1.26	0.00	0.00	0.00	27.48	8632.55
30	0.47	0.00	0.00	0.00	27.48	8605.54
31	0.34	0.00	0.00	0.00	21.08	8584.80
	193.75	0.00	0.00	0.00	561.63	

OffsetAccount-Consumable Upstream

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						0.00
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	

OffsetAccount-Consumable Kansas

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						0.00
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	

OffsetAccount-Consumable Totals

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						8333.95
1	23.37	0.00	0.00	0.00	13.04	8344.28
2	22.15	0.00	0.00	0.00	2.52	8363.91
3	20.62	0.00	0.00	0.00	14.35	8370.18
4	13.75	0.00	0.00	0.00	14.86	8369.07
5	13.75	0.00	0.00	0.00	15.17	8367.65
6	2.04	0.00	0.00	0.00	20.81	8348.88
7	2.33	0.00	0.00	0.00	21.35	8329.86
8	3.02	0.00	0.00	0.00	21.36	8311.52
9	2.31	0.00	0.00	0.00	26.27	8287.56
10	1.72	0.00	0.00	0.00	25.33	8263.95
11	1.25	0.00	0.00	0.00	17.37	8247.83
12	0.00	0.00	0.00	0.00	16.00	8231.83
13	0.00	0.00	0.00	0.00	7.94	8223.89
14	0.00	0.00	0.00	0.00	7.97	8215.92
15	0.00	0.00	0.00	0.00	8.43	8207.49
16	20.62	0.00	0.00	0.00	25.60	8202.51
17	20.62	0.00	0.00	0.00	11.56	8211.57
18	20.62	0.00	0.00	0.00	14.04	8218.15
19	16.05	0.00	0.00	0.00	10.78	8223.42
20	0.23	0.00	0.00	0.00	14.99	8208.66
21	0.23	0.00	0.00	0.00	14.99	8193.90
22	0.20	0.00	0.00	0.00	15.22	8178.88
23	0.19	0.00	0.00	0.00	13.23	8165.84
24	0.23	0.00	0.00	0.00	21.84	8144.23
25	0.22	0.00	0.00	0.00	11.70	8132.75
26	0.19	0.00	0.00	0.00	14.78	8118.16
27	2.93	0.00	0.00	0.00	25.16	8095.93
28	3.04	0.00	0.00	0.00	25.83	8073.14
29	1.26	0.00	0.00	0.00	25.62	8048.78
30	0.47	0.00	0.00	0.00	25.62	8023.63
31	0.34	0.00	0.00	0.00	19.66	8004.31
	193.75	0.00	0.00	0.00	523.39	

OffsetAccount-Consumable Downstream

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						7622.47
1	23.37	0.00	0.00	0.00	11.93	7633.91
2	22.15	0.00	0.00	0.00	2.31	7653.75
3	20.62	0.00	0.00	0.00	13.13	7661.24
4	13.75	0.00	0.00	0.00	13.60	7661.39
5	13.75	0.00	0.00	0.00	13.89	7661.25
6	2.04	0.00	0.00	0.00	19.05	7644.24
7	2.33	0.00	0.00	0.00	19.55	7627.02
8	3.02	0.00	0.00	0.00	19.56	7610.48
9	2.31	0.00	0.00	0.00	24.05	7588.74
10	1.72	0.00	0.00	0.00	23.19	7567.27
11	1.25	0.00	0.00	0.00	15.91	7552.61
12	0.00	0.00	0.00	0.00	14.65	7537.96
13	0.00	0.00	0.00	0.00	7.27	7530.69
14	0.00	0.00	0.00	0.00	7.30	7523.39
15	0.00	0.00	0.00	0.00	7.72	7515.67
16	20.62	0.00	0.00	0.00	23.44	7512.85
17	20.62	0.00	0.00	0.00	10.59	7522.88
18	20.62	0.00	0.00	0.00	12.86	7530.64
19	16.05	0.00	0.00	0.00	9.88	7536.81
20	0.23	0.00	0.00	0.00	13.74	7523.30
21	0.23	0.00	0.00	0.00	13.74	7509.79
22	0.20	0.00	0.00	0.00	13.95	7496.04
23	0.19	0.00	0.00	0.00	12.13	7484.10
24	0.23	0.00	0.00	0.00	20.02	7464.31
25	0.22	0.00	0.00	0.00	10.72	7453.81
26	0.19	0.00	0.00	0.00	13.55	7440.45
27	2.93	0.00	0.00	0.00	23.06	7420.32
28	3.04	0.00	0.00	0.00	23.67	7399.69
29	1.26	0.00	0.00	0.00	23.48	7377.47
30	0.47	0.00	0.00	0.00	23.48	7354.46
31	0.34	0.00	0.00	0.00	18.02	7336.78
	193.75	0.00	0.00	0.00	479.44	

OffsetAccount-Consumable Kansas Charge

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						711.49
1	0.00	0.00	0.00	0.00	1.11	710.38
2	0.00	0.00	0.00	0.00	0.21	710.17
3	0.00	0.00	0.00	0.00	1.22	708.95
4	0.00	0.00	0.00	0.00	1.26	707.69
5	0.00	0.00	0.00	0.00	1.28	706.41
6	0.00	0.00	0.00	0.00	1.76	704.65
7	0.00	0.00	0.00	0.00	1.80	702.85
8	0.00	0.00	0.00	0.00	1.80	701.05
9	0.00	0.00	0.00	0.00	2.22	698.83
10	0.00	0.00	0.00	0.00	2.14	696.69
11	0.00	0.00	0.00	0.00	1.46	695.23
12	0.00	0.00	0.00	0.00	1.35	693.88
13	0.00	0.00	0.00	0.00	0.67	693.21
14	0.00	0.00	0.00	0.00	0.67	692.54
15	0.00	0.00	0.00	0.00	0.71	691.83
16	0.00	0.00	0.00	0.00	2.16	689.67
17	0.00	0.00	0.00	0.00	0.97	688.70
18	0.00	0.00	0.00	0.00	1.18	687.52
19	0.00	0.00	0.00	0.00	0.90	686.62
20	0.00	0.00	0.00	0.00	1.25	685.37
21	0.00	0.00	0.00	0.00	1.25	684.12
22	0.00	0.00	0.00	0.00	1.27	682.85
23	0.00	0.00	0.00	0.00	1.10	681.75
24	0.00	0.00	0.00	0.00	1.82	679.93
25	0.00	0.00	0.00	0.00	0.98	678.95
26	0.00	0.00	0.00	0.00	1.23	677.72
27	0.00	0.00	0.00	0.00	2.10	675.62
28	0.00	0.00	0.00	0.00	2.16	673.46
29	0.00	0.00	0.00	0.00	2.14	671.32
30	0.00	0.00	0.00	0.00	2.14	669.18
31	0.00	0.00	0.00	0.00	1.64	667.54
	0.00	0.00	0.00	0.00	43.95	

OffsetAccount-ReturnFlow
Totals

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						618.73
1	0.00	0.00	0.00	0.00	0.97	617.76
2	0.00	0.00	0.00	0.00	0.19	617.57
3	0.00	0.00	0.00	0.00	1.06	616.51
4	0.00	0.00	0.00	0.00	1.10	615.41
5	0.00	0.00	0.00	0.00	1.11	614.30
6	0.00	0.00	0.00	0.00	1.53	612.77
7	0.00	0.00	0.00	0.00	1.56	611.21
8	0.00	0.00	0.00	0.00	1.56	609.65
9	0.00	0.00	0.00	0.00	1.92	607.73
10	0.00	0.00	0.00	0.00	1.86	605.87
11	0.00	0.00	0.00	0.00	1.28	604.59
12	0.00	0.00	0.00	0.00	1.17	603.42
13	0.00	0.00	0.00	0.00	0.58	602.84
14	0.00	0.00	0.00	0.00	0.58	602.26
15	0.00	0.00	0.00	0.00	0.62	601.64
16	0.00	0.00	0.00	0.00	1.87	599.77
17	0.00	0.00	0.00	0.00	0.85	598.92
18	0.00	0.00	0.00	0.00	1.03	597.89
19	0.00	0.00	0.00	0.00	0.79	597.10
20	0.00	0.00	0.00	0.00	1.09	596.01
21	0.00	0.00	0.00	0.00	1.09	594.92
22	0.00	0.00	0.00	0.00	1.11	593.81
23	0.00	0.00	0.00	0.00	0.97	592.84
24	0.00	0.00	0.00	0.00	1.59	591.25
25	0.00	0.00	0.00	0.00	0.85	590.40
26	0.00	0.00	0.00	0.00	1.07	589.33
27	0.00	0.00	0.00	0.00	1.83	587.50
28	0.00	0.00	0.00	0.00	1.87	585.63
29	0.00	0.00	0.00	0.00	1.86	583.77
30	0.00	0.00	0.00	0.00	1.86	581.91
31	0.00	0.00	0.00	0.00	1.42	580.49
	0.00	0.00	0.00	0.00	38.24	

OffsetAccount-ReturnFlow
RF Transit Loss

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						100.31
1	0.00	0.00	0.00	0.00	0.16	100.15
2	0.00	0.00	0.00	0.00	0.03	100.12
3	0.00	0.00	0.00	0.00	0.17	99.95
4	0.00	0.00	0.00	0.00	0.18	99.77
5	0.00	0.00	0.00	0.00	0.18	99.59
6	0.00	0.00	0.00	0.00	0.25	99.34
7	0.00	0.00	0.00	0.00	0.25	99.09
8	0.00	0.00	0.00	0.00	0.25	98.84
9	0.00	0.00	0.00	0.00	0.31	98.53
10	0.00	0.00	0.00	0.00	0.30	98.23
11	0.00	0.00	0.00	0.00	0.21	98.02
12	0.00	0.00	0.00	0.00	0.19	97.83
13	0.00	0.00	0.00	0.00	0.09	97.74
14	0.00	0.00	0.00	0.00	0.09	97.65
15	0.00	0.00	0.00	0.00	0.10	97.55
16	0.00	0.00	0.00	0.00	0.30	97.25
17	0.00	0.00	0.00	0.00	0.14	97.11
18	0.00	0.00	0.00	0.00	0.17	96.94
19	0.00	0.00	0.00	0.00	0.13	96.81
20	0.00	0.00	0.00	0.00	0.18	96.63
21	0.00	0.00	0.00	0.00	0.18	96.45
22	0.00	0.00	0.00	0.00	0.18	96.27
23	0.00	0.00	0.00	0.00	0.16	96.11
24	0.00	0.00	0.00	0.00	0.26	95.85
25	0.00	0.00	0.00	0.00	0.14	95.71
26	0.00	0.00	0.00	0.00	0.17	95.54
27	0.00	0.00	0.00	0.00	0.30	95.24
28	0.00	0.00	0.00	0.00	0.30	94.94
29	0.00	0.00	0.00	0.00	0.30	94.64
30	0.00	0.00	0.00	0.00	0.30	94.34
31	0.00	0.00	0.00	0.00	0.23	94.11
	0.00	0.00	0.00	0.00	6.20	

OffsetAccount-ReturnFlow
Return Flow

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						518.42
1	0.00	0.00	0.00	0.00	0.81	517.61
2	0.00	0.00	0.00	0.00	0.16	517.45
3	0.00	0.00	0.00	0.00	0.89	516.56
4	0.00	0.00	0.00	0.00	0.92	515.64
5	0.00	0.00	0.00	0.00	0.93	514.71
6	0.00	0.00	0.00	0.00	1.28	513.43
7	0.00	0.00	0.00	0.00	1.31	512.12
8	0.00	0.00	0.00	0.00	1.31	510.81
9	0.00	0.00	0.00	0.00	1.61	509.20
10	0.00	0.00	0.00	0.00	1.56	507.64
11	0.00	0.00	0.00	0.00	1.07	506.57
12	0.00	0.00	0.00	0.00	0.98	505.59
13	0.00	0.00	0.00	0.00	0.49	505.10
14	0.00	0.00	0.00	0.00	0.49	504.61
15	0.00	0.00	0.00	0.00	0.52	504.09
16	0.00	0.00	0.00	0.00	1.57	502.52
17	0.00	0.00	0.00	0.00	0.71	501.81
18	0.00	0.00	0.00	0.00	0.86	500.95
19	0.00	0.00	0.00	0.00	0.66	500.29
20	0.00	0.00	0.00	0.00	0.91	499.38
21	0.00	0.00	0.00	0.00	0.91	498.47
22	0.00	0.00	0.00	0.00	0.93	497.54
23	0.00	0.00	0.00	0.00	0.81	496.73
24	0.00	0.00	0.00	0.00	1.33	495.40
25	0.00	0.00	0.00	0.00	0.71	494.69
26	0.00	0.00	0.00	0.00	0.90	493.79
27	0.00	0.00	0.00	0.00	1.53	492.26
28	0.00	0.00	0.00	0.00	1.57	490.69
29	0.00	0.00	0.00	0.00	1.56	489.13
30	0.00	0.00	0.00	0.00	1.56	487.57
31	0.00	0.00	0.00	0.00	1.19	486.38
	0.00	0.00	0.00	0.00	32.04	

OffsetAccount-ReturnFlow
Keesee Winter

Day	Inflow	TransIn	TransOut	Rel.	Evap	Balance
						0.00
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	

This page intentionally blank

Attachment 9 - Highland Canal data input sheet (May 2011)

This page intentionally blank

Data for Highland Accounting for May

	1	2	3	4	5	6	6B	7	8	9	10	11	12	13	14	15	16	17	18
Date	Purgatoire @ Highland River Gage	Canal Flume	WD 67 River Call?	Available in Priority No 67 Call	In Stream in Priority	LAWMA's Instream Portion	LAWMA's Leased Instream Portion	trloss#1	trloss#2	trloss#3	LAWMA tlossfctr	**crdtoffst**	Purg@hgh	Purg@LA	Ark@LA	Arkconfl	factor#1	factor#2	factor#3
5/1/2011	1.25	0.00	YES	1.25	1.25	1.19	0.06	0.017	0.006	0.049	0.08671	**acre ft**	1.3	3.70	27.00	30.7	0.290	0.290	0.290
5/2/2011	0.24	0.00	YES	0.24	0.24	0.22	0.01	0.017	0.006	0.049	0.08671	**1.53**	0.2	3.60	27.80	31.4	0.290	0.290	0.290
5/3/2011	0.26	0.57	YES	0.83	0.26	0.25	0.01	0.017	0.006	0.049	0.08671	**0.29**	0.3	3.24	31.60	34.84	0.290	0.290	0.290
5/4/2011	0.52	1.09	YES	1.61	0.52	0.50	0.02	0.017	0.006	0.049	0.08671	**0.32**	0.5	2.95	36.00	38.95	0.290	0.290	0.290
5/5/2011	0.84	1.01	YES	1.85	0.84	0.80	0.04	0.017	0.006	0.049	0.08671	**0.64**	0.8	2.61	36.60	39.21	0.290	0.290	0.290
5/6/2011	1.94	0.93	YES	2.87	1.94	1.85	0.09	0.017	0.006	0.026	0.05926	**1.02**	1.9	2.48	166.00	168.48	0.290	0.290	0.155
5/7/2011	2.50	0.87	YES	3.37	2.50	2.38	0.12	0.017	0.006	0.021	0.05337	**2.45**	2.5	2.41	206.00	208.41	0.290	0.290	0.126
5/8/2011	1.92	0.73	YES	2.65	1.92	1.83	0.09	0.017	0.006	0.026	0.05926	**3.17**	1.9	3.24	196.00	199.24	0.290	0.290	0.155
5/9/2011	1.36	0.64	YES	2.00	1.36	1.30	0.06	0.017	0.006	0.026	0.05926	**2.42**	1.4	3.22	158.00	161.22	0.290	0.290	0.155
5/10/2011	1.01	1.08	YES	2.09	1.01	0.96	0.05	0.017	0.006	0.040	0.07512	**1.72**	1.0	2.96	55.80	58.76	0.290	0.290	0.233
5/11/2011	0.25	1.13	YES	1.38	0.25	0.24	0.01	0.017	0.006	0.049	0.08671	**1.25**	0.3	3.68	36.20	39.88	0.290	0.290	0.290
5/12/2011	0.20	0.79	YES	0.99	0.20	0.19	0.01	0.017	0.006	0.049	0.08671	**0.31**	0.2	3.58	37.00	40.58	0.290	0.290	0.290
5/13/2011	0.18	0.79	YES	0.96	0.18	0.17	0.01	0.017	0.006	0.049	0.08671	**0.24**	0.2	6.16	38.10	44.26	0.290	0.290	0.290
5/14/2011	0.13	0.78	YES	0.91	0.13	0.12	0.01	0.017	0.006	0.049	0.08671	**0.22**	0.1	2.53	37.70	40.23	0.290	0.290	0.290
5/15/2011	0.10	0.79	YES	0.88	0.10	0.09	0.00	0.017	0.006	0.049	0.08671	**0.15**	0.1	2.19	36.80	38.99	0.290	0.290	0.290
5/16/2011	0.13	0.79	YES	0.91	0.13	0.12	0.01	0.017	0.006	0.049	0.08671	**0.12**	0.1	2.02	38.40	40.42	0.290	0.290	0.290
5/17/2011	0.13	0.79	YES	0.92	0.13	0.12	0.01	0.017	0.006	0.049	0.08671	**0.16**	0.1	1.94	35.00	36.94	0.290	0.290	0.290
5/18/2011	0.18	0.74	YES	0.92	0.18	0.17	0.01	0.017	0.006	0.049	0.08671	**0.16**	0.2	1.85	32.00	33.85	0.290	0.290	0.290
5/19/2011	0.19	0.69	YES	0.88	0.19	0.18	0.01	0.017	0.006	0.049	0.08671	**0.22**	0.2	1.98	31.60	33.58	0.290	0.290	0.290
5/20/2011	0.19	0.69	YES	0.88	0.19	0.18	0.01	0.017	0.006	0.049	0.08671	**0.23**	0.2	1.69	29.70	31.39	0.290	0.290	0.290
5/21/2011	0.17	0.89	YES	1.06	0.17	0.16	0.01	0.017	0.006	0.049	0.08671	**0.23**	0.2	1.62	37.00	38.62	0.290	0.290	0.290
5/22/2011	0.16	0.72	YES	0.87	0.16	0.15	0.01	0.017	0.006	0.040	0.07512	**0.20**	0.2	2.67	90.20	92.87	0.290	0.290	0.233
5/23/2011	0.15	0.69	YES	0.84	0.15	0.14	0.01	0.017	0.006	0.032	0.06597	**0.19**	0.2	1.82	107.00	108.82	0.290	0.290	0.188
5/24/2011	0.18	0.69	YES	0.87	0.18	0.17	0.01	0.017	0.006	0.040	0.07512	**0.19**	0.2	1.43	56.90	58.33	0.290	0.290	0.233
5/25/2011	0.18	0.78	YES	0.95	0.18	0.17	0.01	0.017	0.006	0.049	0.08671	**0.23**	0.2	1.92	45.00	46.92	0.290	0.290	0.290
5/26/2011	3.72	3.61	YES	7.33	3.72	3.55	0.17	0.017	0.006	0.049	0.08671	**0.22**	3.7	2.18	38.80	40.98	0.290	0.290	0.290
5/27/2011	2.48	3.29	YES	5.77	2.48	2.36	0.12	0.017	0.006	0.049	0.08671	**4.56**	2.5	2.87	32.70	35.57	0.290	0.290	0.290
5/28/2011	1.03	2.75	YES	3.78	1.03	0.98	0.05	0.017	0.006	0.049	0.08671	**3.04**	1.0	4.30	27.10	31.4	0.290	0.290	0.290
5/29/2011	0.39	1.69	YES	2.08	0.39	0.37	0.02	0.017	0.006	0.049	0.08671	**1.26**	0.4	2.28	24.90	27.18	0.290	0.290	0.290
5/30/2011	0.28	0.72	YES	0.99	0.28	0.26	0.01	0.017	0.006	0.049	0.08671	**0.47**	0.3	1.42	26.30	27.72	0.290	0.290	0.290
5/31/2011	0.48	0.69	YES	1.18	0.48	0.46	0.02	0.017	0.006	0.049	0.08671	**0.34**	0.5	1.43	21.20	22.63	0.290	0.290	0.290

Red numbers indicate estimated data due to missing or incomplete SatMon data

Blue numbers indicate revised data based upon hydro adjustments

		TOTAL AF	**43**	**1**
CU factor for May =	67.6%	MAX =	858	42 <<Normally 1854 and 92 for leased shares
		Exceeded?	No	No

LAWMA SHARES =	3402	Cumulative Annual LAWMA=	393
LAWMA LEASED SHARES =	167	Annual Limit LAWMA=	12862
DIVERTED SHARES	231	Cumulative Annual Leased=	18
TOTAL SHARES =	3800	Annual Limit Leased=	631

This page intentionally blank

Attachment 10 - Example of Colorado monthly accounting spreadsheet (May 2011)

This page intentionally blank

May Accounting

AUGMENTATION PLAN IMPLEMENTATION SPREADSHEET

USER	APR CREDIT	WHT-U	R1	R2	R3	R4	R5	R6	R7	R8	R9	WHT-M	R10	R11	R12	R13	R14	R15	R16	WHT-L	MAY CREDIT	MAY SUM	Thick Packet Page #
AGUA																							
BALANCE FORWARDED PREVIOUS MONTH		19.16	0.00	0.00	11.58	9.92	7.94	10.96	10.15	0.38	2.41	10.50	0.52							0.01		83.53	
100% Stream Depletions		4.82	118.10	44.33	42.02	19.82	14.42	12.69	22.08	1.20	5.20	10.65	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.01		296.25	**A-4**
Municipal Depletions Balance Forwarded			1.94				0.02		0.08													2.04	**A-1**
FRY-ARK RETURN FLOWS (main)	0.00	0.00	122.45																		0.00	122.45	
FRY-ARK 1st USE (main)	0.00		0.00																		0.00	0.00	
COLORADO SPRINGS UTIL Main	0.00		0.00																		0.00	0.00	
COLORADO SPRINGS UTIL Ftn.	0.00		0.00																		0.00	0.00	
COLORADO SPRINGS TM RETURN FLOWS	0.00		0.00																		0.00	0.00	
EXCELSIOR NATIVE DIVERSION CREDIT	0.00		8.59																		0.00	8.59	**6**
EXCELSIOR TM DIVERSION CREDIT	0.00		17.47																		0.00	17.47	**7**
EXCELSIOR AUGMENTATION STATION NATIVE	0.00		0.00																		0.00	0.00	
EXCELSIOR AUGMENTATION STATION TM	0.00		0.00																		0.00	0.00	
PBWW RELEASE	0.00	0.00	0.00																		0.00	0.00	
AURORA RELEASE	0.00		7.44																		0.00	7.44	
CATLIN PW & WW	0.00		0.00																		0.00	0.00	
AGUA/CITY OF SALIDA I&W RELEASE	0.00	0.00																			0.00	0.00	
UNION DITCH - FREMONT	0.00	5.47																			0.00	5.47	
UNION DITCH - RMM	0.00	6.27																			0.00	6.27	
MEXICAN DITCH	0.00		10.20																		0.00	10.20	
CATLIN CANAL AUG STATION	0.00								12.52												0.00	12.52	
SCMWD EXCESS CU CREDIT	0.00		64.24																		0.00	64.24	
		12.24	-110.35	-65.87	-12.18	17.57	22.37	23.65	19.79	1.58	7.61	21.15	1.42							0.02			
BALANCE FORWARDED		12.24	0.00	0.00	0.00	17.57	22.37	23.65	19.79	1.58	7.61	21.15	1.42							0.02		127.41	
AGUA MUNICIPAL		ONEAL	OLNEY	SK SCH																			
		RCH1	RCH5	RCH 7																			
100% Stream Depletions		1.94	0.02	0.08																			**9**
																						0.00	
FRY-ARK 1ST USE WATER		0.00	0.00	0.00																		0.00	
FRY-ARK RETURN FLOWS				0.00																			
FRY-ARK RETURN FLOWS BALANCE FORWARDED	0.00			0.00																			
TRANSIT LOSS		0.00	0.00	0.00																			
BALANCE FORWARDED	0.00	1.94	0.02	0.08																		2.04	

May Accounting

AUGMENTATION PLAN IMPLEMENTATION SPREADSHEET

USER	APR CREDIT	WHT-U	R1	R2	R3	R4	R5	R6	R7	R8	R9	WHT-M	R10	R11	R12	R13	R14	R15	R16	WHT-L	MAY CREDIT	MAY SUM	Thick Packet Page #
CWPDA																							
BALANCE FORWARDED PREVIOUS MONTH		0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.92	151.20	231.49	53.95	485.23	0.00	0.00	0.00	0.00			2.17		1187.96	
100% Stream Depletions		0.86	177.18	67.81	58.43	101.61	136.68	268.29	615.73	116.69	155.32	23.21	110.60	0.40	0.81	1.69	1.28	0.00	0.00	1.83		1838.42	**A-4**
User No. 700 Stream Depletions									6.13													6.13	**9**
Municipal Depletions Balance Forwarded			12.50	0.00		38.52		8.08	1.04	22.03	0.00	5.23	1.92									89.32	**A-2**
Oxford Balance Forwarded						103.72																103.72	**A-5**
FOUNTAIN AUG PLAN (main)	0.00		81.03																		0.00	81.03	
WIDEFIELD AUG PLAN (main)	0.00		79.43																		0.00	79.43	
SECURITY AUG PLAN (main)	0.00		65.76																		0.00	65.76	
FOUNTAIN MUTUAL (main)	0.00		4.27																		0.00	4.27	
WOODMOOR RETURNS (main)	0.00		0.13																		0.00	0.13	
CODY LAUGHLIN	0.00		9.15																		0.00	9.15	
CODY OWEN & HALL	0.00		11.21																		0.00	11.21	
-----SUB TOTAL-----		*0.86*																					
CWPDA FRY-ARK PROJECT WATER	0.00		0.00																		0.00	0.00	
FRY-ARK RETURN FLOWS (main)	0.00	0.00	703.48																		0.00	703.48	
PUEBLO BOARD OF WATER WORKS RF	0.00	0.00	137.23																		0.00	137.23	
ORVILLE TOMKY TWIN LAKES	0.00							0.09													0.00	0.09	
COLO CANAL/LAKE MEREDITH RELEASE	0.00								0.00												0.00	0.00	
CATLIN CANAL AUG STATION	0.00							0.00	119.42												0.00	119.42	
CATLIN CANAL WINTER WATER RELEASE	0.00		0.00																		0.00	0.00	
CATLIN CANAL PROJECT WATER RELEASE	0.00	AF	0.00																		0.00	0.00	
HOLBROOK CANAL AUG STATION	0.00								0.00												0.00	0.00	
HOLBROOK CANAL WINTER WATER RELEASE	0.00		0.00																		0.00	0.00	
HOLBROOK CANAL PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
SUNDANCE PROJECT WATER RELEASE	0.00		0.00					0.00													0.00	0.00	
LAS ANIMAS CONSOLIDATED FRY-ARK PROJECT	0.00		142.00																		0.00	142.00	
CWPDA IF & WHEN	0.00	0.00	0.00																		0.00	0.00	
PBWW - CLEAR CRK RELEASE	0.00	0.00	0.00																		0.00	0.00	
COLORADO SPRINGS UTILITIES	0.00		0.00																		0.00	0.00	
PWMD IF & WHEN	0.00		230.00																		0.00	230.00	
FT. LYON AUG STATION	0.00										28.47										0.00	28.47	
HIGHLAND	0.00										0.00										0.00	0.00	
CITY OF SALIDA LEASE	0.00	0.00	0.00																		0.00	0.00	
UAWCD LEASE	0.00	0.00	0.00																		0.00	0.00	
SCMWD EXCESS CU CREDIT	0.00		64.24																		0.00	64.24	
SCMWD PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
FOWLER PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
SWINK PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
MANZANOLA PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
SWINK SCHOOL PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
LA JUNTA PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
LAS ANIMAS PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
SUGAR CITY PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
JOSEPH WATER PROJECT WATER RELEASE	0.00		0.00																		0.00	0.00	
		0.86	-1337.39	-1267.83	-1207.74	-962.31	-824.37	-547.00	221.11	510.74	868.40	949.66	1546.17	1544.54	1543.33	1543.00	1542.26			4.00			
BALANCE FORWARDED		0.86	0.00	0.00	0.00	0.00	0.00	0.00	192.64	289.63	386.14	81.25	596.51	0.00	0.00	0.00	0.00			4.00		1551.03	
		SCM	PDA	FOWL	CSW	CMZ	SK SCH	CLJ	CLAS A	USVET	SUG	JOS											
		RCH1	RCH2	RCH4	RCH6	RCH6	RCH7	RCH8	RCH9	RCH10	RCH19	RCH1											
CWPDA MUNICIPAL																							
100% Stream Depletions		11.64	7.74	40.28	5.02	3.87	1.04	224.77	49.48	1.92	5.23	1.79										352.78	
SEWAGE RETURN FLOWS				0.00		0.46		73.65	26.08													100.19	
LAWN RETURN FLOWS		0.92	0.43	1.76	0.35			8.16	1.23													12.86	**15**
R/O RETURN FLOWS								120.93	29.62													150.55	**15**
FRY-ARK 1ST USE WATER		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00										0.00	
PUEBLO BOARD OF WATER WORKS TM			7.31																			7.31	
TRANSIT LOSS		0.00		0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00											
BALANCE FORWARDED		10.71	0.00	38.52	4.68	3.41	1.04	22.03	-7.45	1.92	5.23	1.79										89.32	

May Accounting

AUGMENTATION PLAN IMPLEMENTATION SPREADSHEET

USER	APR CREDIT	WHT-U	R1	R2	R3	R4	R5	R6	R7	R8	R9	WHT-M	R10	R11	R12	R13	R14	R15	R16	WHT-L	MAY CREDIT	MAY SUM	Thick Packet Page #
BALANCE FORWARDED PREVIOUS MONTH									0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	115.51	147.00	292.90	30.42		585.83	
LAWMA Wells in SECWCD Balance Forwarded									0.00	0.00	0.00	0.00	0.00	26.07	59.20	131.29	95.50	0.01	0.01	0.00		312.07	
LAWMA Wells Not in SECWCD																							
100% Stream Depletions								0.00	0.00	0.00	0.00	0.00	0.00	1.90	4.78	175.70	121.96	169.98	182.58	7.06		663.96	**A-4**
IN-STATE REPLACEMENT								0.00	0.00	0.00	0.00	0.00	0.00	27.97	63.98	306.99	332.97	316.99	475.48	37.48		1561.86	
PUEBLO WATER WORKS TM RETURN FLOW	0.00												99.55								0.00	99.55	
CSU RETURN FLOWS	0.00		0.00																		0.00	0.00	
CO BEEF & LAMAR IN DITCH	0.00															0.00					0.00	0.00	
FT BENT IN DITCH	0.00													7.66							0.00	7.66	
MANVEL at CENTER FARM	0.00																322.63				0.00	322.63	
DOW/CITY OF LAMAR SHARES at CENTER FARM	0.00																0.00	0.00			0.00	0.00	
FT BENT & COLO BEEF IN STREAM (exchange)	0.00																0.00				0.00	0.00	
X-Y DIRECT FLOW (exchange)	0.00												0.00	0.00				188.70			0.00	188.70	
HIGHLAND CU & DELIVERY TL	0.00												0.00	3.55							0.00	3.55	
KEESEE DIRECT FLOW	0.00													219.93							0.00	219.93	
OFFSET ACCOUNT TL RELEASE CREDITS R11	0.00													0.00							0.00	0.00	
OFFSET ACCOUNT TL RELEASE CREDITS R14	0.00																0.00				0.00	0.00	
ARTICLE II WATER	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-99.55	-302.85	-239.26	67.41	77.75	206.04	681.52	719.00			
BALANCE FORWARDED			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	0.00	0.00	206.04	475.48	37.48		719.00	
LAWMA Wells in SECWCD																							
100% Stream Depletions									0.50	2.40	2.07		2.64	29.83	59.20	131.29	95.50	0.01	0.01			323.44	**A-4**
IN-STATE REPLACEMENT									0.50	2.40	2.07		2.64	29.83	59.20	131.29	95.50	0.01	0.01			323.44	
FRY-ARK RETURN FLOWS	0.00								11.37												0.00	11.37	
									-10.87	-8.47	-6.40		-3.76	26.07	59.20	131.29	95.50	0.01	0.01				
BALANCE FORWARDED									0.00	0.00	0.00		0.00	26.07	59.20	131.29	95.50	0.01	0.01			312.07	
CITY OF LAMAR																							
BALANCE FORWARDED PREVIOUS MONTH																		0.00					
100% Stream Depletions																		24.46					
FT BENT AUG STATION	0.00																	0.00			0.00	0.00	
NON-SEWERED RETURN FLOW	22.08																	0.00			22.07	22.07	**19**
DEEP PERC FROM FLOATING PUMP & WELL 31	3.44																	0.00			3.86	3.86	**19**
DEEP PERC FROM BALL FIELDS PUMP	0.15																	0.00			0.25	0.25	**19**
SEWAGE RETURN FLOW	24.30																	0.00			17.10	17.10	**19**
PROJECT WATER NON-CONSUMED TRANSIT LOSS	4.33																	0.00			13.35	13.35	**19**
																		-29.84					
BALANCE FORWARDED																		0.00				0.00	

May Accounting

AUGMENTATION PLAN IMPLEMENTATION SPREADSHEET

USER	APR CREDIT	WHT-U	R1	R2	R3	R4	R5	R6	R7	R8	R9	WHT-M	R10	R11	R12	R13	R14	R15	R16	WHT-L	MAY CREDIT	MAY SUM	**Thick Packet Page #**
USER STREAM DEPLETIONS																							
AGUA		4.82	118.10	44.33	42.02	19.82	14.42	12.69	22.08	1.20	5.20	10.65	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.01		296.25	**5, 9**
Pre-48		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	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
CWPDA		0.86	177.18	67.81	58.43	101.61	136.68	268.29	615.73	116.69	155.32	23.21	110.60	0.40	0.81	1.69	1.28	0.00	0.00	1.83		1838.42	**9, 14**
Pre-48		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	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
LAWMA SEC									0.50	2.40	2.07		2.64	29.83	59.20	131.29	95.50	0.01	0.01			323.44	**26**
Pre-48									0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	
LAWMA NON SEC														1.90	4.78	175.70	121.96	169.98	182.58	7.06		663.96	**23**
CITY OF LAMAR																						0.00	
Pre-48																						0.00	
USER		SCM RCH1	PDA RCH2	FOWL RCH4	CSW RCH6	CMZ RCH6	SK SCH RCH7	CLJ RCH8	CLA RCH9	USVET RCH10	SUG RCH19	USER 700 RCH7	JOS RCH1										
CWPDA (LAWMA U.S. Vets)		11.64	7.74	40.28	5.02	3.87	1.04	224.77	49.48	1.92	5.23	6.13	1.79										**9**
Pre-48		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
Number of days of 1948 or later call	0																						
Number of days in month	31																						
Number of days in month free river	0																						
Rule 3 Stateline Depletion ONLY %	81.9%																						

May Stateline

AUGMENTATION PLAN IMPLEMENTATION SPREADSHEET													Thick Packet Page #
USER	APR CREDIT	R11	R12	R13	R14	R15	R16	R17	R18	R21	MAY CREDIT	MAY SUM	
LAWMA Rule 3 Wells													
BALANCE FORWARDED		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
TOTAL DEPLETIONS		30.47	61.31	273.90	194.78	142.08	163.80	307.11	834.20	15.79		2023.45	**36**
100% OF STATELINE DEPL		0.00	0.00	0.00	0.00	0.00	0.00	307.11	834.20	15.79		1157.10	
81.9% OF STATELINE DEPL		0.00	0.00	0.00	0.00	0.00	0.00	251.53	683.21	12.93		947.67	
REPLACEMENTS													
FRY-ARK RETURN FLOWS	0.00	0.00	0.00	0.00	0.00						0.00	0.00	
TRANSIT LOSS ACCOUNT CREDITS	0.00	0.00									0.00	0.00	
PBWW TM & AG RETURN FLOWS	0.00	0.00	0.00	0.00	0.00						0.00	0.00	
COLORADO BEEF/LAMAR SHARES at CENTER FARM	0.00				0.00						0.00	0.00	
DOW/CITY OF LAMAR SHARES at CENTER FARM	0.00					0.00					0.00	0.00	
FORT BENT DITCH SHARES	0.00				0.00						0.00	0.00	
SISSON-STUBBS DIRECT FLOW	0.00								0.00		0.00	0.00	
X-Y DIRECT FLOW	0.00					0.00					0.00	0.00	
MANVEL DIRECT FLOW	0.00					0.00					0.00	0.00	
OFFSET ACCOUNT TL RELEASE CREDITS R11	0.00	0.00									0.00	0.00	
OFFSET ACCOUNT TL RELEASE CREDITS R14	0.00				0.00						0.00	0.00	
OFFSET ACCOUNT TL RELEASE CREDITS R17	0.00							0.00			0.00	0.00	
OFFSET ACCOUNT RELEASE CREDITS										947.67	16210.37	17158.04	
OFFSET ACCOUNT WATER	0.00	0.00									0.00	0.00	
BALANCE FORWARD		0.00	0.00	0.00	0.00	0.00	0.00	251.53	934.73	0.00			
BALANCE FORWARD BY REACH		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
% of month Call on JM to Lamar Canal (11,12,13)			100%										
% of month Call on 14,15,16			100%										