

Report of the Colorado State Engineer

**Concerning Accounting of the Operations
of an Offset Account in John Martin Reservoir
for Colorado Pumping**

1998

Submitted to the
Operations Committee
Arkansas River Compact Administration

December 1, 1998

Report of the Colorado State Engineer

Offset Account Operations

November 1, 1997 to October 31, 1998

An Offset Account in John Martin Reservoir was authorized by the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping** dated March 17, 1997 ("Resolution") and by the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping As Amended March 30, 1998** ("Amended Resolution").

This report summarizes the operations conducted using the Offset Account for the period November 1, 1997 through October 31, 1998 and has been prepared pursuant to paragraph 11 the Amended Resolution.

At 0000 hours, November 1, 1997 the Offset Account contained 5356.98 acre-feet. From then until January 17, 1998, when the Offset Account completed spilling from John Martin Reservoir, there were no deliveries to or releases from the Offset Account. In accordance with paragraph 9 of the Amended Resolution, the Colorado State Engineer and the Kansas Chief Engineer agreed that the 500 acre-feet of fully consumable water that must be delivered by Colorado or Colorado water users to the Offset Account as a prerequisite for deliveries to the Offset Account could be delivered at a time after April 1, 1998. From June 28 through June 30, 1998, 500 acre-feet of fully consumable water was delivered to the Offset Account to satisfy the Storage Charge prerequisite for using the account. Copies of the correspondence to determine the date of this delivery are included in Section 3.

The other operational considerations modified by the Amended Resolution were the provisions for determining net depletions to usable Stateline flows described in paragraph 5B of the Amended Resolution.

In Section 1, a monthly summary of the contents of the Offset Account is provided in Table 1. A summary of the subaccounts of the Offset Account is provided in Tables A through B.2. The outline preceding the tables in Section 1 provides an explanation of the purpose of each subaccount.

Section 2 of this report contains the daily accounting records, by month, for all subaccounts in the Offset Account.

From November 1, 1997 through October 31, 1998, there were three deliveries of water to the Offset Account, including the delivery of 500 acre-feet of fully consumable water to satisfy the Storage Charge. These deliveries are summarized in the following table.

Source	Delivery End Date	Net to Offset Account (ac-ft)	Net Consumable Water (ac-ft)	Net Return Flow Water (ac-ft)
LAWMA (Colorado Springs Utilities)	June 30, 1998	500	500	0
LAWMA (Colorado Springs Utilities)	July 2, 1998	853.76	853.76	0
LAWMA (Highland Canal Shares)	October 31, 1998	3711.43	3551.83	159.6
TOTALS		5065.19	4905.59	159.6

During the period referred to above, there have been no releases of water from the Offset Account directed by the Kansas Chief Engineer. As indicated above, the entire contents of the Offset Account at that time were spilled during the period January 14 through January 17, 1998.

Section 3 of this report provides copies of the letters reporting each delivery of water to the Offset Account as required by paragraph 3 of the Amended Resolution.

Section 4 of this report provides copies of the monthly letters reporting Colorado pumping and Offset Account operations that were prepared and submitted in accordance with paragraph 12 of the Resolution and the Amended Resolution.

The Colorado State Engineer and the Kansas Chief Engineer have coordinated Offset Account operations successfully through their respective delegates throughout the year. Colorado continues to solicit suggestions and desires to fully discuss any measures that might have the effect of minimizing Kansas' cost of monitoring use of the Offset Account to facilitate Compact compliance.

Steven J. Witte for
Hal D. Simpson
Colorado State Engineer

11/24/98
Date

SECTION 1

Outline of Tables

Offset Account (Table 1)

Contains a monthly summary of the total contents of the Offset Account.

A. Consumable Water (Table A)

1. Colorado Upstream Consumable Water (Table A.1.)

Contains a monthly summary of the water stored under the provisions of paragraph 6 of the Amended Resolution.

2. Colorado Downstream Consumable Water (Table A.2.)

Contains a monthly summary of the consumptive use water stored by Colorado users which has not yet been made available to replace depletions to usable stateline flow and therefore has not been transferred to Kansas as provided for in paragraph 5.B. of the Amended Resolution.

3. Kansas Consumable Water (Table A.3.)

Contains a monthly summary of the consumptive use water that has been made available to replace depletions to usable stateline flow and has therefore been transferred as provided for in paragraph 5.B. of the Amended Resolution.

4. Kansas Storage Charge (Table A.4.)

Contains a monthly summary of the consumptive use water delivered to the Offset Account under the provisions of paragraph 9 of the Amended Resolution.

B. Return Flow Water (Table B)

1. In State Return Flow Water (Table B.1.)

Contains a monthly summary of the return flow water which must be released to the river to maintain the return flows to Colorado water users because of deliveries of water historically used for irrigation to the offset account.

a. In State Upstream Return Flow Water (Table B.1.a.)

Contains a monthly summary of return flow water which must be released to John Martin Reservoir during periods of conservation storage to maintain return flows to conservation storage by the deliveries to the Offset Account of direct flow irrigation water from ditches above John Martin Reservoir.

b. In State Downstream Return Flow Water (Table B.1.b)

Contains a monthly summary of return flow water which must be released to the river to provide for the return flows to Colorado water users below John Martin Reservoir because of the deliveries of water historically used for irrigation to the offset account.

2. State Line Return Flow Water (Table B.2)

Contains a monthly summary of return flow water which must ultimately be released to the river to maintain the return flows to the river reaches below any Colorado water users under the provisions of paragraph 4 of the Resolution.

JOHN MARTIN RESERVOIR

**TABLE 1
OFFSET ACCOUNT**

WATER YEAR					
1998	CONTENTS BEG.	INFLOW	EVAPORATION	RELEASE	CONTENTS END
MONTH	OF MONTH A.F.	A.F.	A.F.	A.F.	OF MONTH A.F.
NOVEMBER	5356.98	0.00	29.11	0.00	5327.87
DECEMBER	5327.87	0.00	11.75	0.00	5316.12
JANUARY	5316.12	0.00	0.00	5316.12	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	702.01	0.32	0.00	701.69
JULY	701.69	1150.79	41.78	0.00	1810.70
AUGUST	1810.70	1343.39	54.10	0.00	3099.99
SEPTEMBER	3099.99	561.05	68.46	0.00	3592.58
OCTOBER	3592.58	1307.95	51.85	0.00	4848.68
TOTALS		5065.19	257.37	5316.12	

OFFSET ACCOUNT

**TABLE A
CONSUMABLE WATER**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	3539.06	0.00	19.19	0.00	3519.87
DECEMBER	3519.87	0.00	7.71	0.00	3512.16
JANUARY	3512.16	0.00	0.00	3512.16	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	702.01	0.32	0.00	701.69
JULY	701.69	1129.36	41.55	0.00	1789.50
AUGUST	1789.50	1285.60	52.92	0.00	3022.18
SEPTEMBER	3022.18	536.91	66.61	0.00	3492.48
OCTOBER	3492.48	1251.71	50.27	0.00	4693.92
TOTALS		4905.59	238.57	3512.16	

**TABLE B
RETURN FLOW WATER**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	1817.92	0.00	9.92	0.00	1808.00
DECEMBER	1808.00	0.00	4.04	0.00	1803.96
JANUARY	1803.96	0.00	0.00	1803.96	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	21.43	0.23	0.00	21.20
AUGUST	21.20	57.79	1.18	0.00	77.81
SEPTEMBER	77.81	24.14	1.85	0.00	100.10
OCTOBER	100.10	56.24	1.58	0.00	154.76
TOTALS		159.60	18.80	1803.96	

OFFSET ACCOUNT

**TABLE A.1.
CONSUMABLE WATER
COLORADO UPSTREAM**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00
JANUARY	0.00	0.00	0.00	0.00	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.00	0.00	0.00
AUGUST	0.00	0.00	0.00	0.00	0.00
SEPTEMBER	0.00	0.00	0.00	0.00	0.00
OCTOBER	0.00	0.00	0.00	0.00	0.00
TOTALS		0.00	0.00	0.00	

**TABLE A.2.
CONSUMABLE WATER
COLORADO DOWNSTREAM**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	3539.06	0.00	19.19	0.00	3519.87
DECEMBER	3519.87	0.00	7.71	0.00	3512.16
JANUARY	3512.16	0.00	0.00	3512.16	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	202.01	0.00	0.00	202.01
JULY	202.01	1129.36	27.88	0.00	1303.49
AUGUST	1303.49	1285.60	42.87	0.00	2546.22
SEPTEMBER	2546.22	536.91	57.17	0.00	3025.96
OCTOBER	3025.96	1251.71	44.55	0.00	4233.12
TOTALS		4405.59	199.37	3512.16	

OFFSET ACCOUNT

**TABLE A.3.
CONSUMABLE WATER
KANSAS**

WATER YEAR	CONTENTS BEG.	INFLOW	EVAPORATION	RELEASE	CONTENTS END
1998	OF MONTH A.F.	A.F.	A.F.	A.F.	OF MONTH A.F.
MONTH					
NOVEMBER	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00
JANUARY	0.00	0.00	0.00	0.00	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.00	0.00	0.00
AUGUST	0.00	0.00	0.00	0.00	0.00
SEPTEMBER	0.00	0.00	0.00	0.00	0.00
OCTOBER	0.00	0.00	0.00	0.00	0.00
TOTALS		0.00	0.00	0.00	

**TABLE A.4.
CONSUMABLE WATER
KANSAS STORAGE CHARGE**

WATER YEAR	CONTENTS BEG.	INFLOW	EVAPORATION	RELEASE	CONTENTS END
1998	OF MONTH A.F.	A.F.	A.F.	A.F.	OF MONTH A.F.
MONTH					
NOVEMBER	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00
JANUARY	0.00	0.00	0.00	0.00	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	500.00	0.32	0.00	499.68
JULY	499.68	0.00	13.67	0.00	486.01
AUGUST	486.01	0.00	10.05	0.00	475.96
SEPTEMBER	475.96	0.00	9.44	0.00	466.52
OCTOBER	466.52	0.00	5.72	0.00	460.80
TOTALS		500.00	39.20	0.00	

OFFSET ACCOUNT

**TABLE B.1.
RETURN FLOW WATER
INSTATE**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	1817.92	0.00	9.92	0.00	1808.00
DECEMBER	1808.00	0.00	4.04	0.00	1803.96
JANUARY	1803.96	0.00	0.00	1803.96	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	21.43	0.23	0.00	21.20
AUGUST	21.20	57.79	1.18	0.00	77.81
SEPTEMBER	77.81	24.14	1.85	0.00	100.10
OCTOBER	100.10	56.24	1.58	0.00	154.76
TOTALS		159.60	18.80	1803.96	

**TABLE B.2.
RETURN FLOW WATER
STATELINE**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00
JANUARY	0.00	0.00	0.00	0.00	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.00	0.00	0.00
AUGUST	0.00	0.00	0.00	0.00	0.00
SEPTEMBER	0.00	0.00	0.00	0.00	0.00
OCTOBER	0.00	0.00	0.00	0.00	0.00
TOTALS		0.00	0.00	0.00	

OFFSET ACCOUNT

**TABLE B.1.a.
INSTATE RETURN FLOW
UPSTREAM**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	99.53	0.00	0.60	0.00	98.93
DECEMBER	98.93	0.00	0.28	0.00	98.65
JANUARY	98.65	0.00	0.00	98.65	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	21.43	0.23	0.00	21.20
AUGUST	21.20	57.79	1.18	0.00	77.81
SEPTEMBER	77.81	24.14	1.85	0.00	100.10
OCTOBER	100.10	56.24	1.58	0.00	154.76
TOTALS		159.60	5.72	98.65	

**TABLE B.1.b.
INSTATE RETURN FLOW
DOWNSTREAM**

WATER YEAR 1998 MONTH	CONTENTS BEG. OF MONTH A.F.	INFLOW A.F.	EVAPORATION A.F.	RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	1718.39	0.00	9.32	0.00	1709.07
DECEMBER	1709.07	0.00	3.76	0.00	1705.31
JANUARY	1705.31	0.00	0.00	1705.31	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00
JULY	0.00	0.00	0.00	0.00	0.00
AUGUST	0.00	0.00	0.00	0.00	0.00
SEPTEMBER	0.00	0.00	0.00	0.00	0.00
OCTOBER	0.00	0.00	0.00	0.00	0.00
TOTALS		0.00	13.08	1705.31	

SECTION 2

OFFSET ACCOUNT

NOV 1997:	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				5356.98				3539.06				
1 :	0.00	0.00	1.01	5355.97	0.00	0.00	0.67	3538.39	0.00	0.00	0.34	1817.92
2 :	0.00	0.00	1.00	5354.97	0.00	0.00	0.66	3537.73	0.00	0.00	0.34	1817.58
3 :	0.00	0.00	1.01	5353.96	0.00	0.00	0.67	3537.06	0.00	0.00	0.34	1817.24
4 :	0.00	0.00	1.00	5352.96	0.00	0.00	0.66	3536.40	0.00	0.00	0.34	1816.90
5 :	0.00	0.00	0.99	5351.97	0.00	0.00	0.65	3535.75	0.00	0.00	0.34	1816.56
6 :	0.00	0.00	1.00	5350.97	0.00	0.00	0.66	3535.09	0.00	0.00	0.34	1816.22
7 :	0.00	0.00	0.99	5349.98	0.00	0.00	0.65	3534.44	0.00	0.00	0.34	1815.88
8 :	0.00	0.00	0.98	5349.00	0.00	0.00	0.65	3533.79	0.00	0.00	0.33	1815.54
9 :	0.00	0.00	0.97	5348.03	0.00	0.00	0.64	3533.15	0.00	0.00	0.33	1815.21
10 :	0.00	0.00	0.97	5347.06	0.00	0.00	0.64	3532.51	0.00	0.00	0.33	1814.88
11 :	0.00	0.00	0.98	5346.08	0.00	0.00	0.65	3531.86	0.00	0.00	0.33	1814.55
12 :	0.00	0.00	0.97	5345.11	0.00	0.00	0.64	3531.22	0.00	0.00	0.33	1814.22
13 :	0.00	0.00	0.97	5344.14	0.00	0.00	0.64	3530.58	0.00	0.00	0.33	1813.89
14 :	0.00	0.00	0.96	5343.18	0.00	0.00	0.63	3529.95	0.00	0.00	0.33	1813.56
15 :	0.00	0.00	0.96	5342.22	0.00	0.00	0.63	3529.32	0.00	0.00	0.33	1813.23
16 :	0.00	0.00	0.96	5341.26	0.00	0.00	0.63	3528.69	0.00	0.00	0.33	1812.90
17 :	0.00	0.00	0.96	5340.30	0.00	0.00	0.63	3528.06	0.00	0.00	0.33	1812.57
18 :	0.00	0.00	0.96	5339.34	0.00	0.00	0.63	3527.43	0.00	0.00	0.33	1812.24
19 :	0.00	0.00	0.95	5338.39	0.00	0.00	0.63	3526.80	0.00	0.00	0.32	1811.91
20 :	0.00	0.00	0.95	5337.44	0.00	0.00	0.63	3526.17	0.00	0.00	0.32	1811.59
21 :	0.00	0.00	0.95	5336.49	0.00	0.00	0.63	3525.54	0.00	0.00	0.32	1811.27
22 :	0.00	0.00	0.95	5335.54	0.00	0.00	0.63	3524.91	0.00	0.00	0.32	1810.95
23 :	0.00	0.00	0.95	5334.59	0.00	0.00	0.63	3524.28	0.00	0.00	0.32	1810.63
24 :	0.00	0.00	0.96	5333.63	0.00	0.00	0.63	3523.65	0.00	0.00	0.33	1810.31
25 :	0.00	0.00	0.96	5332.67	0.00	0.00	0.63	3523.02	0.00	0.00	0.33	1809.98
26 :	0.00	0.00	0.96	5331.71	0.00	0.00	0.63	3522.39	0.00	0.00	0.33	1809.65
27 :	0.00	0.00	0.96	5330.75	0.00	0.00	0.63	3521.76	0.00	0.00	0.33	1809.32
28 :	0.00	0.00	0.96	5329.79	0.00	0.00	0.63	3521.13	0.00	0.00	0.33	1808.99
29 :	0.00	0.00	0.96	5328.83	0.00	0.00	0.63	3520.50	0.00	0.00	0.33	1808.66
30 :	0.00	0.00	0.96	5327.87	0.00	0.00	0.63	3519.87	0.00	0.00	0.33	1808.33
TOT :	0.00	0.00	29.11		0.00	0.00	19.19		0.00	0.00	9.92	

CONSUMABLE WATER

NOV 1997:	COLORADO UPSTREAM				COLORADO DOWNSTREAM				KANSAS			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				0.00				3539.06				0.00
1 :	0.00	0.00	0.00	0.00	0.00	0.00	0.67	3538.39	0.00	0.00	0.00	0.00
2 :	0.00	0.00	0.00	0.00	0.00	0.00	0.66	3537.73	0.00	0.00	0.00	0.00
3 :	0.00	0.00	0.00	0.00	0.00	0.00	0.67	3537.06	0.00	0.00	0.00	0.00
4 :	0.00	0.00	0.00	0.00	0.00	0.00	0.66	3536.40	0.00	0.00	0.00	0.00
5 :	0.00	0.00	0.00	0.00	0.00	0.00	0.65	3535.75	0.00	0.00	0.00	0.00
6 :	0.00	0.00	0.00	0.00	0.00	0.00	0.66	3535.09	0.00	0.00	0.00	0.00
7 :	0.00	0.00	0.00	0.00	0.00	0.00	0.65	3534.44	0.00	0.00	0.00	0.00
8 :	0.00	0.00	0.00	0.00	0.00	0.00	0.65	3533.79	0.00	0.00	0.00	0.00
9 :	0.00	0.00	0.00	0.00	0.00	0.00	0.64	3533.15	0.00	0.00	0.00	0.00
10 :	0.00	0.00	0.00	0.00	0.00	0.00	0.64	3532.51	0.00	0.00	0.00	0.00
11 :	0.00	0.00	0.00	0.00	0.00	0.00	0.65	3531.86	0.00	0.00	0.00	0.00
12 :	0.00	0.00	0.00	0.00	0.00	0.00	0.64	3531.22	0.00	0.00	0.00	0.00
13 :	0.00	0.00	0.00	0.00	0.00	0.00	0.64	3530.58	0.00	0.00	0.00	0.00
14 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3529.95	0.00	0.00	0.00	0.00
15 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3529.32	0.00	0.00	0.00	0.00
16 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3528.69	0.00	0.00	0.00	0.00
17 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3528.06	0.00	0.00	0.00	0.00
18 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3527.43	0.00	0.00	0.00	0.00
19 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3526.80	0.00	0.00	0.00	0.00
20 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3526.17	0.00	0.00	0.00	0.00
21 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3525.54	0.00	0.00	0.00	0.00
22 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3524.91	0.00	0.00	0.00	0.00
23 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3524.28	0.00	0.00	0.00	0.00
24 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3523.65	0.00	0.00	0.00	0.00
25 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3523.02	0.00	0.00	0.00	0.00
26 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3522.39	0.00	0.00	0.00	0.00
27 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3521.76	0.00	0.00	0.00	0.00
28 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3521.13	0.00	0.00	0.00	0.00
29 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3520.50	0.00	0.00	0.00	0.00
30 :	0.00	0.00	0.00	0.00	0.00	0.00	0.63	3519.87	0.00	0.00	0.00	0.00
TOT :	0.00	0.00	0.00		0.00	0.00	19.19		0.00	0.00	0.00	

CONSUMABLE WATER

NOV 1997:	KANSAS STORAGE CHARGE				TOTAL				INFLOW	RELEASE	EVAP	OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN				
				0.00								3539.06
1	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.66	0.00	3538.39
2	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.67	0.00	3537.73
3	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.66	0.00	3537.06
4	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.65	0.00	3536.40
5	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.66	0.00	3535.75
6	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.65	0.00	3535.09
7	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.64	0.00	3534.44
8	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.64	0.00	3533.79
9	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64	0.00	3533.15
10	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.63	0.00	3532.51
11	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.63	0.00	3531.86
12	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.63	0.00	3531.22
13	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.63	0.00	3530.58
14	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3529.95
15	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3529.32
16	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3528.69
17	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3528.06
18	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3527.43
19	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3526.80
20	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3526.17
21	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3525.54
22	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3524.91
23	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3524.28
24	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3523.65
25	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3523.02
26	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3522.39
27	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3521.76
28	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3521.13
29	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3520.50
30	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63	0.00	3519.87
TOT	0.00	0.00	0.00		0.00	0.00	19.19					

RETURN FLOW

NOV 1997:	INSTATE				STATE LINE				TOTAL				
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
				1817.92				0.00					1817.92
1	0.00	0.00	0.34	1817.58	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1817.58
2	0.00	0.00	0.34	1817.24	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1817.24
3	0.00	0.00	0.34	1816.90	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1816.90
4	0.00	0.00	0.34	1816.56	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1816.56
5	0.00	0.00	0.34	1816.22	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1816.22
6	0.00	0.00	0.34	1815.88	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1815.88
7	0.00	0.00	0.34	1815.54	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	1815.54
8	0.00	0.00	0.33	1815.21	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1815.21
9	0.00	0.00	0.33	1814.88	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1814.88
10	0.00	0.00	0.33	1814.55	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1814.55
11	0.00	0.00	0.33	1814.22	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1814.22
12	0.00	0.00	0.33	1813.89	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1813.89
13	0.00	0.00	0.33	1813.56	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1813.56
14	0.00	0.00	0.33	1813.23	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1813.23
15	0.00	0.00	0.33	1812.90	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1812.90
16	0.00	0.00	0.33	1812.57	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1812.57
17	0.00	0.00	0.33	1812.24	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1812.24
18	0.00	0.00	0.33	1811.91	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1811.91
19	0.00	0.00	0.32	1811.59	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	1811.59
20	0.00	0.00	0.32	1811.27	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	1811.27
21	0.00	0.00	0.32	1810.95	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	1810.95
22	0.00	0.00	0.32	1810.63	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	1810.63
23	0.00	0.00	0.32	1810.31	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	1810.31
24	0.00	0.00	0.33	1809.98	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1809.98
25	0.00	0.00	0.33	1809.65	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1809.65
26	0.00	0.00	0.33	1809.32	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1809.32
27	0.00	0.00	0.33	1808.99	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1808.99
28	0.00	0.00	0.33	1808.66	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1808.66
29	0.00	0.00	0.33	1808.33	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1808.33
30	0.00	0.00	0.33	1808.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1808.00
TOT	0.00	0.00	9.92		0.00	0.00	0.00		0.00	0.00	9.92		

OFFSET ACCOUNT													CONSUMABLE WATER				RETURN FLOW				PG 1
DEC 1997:	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW												
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN									
				5327.87				3519.87					1808.00								
1	0.00	0.00	0.84	5327.03	0.00	0.00	0.55	3519.32	0.00	0.00	0.29		1807.71								
2	0.00	0.00	0.84	5326.19	0.00	0.00	0.55	3518.77	0.00	0.00	0.29		1807.42								
3	0.00	0.00	0.84	5325.35	0.00	0.00	0.55	3518.22	0.00	0.00	0.29		1807.13								
4	0.00	0.00	0.84	5324.51	0.00	0.00	0.55	3517.67	0.00	0.00	0.29		1806.84								
5	0.00	0.00	0.84	5323.67	0.00	0.00	0.55	3517.12	0.00	0.00	0.29		1806.55								
6	0.00	0.00	0.84	5322.83	0.00	0.00	0.55	3516.57	0.00	0.00	0.29		1806.26								
7	0.00	0.00	0.83	5322.00	0.00	0.00	0.55	3516.02	0.00	0.00	0.28		1805.98								
8	0.00	0.00	0.83	5321.17	0.00	0.00	0.55	3515.47	0.00	0.00	0.28		1805.70								
9	0.00	0.00	0.85	5320.32	0.00	0.00	0.56	3514.91	0.00	0.00	0.29		1805.41								
10	0.00	0.00	0.84	5319.48	0.00	0.00	0.55	3514.36	0.00	0.00	0.29		1805.12								
11	0.00	0.00	0.84	5318.64	0.00	0.00	0.55	3513.81	0.00	0.00	0.29		1804.83								
12	0.00	0.00	0.84	5317.80	0.00	0.00	0.55	3513.26	0.00	0.00	0.29		1804.54								
13	0.00	0.00	0.84	5316.96	0.00	0.00	0.55	3512.71	0.00	0.00	0.29		1804.25								
14	0.00	0.00	0.84	5316.12	0.00	0.00	0.55	3512.16	0.00	0.00	0.29		1803.96								
15	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
16	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
17	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
18	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
19	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
20	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
21	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
22	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
23	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
24	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
25	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
26	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
27	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
28	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
29	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
30	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
31	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		1803.96								
TOT	0.00	0.00	11.75		0.00	0.00	7.71		0.00	0.00	4.04										

COLORADO UPSTREAM													COLORADO DOWNSTREAM				KANSAS				PG 1
DEC 1997:	COLORADO UPSTREAM				COLORADO DOWNSTREAM				KANSAS												
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN									
				0.00				3519.87					0.00								
1	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3519.32	0.00	0.00	0.00		0.00								
2	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3518.77	0.00	0.00	0.00		0.00								
3	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3518.22	0.00	0.00	0.00		0.00								
4	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3517.67	0.00	0.00	0.00		0.00								
5	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3517.12	0.00	0.00	0.00		0.00								
6	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3516.57	0.00	0.00	0.00		0.00								
7	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3516.02	0.00	0.00	0.00		0.00								
8	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3515.47	0.00	0.00	0.00		0.00								
9	0.00	0.00	0.00	0.00	0.00	0.00	0.56	3514.91	0.00	0.00	0.00		0.00								
10	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3514.36	0.00	0.00	0.00		0.00								
11	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3513.81	0.00	0.00	0.00		0.00								
12	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3513.26	0.00	0.00	0.00		0.00								
13	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3512.71	0.00	0.00	0.00		0.00								
14	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3512.16	0.00	0.00	0.00		0.00								
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	0.00	0.00	0.00		0.00								
TOT	0.00	0.00	0.00		0.00	0.00	7.71		0.00	0.00	0.00										

CONSUMABLE WATER

DEC 1997:	KANSAS STORAGE CHARGE				TOTAL				OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
				0.00				3519.87	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3519.32	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3518.77	
3	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3518.22	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3517.67	
5	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3517.12	
6	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3516.57	
7	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3516.02	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3515.47	
9	0.00	0.00	0.00	0.00	0.00	0.00	0.56	3514.91	
10	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3514.36	
11	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3513.81	
12	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3513.26	
13	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3512.71	
14	0.00	0.00	0.00	0.00	0.00	0.00	0.55	3512.16	
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16	
TOT	0.00	0.00	0.00		0.00	0.00	7.71		

RETURN FLOW

DEC 1997:	INSTATE				STATE LINE				TOTAL			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				1808.00				0.00				1808.00
1	0.00	0.00	0.29	1807.71	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1807.71
2	0.00	0.00	0.29	1807.42	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1807.42
3	0.00	0.00	0.29	1807.13	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1807.13
4	0.00	0.00	0.29	1806.84	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1806.84
5	0.00	0.00	0.29	1806.55	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1806.55
6	0.00	0.00	0.29	1806.26	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1806.26
7	0.00	0.00	0.28	1805.98	0.00	0.00	0.00	0.00	0.00	0.00	0.28	1805.98
8	0.00	0.00	0.28	1805.70	0.00	0.00	0.00	0.00	0.00	0.00	0.28	1805.70
9	0.00	0.00	0.29	1805.41	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1805.41
10	0.00	0.00	0.29	1805.12	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1805.12
11	0.00	0.00	0.29	1804.83	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1804.83
12	0.00	0.00	0.29	1804.54	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1804.54
13	0.00	0.00	0.29	1804.25	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1804.25
14	0.00	0.00	0.29	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1803.96
15	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
16	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
17	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
18	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
19	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
20	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
21	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
22	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
23	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
24	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
25	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
26	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
27	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
28	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
29	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
30	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
31	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
TOT	0.00	0.00	4.04		0.00	0.00	0.00		0.00	0.00	4.04	

CONSUMABLE WATER

JAN 1998:	KANSAS STORAGE CHARGE				TOTAL				INFLOW	RELEASE	EVAP	OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN				
1 :				0.00 :				3512.16 :				
2 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
3 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
4 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
5 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
6 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
7 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
8 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
9 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
10 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
11 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
12 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
13 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	3512.16 :				
14 :	0.00	0.00	0.00	0.00 :	0.00	1044.94	0.00	2467.22 :				
15 :	0.00	0.00	0.00	0.00 :	0.00	2011.43	0.00	455.79 :				
16 :	0.00	0.00	0.00	0.00 :	0.00	455.79	0.00	0.00 :				
17 :	0.00	0.00	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	0.00	0.00 :				
19 :	0.00	0.00	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	0.00	0.00 :				
21 :	0.00	0.00	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	0.00	0.00 :				
23 :	0.00	0.00	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	0.00	0.00 :				
25 :	0.00	0.00	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	0.00	0.00 :				
27 :	0.00	0.00	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	0.00	0.00 :				
29 :	0.00	0.00	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	0.00	0.00 :				
31 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	0.00 :				
TOT :	0.00	0.00	0.00		0.00	3512.16	0.00					

RETURN FLOW

JAN 1998:	INSTATE				STATE LINE				TOTAL			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1 :				1803.96 :				0.00 :				1803.96
2 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
3 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
4 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
5 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
6 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
7 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
8 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
9 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
10 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
11 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
12 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
13 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
14 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
15 :	0.00	0.00	0.00	1803.96 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
16 :	0.00	1651.46	0.00	152.50 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	1803.96
17 :	0.00	152.50	0.00	0.00 :	0.00	0.00	0.00	0.00 :	0.00	1651.46	0.00	152.50
18 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.00	0.00 :	0.00	152.50	0.00	0.00
19 :	0.00	0.00	0.00	0.00 :	0.00	0.00	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	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	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	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	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	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	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	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	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	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	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	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	0.00
TOT :	0.00	1803.96	0.00		0.00	0.00	0.00		0.00	1803.96	0.00	

OFFSET ACCOUNT

JUL 1998:	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				701.69				701.69				
1	338.44	0.00	0.77	1039.36	338.44	0.00	0.77	1039.36	0.00	0.00	0.00	0.00
2	313.31	0.00	1.01	1351.66	313.31	0.00	1.01	1351.66	0.00	0.00	0.00	0.00
3	0.00	0.00	1.32	1350.34	0.00	0.00	1.32	1350.34	0.00	0.00	0.00	0.00
4	0.00	0.00	1.30	1349.04	0.00	0.00	1.30	1349.04	0.00	0.00	0.00	0.00
5	0.00	0.00	1.33	1347.71	0.00	0.00	1.33	1347.71	0.00	0.00	0.00	0.00
6	0.00	0.00	1.39	1346.32	0.00	0.00	1.39	1346.32	0.00	0.00	0.00	0.00
7	0.00	0.00	0.81	1345.51	0.00	0.00	0.81	1345.51	0.00	0.00	0.00	0.00
8	0.00	0.00	0.79	1344.72	0.00	0.00	0.79	1344.72	0.00	0.00	0.00	0.00
9	0.00	0.00	0.99	1343.73	0.00	0.00	0.99	1343.73	0.00	0.00	0.00	0.00
10	0.00	0.00	1.05	1342.68	0.00	0.00	1.05	1342.68	0.00	0.00	0.00	0.00
11	14.43	0.00	1.07	1356.04	13.81	0.00	1.07	1355.42	0.62	0.00	0.00	0.00
12	44.36	0.00	1.08	1399.32	42.45	0.00	1.08	1396.79	1.91	0.00	0.00	0.62
13	68.66	0.00	1.24	1466.74	65.71	0.00	1.24	1461.26	2.95	0.00	0.00	2.53
14	70.49	0.00	1.42	1535.81	67.46	0.00	1.41	1527.31	3.03	0.00	0.01	5.48
15	64.95	0.00	1.69	1599.07	62.16	0.00	1.68	1587.79	2.79	0.00	0.01	8.50
16	43.99	0.00	1.52	1641.54	42.10	0.00	1.51	1628.38	1.89	0.00	0.01	11.28
17	23.08	0.00	1.81	1662.81	22.09	0.00	1.80	1648.67	0.99	0.00	0.01	13.16
18	20.30	0.00	1.83	1681.28	19.43	0.00	1.81	1666.29	0.87	0.00	0.02	14.14
19	18.81	0.00	1.85	1698.24	18.00	0.00	1.83	1682.46	0.81	0.00	0.02	14.99
20	13.33	0.00	2.01	1709.56	12.76	0.00	1.99	1693.23	0.57	0.00	0.02	15.78
21	8.45	0.00	2.28	1715.73	8.09	0.00	2.26	1699.06	0.36	0.00	0.02	16.33
22	6.12	0.00	1.37	1720.48	5.86	0.00	1.36	1703.56	0.26	0.00	0.01	16.67
23	0.00	0.00	1.39	1719.09	0.00	0.00	1.38	1702.18	0.00	0.00	0.01	16.92
24	0.00	0.00	1.39	1717.70	0.00	0.00	1.38	1700.80	0.00	0.00	0.01	16.91
25	0.00	0.00	1.44	1716.26	0.00	0.00	1.43	1699.37	0.00	0.00	0.01	16.90
26	0.00	0.00	1.45	1714.81	0.00	0.00	1.44	1697.93	0.00	0.00	0.01	16.89
27	0.00	0.00	0.64	1714.17	0.00	0.00	0.63	1697.30	0.00	0.00	0.01	16.88
28	3.32	0.00	1.17	1716.32	3.18	0.00	1.16	1699.32	0.14	0.00	0.01	16.87
29	4.27	0.00	1.99	1718.60	4.09	0.00	1.97	1701.44	0.18	0.00	0.02	17.00
30	22.66	0.00	1.17	1740.09	21.69	0.00	1.16	1721.97	0.97	0.00	0.01	17.16
31	71.82	0.00	1.21	1810.70	68.73	0.00	1.20	1789.50	3.09	0.00	0.01	18.12
TOT	1150.79	0.00	41.78		1129.36	0.00	41.55		21.43	0.00	0.23	21.20

CONSUMABLE WATER

JUL 1998:	COLORADO UPSTREAM				COLORADO DOWNSTREAM				KANSAS			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				0.00				202.01				
1	0.00	0.00	0.00	0.00	338.44	0.00	0.22	540.23	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	313.31	0.00	0.52	853.02	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.83	852.19	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.82	851.37	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.84	850.53	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.88	849.65	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.51	849.14	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.50	848.64	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.62	848.02	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.66	847.36	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	13.81	0.00	0.68	860.49	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	42.45	0.00	0.69	902.25	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	65.71	0.00	0.80	967.16	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	67.46	0.00	0.93	1033.69	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	62.16	0.00	1.14	1094.71	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	42.10	0.00	1.04	1135.77	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	22.09	0.00	1.26	1156.60	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	19.43	0.00	1.27	1174.76	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	18.00	0.00	1.29	1191.47	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	12.76	0.00	1.41	1202.82	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	8.09	0.00	1.61	1209.30	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	5.86	0.00	0.97	1214.19	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1213.21	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1212.23	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1211.21	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	1.03	1210.18	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1209.73	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	3.18	0.00	0.83	1212.08	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	4.09	0.00	1.41	1214.76	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	21.69	0.00	0.83	1235.62	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	68.73	0.00	0.86	1303.49	0.00	0.00	0.00	0.00
TOT	0.00	0.00	0.00		1129.36	0.00	27.88		0.00	0.00	0.00	

CONSUMABLE WATER

KANSAS STORAGE CHARGE				TOTAL								
JUL 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	0.00	0.00	0.55	499.68	338.44	0.00	0.77	701.69				
2	0.00	0.00	0.49	499.13	313.31	0.00	1.01	1039.36				
3	0.00	0.00	0.49	498.64	0.00	0.00	1.32	1351.66				
4	0.00	0.00	0.48	498.15	0.00	0.00	1.30	1350.34				
5	0.00	0.00	0.49	497.67	0.00	0.00	1.33	1349.04				
6	0.00	0.00	0.51	497.18	0.00	0.00	1.39	1347.71				
7	0.00	0.00	0.30	496.67	0.00	0.00	0.81	1346.32				
8	0.00	0.00	0.29	496.37	0.00	0.00	0.79	1345.51				
9	0.00	0.00	0.37	496.08	0.00	0.00	0.99	1344.72				
10	0.00	0.00	0.39	495.71	0.00	0.00	1.05	1343.73				
11	0.00	0.00	0.39	495.32	13.81	0.00	1.07	1342.68				
12	0.00	0.00	0.39	494.93	42.45	0.00	1.08	1355.42				
13	0.00	0.00	0.44	494.54	65.71	0.00	1.24	1396.79				
14	0.00	0.00	0.48	494.10	67.46	0.00	1.41	1461.26				
15	0.00	0.00	0.54	493.62	62.16	0.00	1.68	1527.31				
16	0.00	0.00	0.47	493.08	42.10	0.00	1.51	1587.79				
17	0.00	0.00	0.54	492.61	22.09	0.00	1.80	1628.38				
18	0.00	0.00	0.54	492.07	19.43	0.00	1.81	1648.67				
19	0.00	0.00	0.54	491.53	18.00	0.00	1.83	1666.29				
20	0.00	0.00	0.58	490.99	12.76	0.00	1.99	1682.46				
21	0.00	0.00	0.65	490.41	8.09	0.00	2.26	1693.23				
22	0.00	0.00	0.39	489.76	5.86	0.00	1.36	1699.06				
23	0.00	0.00	0.40	489.37	0.00	0.00	1.38	1703.56				
24	0.00	0.00	0.40	488.97	0.00	0.00	1.38	1702.18				
25	0.00	0.00	0.41	488.57	0.00	0.00	1.43	1700.80				
26	0.00	0.00	0.41	488.16	0.00	0.00	1.44	1699.37				
27	0.00	0.00	0.18	487.75	0.00	0.00	0.63	1697.93				
28	0.00	0.00	0.33	487.57	3.18	0.00	1.16	1697.30				
29	0.00	0.00	0.56	487.24	4.09	0.00	1.97	1699.32				
30	0.00	0.00	0.33	486.68	21.69	0.00	1.16	1701.44				
31	0.00	0.00	0.34	486.35	68.73	0.00	1.20	1721.97				
TOT	0.00	0.00	13.67	486.01	1129.36	0.00	41.55	1789.50				

RETURN FLOW

INSTATE				STATE LINE				TOTAL				
JUL 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	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	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	0.00	0.00	0.00	0.00	0.00	0.00
11	0.62	0.00	0.00	0.62	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.62
12	1.91	0.00	0.00	2.53	0.00	0.00	0.00	0.00	1.91	0.00	0.00	2.53
13	2.95	0.00	0.00	5.48	0.00	0.00	0.00	0.00	2.95	0.00	0.00	5.48
14	3.03	0.00	0.01	8.50	0.00	0.00	0.00	0.00	3.03	0.00	0.01	8.50
15	2.79	0.00	0.01	11.28	0.00	0.00	0.00	0.00	2.79	0.00	0.01	11.28
16	1.89	0.00	0.01	13.16	0.00	0.00	0.00	0.00	1.89	0.00	0.01	13.16
17	0.99	0.00	0.01	14.14	0.00	0.00	0.00	0.00	0.99	0.00	0.01	14.14
18	0.87	0.00	0.02	14.99	0.00	0.00	0.00	0.00	0.87	0.00	0.02	14.99
19	0.81	0.00	0.02	15.78	0.00	0.00	0.00	0.00	0.81	0.00	0.02	15.78
20	0.57	0.00	0.02	16.33	0.00	0.00	0.00	0.00	0.57	0.00	0.02	16.33
21	0.36	0.00	0.02	16.67	0.00	0.00	0.00	0.00	0.36	0.00	0.02	16.67
22	0.26	0.00	0.01	16.92	0.00	0.00	0.00	0.00	0.26	0.00	0.01	16.92
23	0.00	0.00	0.01	16.91	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.91
24	0.00	0.00	0.01	16.90	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.90
25	0.00	0.00	0.01	16.89	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.89
26	0.00	0.00	0.01	16.88	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.88
27	0.00	0.00	0.01	16.87	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.87
28	0.14	0.00	0.01	17.00	0.00	0.00	0.00	0.00	0.14	0.00	0.01	17.00
29	0.18	0.00	0.02	17.16	0.00	0.00	0.00	0.00	0.18	0.00	0.02	17.16
30	0.97	0.00	0.01	18.12	0.00	0.00	0.00	0.00	0.97	0.00	0.01	18.12
31	3.09	0.00	0.01	21.20	0.00	0.00	0.00	0.00	3.09	0.00	0.01	21.20
TOT	21.43	0.00	0.23		0.00	0.00	0.00		21.43	0.00	0.23	

OFFSET ACCOUNT

AUG 1998:	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				1810.70				1789.50				
1 :	42.79	0.00	1.30	1852.19	40.95	0.00	1.28	1829.17	1.84	0.00	0.02	21.20
2 :	66.70	0.00	1.33	1917.56	63.83	0.00	1.31	1891.69	2.87	0.00	0.02	23.02
3 :	71.43	0.00	1.20	1987.79	68.36	0.00	1.18	1958.87	3.07	0.00	0.02	25.87
4 :	55.84	0.00	1.51	2042.12	53.44	0.00	1.49	2010.82	2.40	0.00	0.02	28.92
5 :	12.34	0.00	0.89	2053.57	11.81	0.00	0.88	2021.75	0.53	0.00	0.01	31.30
6 :	25.13	0.00	1.20	2077.50	24.05	0.00	1.18	2044.62	1.08	0.00	0.02	31.82
7 :	74.96	0.00	0.99	2151.47	71.74	0.00	0.97	2115.39	3.22	0.00	0.02	32.88
8 :	74.44	0.00	1.02	2224.89	71.24	0.00	1.00	2185.63	3.20	0.00	0.02	36.08
9 :	78.67	0.00	1.05	2302.51	75.29	0.00	1.03	2259.89	3.38	0.00	0.02	39.26
10 :	64.28	0.00	1.04	2365.75	61.52	0.00	1.02	2320.39	2.76	0.00	0.02	42.62
11 :	52.10	0.00	1.01	2416.84	49.86	0.00	0.99	2369.26	2.24	0.00	0.02	45.36
12 :	52.89	0.00	1.29	2468.44	50.62	0.00	1.26	2418.62	2.27	0.00	0.02	47.58
13 :	63.09	0.00	1.48	2530.05	60.38	0.00	1.45	2477.55	2.71	0.00	0.03	49.82
14 :	76.64	0.00	1.84	2604.85	73.34	0.00	1.80	2549.09	3.30	0.00	0.04	52.50
15 :	71.82	0.00	1.89	2674.78	68.73	0.00	1.85	2615.97	3.09	0.00	0.04	55.76
16 :	56.34	0.00	1.94	2729.18	53.92	0.00	1.90	2667.99	2.42	0.00	0.04	58.81
17 :	38.75	0.00	2.22	2765.71	37.08	0.00	2.17	2702.90	1.67	0.00	0.05	61.19
18 :	28.03	0.00	2.48	2791.26	26.82	0.00	2.42	2727.30	1.21	0.00	0.06	62.81
19 :	21.54	0.00	1.85	2810.95	20.61	0.00	1.81	2746.10	0.93	0.00	0.04	63.96
20 :	18.45	0.00	1.80	2827.60	17.66	0.00	1.76	2762.00	0.79	0.00	0.04	64.85
21 :	27.13	0.00	2.37	2852.36	25.96	0.00	2.32	2785.64	1.17	0.00	0.05	66.72
22 :	24.82	0.00	2.38	2874.80	23.72	0.00	2.32	2807.04	1.10	0.00	0.06	67.76
23 :	31.67	0.00	2.34	2904.13	30.31	0.00	2.28	2835.07	1.36	0.00	0.06	69.06
24 :	32.02	0.00	2.81	2933.34	30.64	0.00	2.74	2862.97	1.38	0.00	0.07	70.37
25 :	23.23	0.00	1.57	2955.00	22.23	0.00	1.53	2883.67	1.00	0.00	0.04	71.33
26 :	22.86	0.00	2.22	2975.64	21.88	0.00	2.17	2903.38	0.98	0.00	0.05	72.26
27 :	27.73	0.00	1.92	3001.45	26.54	0.00	1.87	2928.05	1.19	0.00	0.05	73.40
28 :	34.05	0.00	2.18	3033.32	32.59	0.00	2.13	2958.51	1.46	0.00	0.05	74.81
29 :	34.22	0.00	2.22	3065.32	32.75	0.00	2.17	2989.09	1.47	0.00	0.05	76.23
30 :	22.27	0.00	2.23	3085.36	21.31	0.00	2.17	3008.23	0.96	0.00	0.06	77.13
31 :	17.16	0.00	2.53	3099.99	16.42	0.00	2.47	3022.18	0.74	0.00	0.06	77.81
TOT :	1343.39	0.00	54.10		1285.60	0.00	52.92		57.79	0.00	1.18	

CONSUMABLE WATER

AUG 1998:	COLORADO UPSTREAM				COLORADO DOWNSTREAM				KANSAS			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				0.00				1303.49				0.00
1 :	0.00	0.00	0.00	0.00	40.95	0.00	0.93	1343.51	0.00	0.00	0.00	0.00
2 :	0.00	0.00	0.00	0.00	63.83	0.00	0.96	1406.38	0.00	0.00	0.00	0.00
3 :	0.00	0.00	0.00	0.00	68.36	0.00	0.88	1473.86	0.00	0.00	0.00	0.00
4 :	0.00	0.00	0.00	0.00	53.44	0.00	1.12	1526.18	0.00	0.00	0.00	0.00
5 :	0.00	0.00	0.00	0.00	11.81	0.00	0.67	1537.32	0.00	0.00	0.00	0.00
6 :	0.00	0.00	0.00	0.00	24.05	0.00	0.90	1560.47	0.00	0.00	0.00	0.00
7 :	0.00	0.00	0.00	0.00	71.74	0.00	0.74	1631.47	0.00	0.00	0.00	0.00
8 :	0.00	0.00	0.00	0.00	71.24	0.00	0.77	1701.94	0.00	0.00	0.00	0.00
9 :	0.00	0.00	0.00	0.00	75.29	0.00	0.80	1776.43	0.00	0.00	0.00	0.00
10 :	0.00	0.00	0.00	0.00	61.52	0.00	0.80	1837.15	0.00	0.00	0.00	0.00
11 :	0.00	0.00	0.00	0.00	49.86	0.00	0.78	1886.23	0.00	0.00	0.00	0.00
12 :	0.00	0.00	0.00	0.00	50.62	0.00	1.00	1935.85	0.00	0.00	0.00	0.00
13 :	0.00	0.00	0.00	0.00	60.38	0.00	1.16	1995.07	0.00	0.00	0.00	0.00
14 :	0.00	0.00	0.00	0.00	73.34	0.00	1.45	2066.96	0.00	0.00	0.00	0.00
15 :	0.00	0.00	0.00	0.00	68.73	0.00	1.50	2134.19	0.00	0.00	0.00	0.00
16 :	0.00	0.00	0.00	0.00	53.92	0.00	1.55	2186.56	0.00	0.00	0.00	0.00
17 :	0.00	0.00	0.00	0.00	37.08	0.00	1.78	2221.86	0.00	0.00	0.00	0.00
18 :	0.00	0.00	0.00	0.00	26.82	0.00	1.99	2246.69	0.00	0.00	0.00	0.00
19 :	0.00	0.00	0.00	0.00	20.61	0.00	1.49	2265.81	0.00	0.00	0.00	0.00
20 :	0.00	0.00	0.00	0.00	17.66	0.00	1.45	2282.02	0.00	0.00	0.00	0.00
21 :	0.00	0.00	0.00	0.00	25.96	0.00	1.92	2306.06	0.00	0.00	0.00	0.00
22 :	0.00	0.00	0.00	0.00	23.72	0.00	1.92	2327.86	0.00	0.00	0.00	0.00
23 :	0.00	0.00	0.00	0.00	30.31	0.00	1.89	2356.28	0.00	0.00	0.00	0.00
24 :	0.00	0.00	0.00	0.00	30.64	0.00	2.28	2384.64	0.00	0.00	0.00	0.00
25 :	0.00	0.00	0.00	0.00	22.23	0.00	1.27	2405.60	0.00	0.00	0.00	0.00
26 :	0.00	0.00	0.00	0.00	21.88	0.00	1.81	2425.67	0.00	0.00	0.00	0.00
27 :	0.00	0.00	0.00	0.00	26.54	0.00	1.56	2450.65	0.00	0.00	0.00	0.00
28 :	0.00	0.00	0.00	0.00	32.59	0.00	1.78	2481.46	0.00	0.00	0.00	0.00
29 :	0.00	0.00	0.00	0.00	32.75	0.00	1.82	2512.39	0.00	0.00	0.00	0.00
30 :	0.00	0.00	0.00	0.00	21.31	0.00	1.82	2531.88	0.00	0.00	0.00	0.00
31 :	0.00	0.00	0.00	0.00	16.42	0.00	2.08	2546.22	0.00	0.00	0.00	0.00
TOT :	0.00	0.00	0.00		1285.60	0.00	42.87		0.00	0.00	0.00	

CONSUMABLE WATER

KANSAS STORAGE CHARGE				TOTAL								
AUG 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				486.01				1789.50				
1	0.00	0.00	0.35	485.66	40.95	0.00	1.28	1829.17				
2	0.00	0.00	0.35	485.31	63.83	0.00	1.31	1891.69				
3	0.00	0.00	0.30	485.01	68.36	0.00	1.18	1958.87				
4	0.00	0.00	0.37	484.64	53.44	0.00	1.49	2010.82				
5	0.00	0.00	0.21	484.43	11.81	0.00	0.88	2021.75				
6	0.00	0.00	0.28	484.15	24.05	0.00	1.18	2044.62				
7	0.00	0.00	0.23	483.92	71.74	0.00	0.97	2115.39				
8	0.00	0.00	0.23	483.69	71.24	0.00	1.00	2185.63				
9	0.00	0.00	0.23	483.46	75.29	0.00	1.03	2259.89				
10	0.00	0.00	0.22	483.24	61.52	0.00	1.02	2320.39				
11	0.00	0.00	0.21	483.03	49.86	0.00	0.99	2369.26				
12	0.00	0.00	0.26	482.77	50.62	0.00	1.26	2418.62				
13	0.00	0.00	0.29	482.48	60.38	0.00	1.45	2477.55				
14	0.00	0.00	0.35	482.13	73.34	0.00	1.80	2549.09				
15	0.00	0.00	0.35	481.78	68.73	0.00	1.85	2615.97				
16	0.00	0.00	0.35	481.43	53.92	0.00	1.90	2667.99				
17	0.00	0.00	0.39	481.04	37.08	0.00	2.17	2702.90				
18	0.00	0.00	0.43	480.61	26.82	0.00	2.42	2727.30				
19	0.00	0.00	0.32	480.29	20.61	0.00	1.81	2746.10				
20	0.00	0.00	0.31	479.98	17.66	0.00	1.76	2762.00				
21	0.00	0.00	0.40	479.58	25.96	0.00	2.32	2785.64				
22	0.00	0.00	0.40	479.18	23.72	0.00	2.32	2807.04				
23	0.00	0.00	0.39	478.79	30.31	0.00	2.28	2835.07				
24	0.00	0.00	0.46	478.33	30.64	0.00	2.74	2862.97				
25	0.00	0.00	0.26	478.07	22.23	0.00	1.53	2883.67				
26	0.00	0.00	0.36	477.71	21.88	0.00	2.17	2903.38				
27	0.00	0.00	0.31	477.40	26.54	0.00	1.87	2928.05				
28	0.00	0.00	0.35	477.05	32.59	0.00	2.13	2958.51				
29	0.00	0.00	0.35	476.70	32.75	0.00	2.17	2989.09				
30	0.00	0.00	0.35	476.35	21.31	0.00	2.17	3008.23				
31	0.00	0.00	0.39	475.96	16.42	0.00	2.47	3022.18				
TOT	0.00	0.00	10.05		1285.60	0.00	52.92					

RETURN FLOW

INSTATE				STATE LINE				TOTAL				
AUG 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				21.20				0.00				21.20
1	1.84	0.00	0.02	23.02	0.00	0.00	0.00	0.00	1.84	0.00	0.02	23.02
2	2.87	0.00	0.02	25.87	0.00	0.00	0.00	0.00	2.87	0.00	0.02	25.87
3	3.07	0.00	0.02	28.92	0.00	0.00	0.00	0.00	3.07	0.00	0.02	28.92
4	2.40	0.00	0.02	31.30	0.00	0.00	0.00	0.00	2.40	0.00	0.02	31.30
5	0.53	0.00	0.01	31.82	0.00	0.00	0.00	0.00	0.53	0.00	0.01	31.82
6	1.08	0.00	0.02	32.88	0.00	0.00	0.00	0.00	1.08	0.00	0.02	32.88
7	3.22	0.00	0.02	36.08	0.00	0.00	0.00	0.00	3.22	0.00	0.02	36.08
8	3.20	0.00	0.02	39.26	0.00	0.00	0.00	0.00	3.20	0.00	0.02	39.26
9	3.38	0.00	0.02	42.62	0.00	0.00	0.00	0.00	3.38	0.00	0.02	42.62
10	2.76	0.00	0.02	45.36	0.00	0.00	0.00	0.00	2.76	0.00	0.02	45.36
11	2.24	0.00	0.02	47.58	0.00	0.00	0.00	0.00	2.24	0.00	0.02	47.58
12	2.27	0.00	0.03	49.82	0.00	0.00	0.00	0.00	2.27	0.00	0.03	49.82
13	2.71	0.00	0.03	52.50	0.00	0.00	0.00	0.00	2.71	0.00	0.03	52.50
14	3.30	0.00	0.04	55.76	0.00	0.00	0.00	0.00	3.30	0.00	0.04	55.76
15	3.09	0.00	0.04	58.81	0.00	0.00	0.00	0.00	3.09	0.00	0.04	58.81
16	2.42	0.00	0.04	61.19	0.00	0.00	0.00	0.00	2.42	0.00	0.04	61.19
17	1.67	0.00	0.05	62.81	0.00	0.00	0.00	0.00	1.67	0.00	0.05	62.81
18	1.21	0.00	0.06	63.96	0.00	0.00	0.00	0.00	1.21	0.00	0.06	63.96
19	0.93	0.00	0.04	64.85	0.00	0.00	0.00	0.00	0.93	0.00	0.04	64.85
20	0.79	0.00	0.04	65.60	0.00	0.00	0.00	0.00	0.79	0.00	0.04	65.60
21	1.17	0.00	0.05	66.72	0.00	0.00	0.00	0.00	1.17	0.00	0.05	66.72
22	1.10	0.00	0.06	67.76	0.00	0.00	0.00	0.00	1.10	0.00	0.06	67.76
23	1.36	0.00	0.06	69.06	0.00	0.00	0.00	0.00	1.36	0.00	0.06	69.06
24	1.38	0.00	0.07	70.37	0.00	0.00	0.00	0.00	1.38	0.00	0.07	70.37
25	1.00	0.00	0.04	71.33	0.00	0.00	0.00	0.00	1.00	0.00	0.04	71.33
26	0.98	0.00	0.05	72.26	0.00	0.00	0.00	0.00	0.98	0.00	0.05	72.26
27	1.19	0.00	0.05	73.40	0.00	0.00	0.00	0.00	1.19	0.00	0.05	73.40
28	1.46	0.00	0.05	74.81	0.00	0.00	0.00	0.00	1.46	0.00	0.05	74.81
29	1.47	0.00	0.05	76.23	0.00	0.00	0.00	0.00	1.47	0.00	0.05	76.23
30	0.96	0.00	0.06	77.13	0.00	0.00	0.00	0.00	0.96	0.00	0.06	77.13
31	0.74	0.00	0.06	77.81	0.00	0.00	0.00	0.00	0.74	0.00	0.06	77.81
TOT	57.79	0.00	1.18		0.00	0.00	0.00		57.79	0.00	1.18	

OFFSET ACCOUNT

SEP	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW				
	1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
					3099.99				3022.18				
1	34.56	0.00	0.20	3134.35	33.07	0.00	0.19	3055.06	1.49	0.00	0.01	77.81	
2	26.66	0.00	2.23	3158.78	25.51	0.00	2.17	3078.40	1.15	0.00	0.06	79.29	
3	36.54	0.00	2.45	3192.87	34.97	0.00	2.39	3110.98	1.57	0.00	0.06	80.38	
4	73.13	0.00	2.55	3263.45	69.99	0.00	2.48	3178.49	3.14	0.00	0.07	81.89	
5	47.87	0.00	2.61	3308.71	45.81	0.00	2.54	3221.76	2.06	0.00	0.07	84.96	
6	29.25	0.00	2.64	3335.32	27.99	0.00	2.57	3247.18	1.26	0.00	0.07	86.95	
7	23.09	0.00	2.59	3355.82	22.10	0.00	2.52	3266.76	0.99	0.00	0.07	88.14	
8	24.55	0.00	2.75	3377.62	23.49	0.00	2.68	3287.57	1.06	0.00	0.07	89.06	
9	24.68	0.00	4.15	3398.15	23.62	0.00	4.04	3307.15	1.06	0.00	0.11	90.05	
10	21.08	0.00	3.37	3415.86	20.17	0.00	3.28	3324.04	0.91	0.00	0.09	91.00	
11	22.38	0.00	2.87	3435.37	21.42	0.00	2.79	3342.67	0.96	0.00	0.08	91.82	
12	19.99	0.00	2.89	3452.47	19.13	0.00	2.81	3358.99	0.86	0.00	0.08	92.70	
13	21.06	0.00	2.90	3470.63	20.15	0.00	2.82	3376.32	0.91	0.00	0.08	93.48	
14	17.30	0.00	1.88	3486.05	16.56	0.00	1.83	3391.05	0.74	0.00	0.05	94.31	
15	5.87	0.00	1.36	3490.56	5.62	0.00	1.32	3395.35	0.25	0.00	0.04	95.00	
16	0.00	0.00	2.12	3488.44	0.00	0.00	2.06	3393.29	0.00	0.00	0.06	95.21	
17	0.00	0.00	1.74	3486.70	0.00	0.00	1.69	3391.60	0.00	0.00	0.05	95.15	
18	0.00	0.00	2.27	3484.43	0.00	0.00	2.21	3389.39	0.00	0.00	0.05	95.10	
19	4.61	0.00	2.28	3486.76	4.41	0.00	2.22	3391.58	0.20	0.00	0.06	95.04	
20	15.72	0.00	2.22	3500.26	15.04	0.00	2.16	3404.46	0.68	0.00	0.06	95.18	
21	16.25	0.00	1.53	3514.98	15.55	0.00	1.49	3418.52	0.70	0.00	0.04	95.80	
22	15.72	0.00	0.93	3529.77	15.04	0.00	0.90	3432.66	0.68	0.00	0.03	96.46	
23	12.89	0.00	1.17	3541.49	12.34	0.00	1.14	3443.86	0.55	0.00	0.03	97.11	
24	11.48	0.00	1.81	3551.16	10.99	0.00	1.76	3453.09	0.49	0.00	0.05	97.63	
25	11.65	0.00	2.68	3560.13	11.15	0.00	2.61	3461.63	0.50	0.00	0.07	98.07	
26	11.59	0.00	2.69	3569.03	11.09	0.00	2.62	3470.10	0.50	0.00	0.07	98.50	
27	9.66	0.00	2.62	3576.07	9.24	0.00	2.55	3476.79	0.42	0.00	0.07	98.93	
28	8.69	0.00	1.91	3582.85	8.32	0.00	1.86	3483.25	0.37	0.00	0.05	99.28	
29	7.83	0.00	2.48	3588.20	7.49	0.00	2.41	3488.33	0.34	0.00	0.07	99.60	
30	6.95	0.00	2.57	3592.58	6.65	0.00	2.50	3492.48	0.30	0.00	0.07	99.87	
TOT	561.05	0.00	68.46		536.91	0.00	66.61		24.14	0.00	1.85	100.10	

CONSUMABLE WATER

SEP	COLORADO UPSTREAM				COLORADO DOWNSTREAM				KANSAS				
	1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
					0.00				2546.22				0.00
1	0.00	0.00	0.00	0.00	33.07	0.00	0.16	2579.13	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	25.51	0.00	1.83	2602.81	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	34.97	0.00	2.02	2635.76	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	69.99	0.00	2.10	2703.65	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	45.81	0.00	2.16	2747.30	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	27.99	0.00	2.19	2773.10	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	22.10	0.00	2.15	2793.05	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	23.49	0.00	2.29	2814.25	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	23.62	0.00	3.46	2834.41	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	20.17	0.00	2.81	2851.77	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	21.42	0.00	2.39	2870.80	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	19.13	0.00	2.41	2887.52	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	20.15	0.00	2.42	2905.25	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	16.56	0.00	1.57	2920.24	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	5.62	0.00	1.14	2924.72	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	0.00	1.77	2922.95	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.00	0.00	1.46	2921.49	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.00	0.00	1.90	2919.59	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	4.41	0.00	1.91	2922.09	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	15.04	0.00	1.86	2935.27	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	15.55	0.00	1.28	2949.54	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	15.04	0.00	0.78	2963.80	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	12.34	0.00	0.98	2975.16	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	10.99	0.00	1.52	2984.63	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	11.15	0.00	2.26	2993.52	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.00	11.09	0.00	2.27	3002.34	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.00	9.24	0.00	2.21	3009.37	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.00	8.32	0.00	1.61	3016.08	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	7.49	0.00	2.09	3021.48	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	6.65	0.00	2.17	3025.96	0.00	0.00	0.00	0.00	
TOT	0.00	0.00	0.00		536.91	0.00	57.17		0.00	0.00	0.00		

CONSUMABLE WATER

SEP 1998:	KANSAS STORAGE CHARGE				TOTAL				OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1 :				475.96 :				3022.18 :	
2 :	0.00	0.00	0.03	475.93 :	33.07	0.00	0.19	3055.06 :	
3 :	0.00	0.00	0.34	475.59 :	25.51	0.00	2.17	3078.40 :	
4 :	0.00	0.00	0.37	475.22 :	34.97	0.00	2.39	3110.98 :	
5 :	0.00	0.00	0.38	474.84 :	69.99	0.00	2.48	3178.49 :	
6 :	0.00	0.00	0.38	474.46 :	45.81	0.00	2.54	3221.76 :	
7 :	0.00	0.00	0.37	474.08 :	27.99	0.00	2.57	3247.18 :	
8 :	0.00	0.00	0.37	473.71 :	22.10	0.00	2.52	3266.76 :	
9 :	0.00	0.00	0.39	473.32 :	23.49	0.00	2.68	3287.57 :	
10 :	0.00	0.00	0.58	472.74 :	23.62	0.00	4.04	3307.15 :	
11 :	0.00	0.00	0.47	472.27 :	20.17	0.00	3.28	3324.04 :	
12 :	0.00	0.00	0.40	471.87 :	21.42	0.00	2.79	3342.67 :	
13 :	0.00	0.00	0.40	471.47 :	19.13	0.00	2.81	3358.99 :	
14 :	0.00	0.00	0.40	471.07 :	20.15	0.00	2.82	3376.32 :	
15 :	0.00	0.00	0.26	470.81 :	16.56	0.00	1.83	3391.05 :	
16 :	0.00	0.00	0.18	470.63 :	5.62	0.00	1.32	3395.35 :	
17 :	0.00	0.00	0.29	470.34 :	0.00	0.00	2.06	3393.29 :	
18 :	0.00	0.00	0.23	470.11 :	0.00	0.00	1.69	3391.60 :	
19 :	0.00	0.00	0.31	469.80 :	0.00	0.00	2.21	3389.39 :	
20 :	0.00	0.00	0.31	469.49 :	4.41	0.00	2.22	3391.58 :	
21 :	0.00	0.00	0.30	469.19 :	15.04	0.00	2.16	3404.46 :	
22 :	0.00	0.00	0.21	468.98 :	15.55	0.00	1.49	3418.52 :	
23 :	0.00	0.00	0.12	468.86 :	15.04	0.00	0.90	3432.66 :	
24 :	0.00	0.00	0.16	468.70 :	12.34	0.00	1.14	3443.86 :	
25 :	0.00	0.00	0.24	468.46 :	10.99	0.00	1.76	3453.09 :	
26 :	0.00	0.00	0.35	468.11 :	11.15	0.00	2.61	3461.63 :	
27 :	0.00	0.00	0.35	467.76 :	11.09	0.00	2.62	3470.10 :	
28 :	0.00	0.00	0.34	467.42 :	9.24	0.00	2.55	3476.79 :	
29 :	0.00	0.00	0.25	467.17 :	8.32	0.00	1.86	3483.25 :	
30 :	0.00	0.00	0.32	466.85 :	7.49	0.00	2.41	3488.33 :	
30 :	0.00	0.00	0.33	466.52 :	6.65	0.00	2.50	3492.48 :	
TOT :	0.00	0.00	9.44		536.91	0.00	66.61		

RETURN FLOW

SEP 1998:	INSTATE				STATE LINE				TOTAL				OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1 :				77.81 :				0.00 :					77.81
2 :	1.49	0.00	0.01	79.29 :	0.00	0.00	0.00	0.00 :	1.49	0.00	0.01	0.00	79.29
3 :	1.15	0.00	0.06	80.38 :	0.00	0.00	0.00	0.00 :	1.15	0.00	0.06	0.00	80.38
4 :	1.57	0.00	0.06	81.89 :	0.00	0.00	0.00	0.00 :	1.57	0.00	0.06	0.00	81.89
5 :	3.14	0.00	0.07	84.96 :	0.00	0.00	0.00	0.00 :	3.14	0.00	0.07	0.00	84.96
6 :	2.06	0.00	0.07	86.95 :	0.00	0.00	0.00	0.00 :	2.06	0.00	0.07	0.00	86.95
7 :	1.26	0.00	0.07	88.14 :	0.00	0.00	0.00	0.00 :	1.26	0.00	0.07	0.00	88.14
8 :	0.99	0.00	0.07	89.06 :	0.00	0.00	0.00	0.00 :	0.99	0.00	0.07	0.00	89.06
9 :	1.06	0.00	0.07	90.05 :	0.00	0.00	0.00	0.00 :	1.06	0.00	0.07	0.00	90.05
10 :	1.06	0.00	0.11	91.00 :	0.00	0.00	0.00	0.00 :	1.06	0.00	0.11	0.00	91.00
11 :	0.91	0.00	0.09	91.82 :	0.00	0.00	0.00	0.00 :	0.91	0.00	0.09	0.00	91.82
12 :	0.96	0.00	0.08	92.70 :	0.00	0.00	0.00	0.00 :	0.96	0.00	0.08	0.00	92.70
13 :	0.86	0.00	0.08	93.48 :	0.00	0.00	0.00	0.00 :	0.86	0.00	0.08	0.00	93.48
14 :	0.91	0.00	0.08	94.31 :	0.00	0.00	0.00	0.00 :	0.91	0.00	0.08	0.00	94.31
15 :	0.74	0.00	0.05	95.00 :	0.00	0.00	0.00	0.00 :	0.74	0.00	0.05	0.00	95.00
16 :	0.25	0.00	0.04	95.21 :	0.00	0.00	0.00	0.00 :	0.25	0.00	0.04	0.00	95.21
17 :	0.00	0.00	0.06	95.15 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.06	0.00	95.15
18 :	0.00	0.00	0.05	95.10 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.05	0.00	95.10
19 :	0.00	0.00	0.06	95.04 :	0.00	0.00	0.00	0.00 :	0.00	0.00	0.06	0.00	95.04
20 :	0.20	0.00	0.06	95.18 :	0.00	0.00	0.00	0.00 :	0.20	0.00	0.06	0.00	95.18
21 :	0.68	0.00	0.06	95.80 :	0.00	0.00	0.00	0.00 :	0.68	0.00	0.06	0.00	95.80
22 :	0.70	0.00	0.04	96.46 :	0.00	0.00	0.00	0.00 :	0.70	0.00	0.04	0.00	96.46
23 :	0.68	0.00	0.03	97.11 :	0.00	0.00	0.00	0.00 :	0.68	0.00	0.03	0.00	97.11
24 :	0.55	0.00	0.03	97.63 :	0.00	0.00	0.00	0.00 :	0.55	0.00	0.03	0.00	97.63
25 :	0.49	0.00	0.05	98.07 :	0.00	0.00	0.00	0.00 :	0.49	0.00	0.05	0.00	98.07
26 :	0.50	0.00	0.07	98.50 :	0.00	0.00	0.00	0.00 :	0.50	0.00	0.07	0.00	98.50
27 :	0.50	0.00	0.07	98.93 :	0.00	0.00	0.00	0.00 :	0.50	0.00	0.07	0.00	98.93
28 :	0.42	0.00	0.07	99.28 :	0.00	0.00	0.00	0.00 :	0.42	0.00	0.07	0.00	99.28
29 :	0.37	0.00	0.05	99.60 :	0.00	0.00	0.00	0.00 :	0.37	0.00	0.05	0.00	99.60
30 :	0.34	0.00	0.07	99.87 :	0.00	0.00	0.00	0.00 :	0.34	0.00	0.07	0.00	99.87
30 :	0.30	0.00	0.07	100.10 :	0.00	0.00	0.00	0.00 :	0.30	0.00	0.07	0.00	100.10
TOT :	24.14	0.00	1.85		0.00	0.00	0.00		24.14	0.00	1.85		

OFFSET ACCOUNT

OCT 1998:	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				3592.58				3492.48				
1	6.18	0.00	0.49	3598.27	5.91	0.00	0.48	3497.91	0.27	0.00	0.01	100.10
2	3.59	0.00	2.10	3599.76	3.44	0.00	2.04	3499.31	0.15	0.00	0.06	100.36
3	41.62	0.00	2.08	3639.30	39.83	0.00	2.02	3537.12	1.79	0.00	0.06	102.18
4	69.53	0.00	2.10	3706.73	66.54	0.00	2.04	3601.62	2.99	0.00	0.06	105.11
5	65.90	0.00	0.90	3771.73	63.07	0.00	0.87	3663.82	2.83	0.00	0.03	107.91
6	69.50	0.00	1.09	3840.14	66.51	0.00	1.06	3729.27	2.99	0.00	0.03	110.87
7	74.35	0.00	1.53	3912.96	71.15	0.00	1.49	3798.93	3.20	0.00	0.04	114.03
8	64.57	0.00	2.26	3975.27	61.79	0.00	2.19	3858.53	2.78	0.00	0.07	116.74
9	75.41	0.00	2.56	4048.12	72.17	0.00	2.48	3928.22	3.24	0.00	0.08	119.90
10	69.13	0.00	2.61	4114.64	66.16	0.00	2.53	3991.85	2.97	0.00	0.08	122.79
11	67.13	0.00	2.56	4179.21	64.24	0.00	2.48	4053.61	2.89	0.00	0.08	125.60
12	57.07	0.00	2.60	4233.68	54.62	0.00	2.52	4105.71	2.45	0.00	0.08	127.97
13	45.82	0.00	1.31	4278.19	43.85	0.00	1.27	4148.29	1.97	0.00	0.04	129.90
14	42.94	0.00	2.29	4318.84	41.09	0.00	2.22	4187.16	1.85	0.00	0.07	131.68
15	39.62	0.00	3.76	4354.70	37.92	0.00	3.65	4221.43	1.70	0.00	0.11	133.27
16	33.79	0.00	2.44	4386.05	32.34	0.00	2.37	4251.40	1.45	0.00	0.07	134.65
17	35.10	0.00	2.35	4418.80	33.59	0.00	2.28	4282.71	1.51	0.00	0.07	136.09
18	32.86	0.00	2.37	4449.29	31.45	0.00	2.30	4311.86	1.41	0.00	0.07	137.43
19	30.77	0.00	0.89	4479.17	29.45	0.00	0.86	4340.45	1.32	0.00	0.03	138.72
20	29.14	0.00	0.90	4507.41	27.89	0.00	0.87	4367.47	1.25	0.00	0.03	139.94
21	28.29	0.00	1.22	4534.48	27.07	0.00	1.18	4393.36	1.22	0.00	0.04	141.12
22	29.92	0.00	2.35	4562.05	28.63	0.00	2.28	4419.71	1.29	0.00	0.07	142.34
23	33.65	0.00	1.22	4594.48	32.20	0.00	1.18	4450.73	1.45	0.00	0.04	143.75
24	34.37	0.00	1.23	4627.62	32.89	0.00	1.19	4482.43	1.48	0.00	0.04	145.19
25	31.59	0.00	1.15	4658.06	30.23	0.00	1.11	4511.55	1.36	0.00	0.04	146.51
26	30.18	0.00	1.46	4686.78	28.88	0.00	1.41	4539.02	1.30	0.00	0.05	147.76
27	29.75	0.00	1.80	4714.73	28.47	0.00	1.74	4565.75	1.28	0.00	0.06	148.98
28	30.95	0.00	1.27	4744.41	29.62	0.00	1.23	4594.14	1.33	0.00	0.04	150.27
29	31.54	0.00	0.96	4774.99	30.18	0.00	0.93	4623.39	1.36	0.00	0.03	151.60
30	32.89	0.00	0.00	4807.88	31.48	0.00	0.00	4654.87	1.41	0.00	0.00	153.01
31	40.80	0.00	0.00	4848.68	39.05	0.00	0.00	4693.92	1.75	0.00	0.00	154.76
TOT	1307.95	0.00	51.85		1251.71	0.00	50.27		56.24	0.00	1.58	

CONSUMABLE WATER

OCT 1998:	COLORADO UPSTREAM				COLORADO DOWNSTREAM				KANSAS			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				0.00				3025.96				0.00
1	0.00	0.00	0.00	0.00	5.91	0.00	0.42	3031.45	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	3.44	0.00	1.77	3033.12	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	39.83	0.00	1.75	3071.20	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	66.54	0.00	1.77	3135.97	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	63.07	0.00	0.76	3198.28	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	66.51	0.00	0.93	3263.86	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	71.15	0.00	1.30	3333.71	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	61.79	0.00	1.92	3393.58	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	72.17	0.00	2.18	3463.57	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	66.16	0.00	2.23	3527.50	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	64.24	0.00	2.19	3589.55	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	54.62	0.00	2.23	3641.94	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	43.85	0.00	1.13	3684.66	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	41.09	0.00	1.97	3723.78	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	37.92	0.00	3.25	3758.45	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	32.34	0.00	2.11	3788.68	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	33.59	0.00	2.03	3820.24	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	31.45	0.00	2.05	3849.64	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	29.45	0.00	0.77	3878.32	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	27.89	0.00	0.78	3905.43	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	27.07	0.00	1.06	3931.44	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	28.63	0.00	2.04	3958.03	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	32.20	0.00	1.06	3989.17	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	32.89	0.00	1.07	4020.99	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	30.23	0.00	1.00	4050.22	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	28.88	0.00	1.27	4077.83	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	28.47	0.00	1.56	4104.74	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	29.62	0.00	1.11	4133.25	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	30.18	0.00	0.84	4162.59	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	31.48	0.00	0.00	4194.07	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	39.05	0.00	0.00	4233.12	0.00	0.00	0.00	0.00
TOT	0.00	0.00	0.00		1251.71	0.00	44.55		0.00	0.00	0.00	

CONSUMABLE WATER

OCT 1998:	KANSAS STORAGE CHARGE				TOTAL				OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
:				466.52 :				3492.48 :	
1 :	0.00	0.00	0.06	466.46 :	5.91	0.00	0.48	3497.91 :	
2 :	0.00	0.00	0.27	466.19 :	3.44	0.00	2.04	3499.31 :	
3 :	0.00	0.00	0.27	465.92 :	39.83	0.00	2.02	3537.12 :	
4 :	0.00	0.00	0.27	465.65 :	66.54	0.00	2.04	3601.62 :	
5 :	0.00	0.00	0.11	465.54 :	63.07	0.00	0.87	3663.82 :	
6 :	0.00	0.00	0.13	465.41 :	66.51	0.00	1.06	3729.27 :	
7 :	0.00	0.00	0.19	465.22 :	71.15	0.00	1.49	3798.93 :	
8 :	0.00	0.00	0.27	464.95 :	61.79	0.00	2.19	3858.53 :	
9 :	0.00	0.00	0.30	464.65 :	72.17	0.00	2.48	3928.22 :	
10 :	0.00	0.00	0.30	464.35 :	66.16	0.00	2.53	3991.85 :	
11 :	0.00	0.00	0.29	464.06 :	64.24	0.00	2.48	4053.61 :	
12 :	0.00	0.00	0.29	463.77 :	54.62	0.00	2.52	4105.71 :	
13 :	0.00	0.00	0.14	463.63 :	43.85	0.00	1.27	4148.29 :	
14 :	0.00	0.00	0.25	463.38 :	41.09	0.00	2.22	4187.16 :	
15 :	0.00	0.00	0.40	462.98 :	37.92	0.00	3.65	4221.43 :	
16 :	0.00	0.00	0.26	462.72 :	32.34	0.00	2.37	4251.40 :	
17 :	0.00	0.00	0.25	462.47 :	33.59	0.00	2.28	4282.71 :	
18 :	0.00	0.00	0.25	462.22 :	31.45	0.00	2.30	4311.86 :	
19 :	0.00	0.00	0.09	462.13 :	29.45	0.00	0.86	4340.45 :	
20 :	0.00	0.00	0.09	462.04 :	27.89	0.00	0.87	4367.47 :	
21 :	0.00	0.00	0.12	461.92 :	27.07	0.00	1.18	4393.36 :	
22 :	0.00	0.00	0.24	461.68 :	28.63	0.00	2.28	4419.71 :	
23 :	0.00	0.00	0.12	461.56 :	32.20	0.00	1.18	4450.73 :	
24 :	0.00	0.00	0.12	461.44 :	32.89	0.00	1.19	4482.43 :	
25 :	0.00	0.00	0.11	461.33 :	30.23	0.00	1.11	4511.55 :	
26 :	0.00	0.00	0.14	461.19 :	28.88	0.00	1.41	4539.02 :	
27 :	0.00	0.00	0.18	461.01 :	28.47	0.00	1.74	4565.75 :	
28 :	0.00	0.00	0.12	460.89 :	29.62	0.00	1.23	4594.14 :	
29 :	0.00	0.00	0.09	460.80 :	30.18	0.00	0.93	4623.39 :	
30 :	0.00	0.00	0.00	460.80 :	31.48	0.00	0.00	4654.87 :	
31 :	0.00	0.00	0.00	460.80 :	39.05	0.00	0.00	4693.92 :	
TOT :	0.00	0.00	5.72	:	1251.71	0.00	50.27	:	

RETURN FLOW

OCT 1998:	INSTATE				STATE LINE				TOTAL				OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
:				100.10 :				0.00 :					100.10
1 :	0.27	0.00	0.01	100.36 :	0.00	0.00	0.00	0.00 :	0.27	0.00	0.01	0.00	100.36
2 :	0.15	0.00	0.06	100.45 :	0.00	0.00	0.00	0.00 :	0.15	0.00	0.06	0.00	100.45
3 :	1.79	0.00	0.06	102.18 :	0.00	0.00	0.00	0.00 :	1.79	0.00	0.06	0.00	102.18
4 :	2.99	0.00	0.06	105.11 :	0.00	0.00	0.00	0.00 :	2.99	0.00	0.06	0.00	105.11
5 :	2.83	0.00	0.03	107.91 :	0.00	0.00	0.00	0.00 :	2.83	0.00	0.03	0.00	107.91
6 :	2.99	0.00	0.03	110.87 :	0.00	0.00	0.00	0.00 :	2.99	0.00	0.03	0.00	110.87
7 :	3.20	0.00	0.04	114.03 :	0.00	0.00	0.00	0.00 :	3.20	0.00	0.04	0.00	114.03
8 :	2.78	0.00	0.07	116.74 :	0.00	0.00	0.00	0.00 :	2.78	0.00	0.07	0.00	116.74
9 :	3.24	0.00	0.08	119.90 :	0.00	0.00	0.00	0.00 :	3.24	0.00	0.08	0.00	119.90
10 :	2.97	0.00	0.08	122.79 :	0.00	0.00	0.00	0.00 :	2.97	0.00	0.08	0.00	122.79
11 :	2.89	0.00	0.08	125.60 :	0.00	0.00	0.00	0.00 :	2.89	0.00	0.08	0.00	125.60
12 :	2.45	0.00	0.08	127.97 :	0.00	0.00	0.00	0.00 :	2.45	0.00	0.08	0.00	127.97
13 :	1.97	0.00	0.04	129.90 :	0.00	0.00	0.00	0.00 :	1.97	0.00	0.04	0.00	129.90
14 :	1.85	0.00	0.07	131.68 :	0.00	0.00	0.00	0.00 :	1.85	0.00	0.07	0.00	131.68
15 :	1.70	0.00	0.11	133.27 :	0.00	0.00	0.00	0.00 :	1.70	0.00	0.11	0.00	133.27
16 :	1.45	0.00	0.07	134.65 :	0.00	0.00	0.00	0.00 :	1.45	0.00	0.07	0.00	134.65
17 :	1.51	0.00	0.07	136.09 :	0.00	0.00	0.00	0.00 :	1.51	0.00	0.07	0.00	136.09
18 :	1.41	0.00	0.07	137.43 :	0.00	0.00	0.00	0.00 :	1.41	0.00	0.07	0.00	137.43
19 :	1.32	0.00	0.03	138.72 :	0.00	0.00	0.00	0.00 :	1.32	0.00	0.03	0.00	138.72
20 :	1.25	0.00	0.03	139.94 :	0.00	0.00	0.00	0.00 :	1.25	0.00	0.03	0.00	139.94
21 :	1.22	0.00	0.04	141.12 :	0.00	0.00	0.00	0.00 :	1.22	0.00	0.04	0.00	141.12
22 :	1.29	0.00	0.07	142.34 :	0.00	0.00	0.00	0.00 :	1.29	0.00	0.07	0.00	142.34
23 :	1.45	0.00	0.04	143.75 :	0.00	0.00	0.00	0.00 :	1.45	0.00	0.04	0.00	143.75
24 :	1.48	0.00	0.04	145.19 :	0.00	0.00	0.00	0.00 :	1.48	0.00	0.04	0.00	145.19
25 :	1.36	0.00	0.04	146.51 :	0.00	0.00	0.00	0.00 :	1.36	0.00	0.04	0.00	146.51
26 :	1.30	0.00	0.05	147.76 :	0.00	0.00	0.00	0.00 :	1.30	0.00	0.05	0.00	147.76
27 :	1.28	0.00	0.06	148.98 :	0.00	0.00	0.00	0.00 :	1.28	0.00	0.06	0.00	148.98
28 :	1.33	0.00	0.04	150.27 :	0.00	0.00	0.00	0.00 :	1.33	0.00	0.04	0.00	150.27
29 :	1.36	0.00	0.03	151.60 :	0.00	0.00	0.00	0.00 :	1.36	0.00	0.03	0.00	151.60
30 :	1.41	0.00	0.00	153.01 :	0.00	0.00	0.00	0.00 :	1.41	0.00	0.00	0.00	153.01
31 :	1.75	0.00	0.00	154.76 :	0.00	0.00	0.00	0.00 :	1.75	0.00	0.00	0.00	154.76
TOT :	56.24	0.00	1.58	:	0.00	0.00	0.00	:	56.24	0.00	1.58		

SECTION 3

STATE OF KANSAS

To: Steve White
From: Aron
Page 1 of 3
5/24/98

BILL GRAVES, GOVERNOR
Alice A. Devine, Secretary of Agriculture
901 S. Kansas Avenue
Topeka, Kansas 66612-1280
(913) 296 3558
FAX: (913) 296-8389

KANSAS DEPARTMENT OF AGRICULTURE

April 7, 1998

Hal Simpson, State Engineer
Division of Water Resources
Department of Natural Resources
1313 Sherman Street, Room 818
Denver, Colorado 80203

Dear Mr. Simpson:

Thank you for your letter dated April 1, 1998, regarding the storage of 500 acre-feet of fully consumable water in Lake Meredith for the subsequent delivery to the offset account in John Martin Reservoir after April 1, 1998, in accordance with the recent amendment of the Offset Account resolution.

I agree with the proposal and am returning for your records a signed copy of your letter dated April 1, 1998, setting forth the conditions of the proposal.

Thank you very much

Sincerely yours,



David L. Pope, P.E.
Chief Engineer - Director
Kansas Department of Agriculture
Division of Water Resources

DLP/am
Enclosure

- pc: David W. Robbins/Dennis M. Montgomery
- John B. Draper
- Steve Miller
- Wendy C. Weiss
- David L. Harrison
- Don Higbee
- Don Pitts
- Lee Rolfs
- Mark Rude
- Dale Book

STATE OF COLORADO

OFFICE OF THE STATE ENGINEER

Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 818
Denver, Colorado 80203
Phone (303) 866-3581
FAX (303) 866-3589



Roy Romer
Governor
James S. Lockhead
Executive Director
Hal D. Simpson
State Engineer

April 1, 1998

David L. Pope
Chief Engineer-Director
Division of Water Resources
Kansas State Board of Agriculture
109 S.W. 9th Street, Suite 202
Topeka, Kansas 66612-1283

WATER RESOURCES
RECEIVED
APR 03 1998
KS DEPT OF AGRICULTURE

RE: Delivery of 500 Acre-Feet to the Offset Account

Dear David:

In accordance with paragraph 9 of the Offset Account Resolution, as amended March 30, 1998 pursuant to action at the Special Arkansas River Compact Administration meeting on March 25, the Lower Arkansas Water Management Association ("LAWMA") has offered to deliver 500 acre-feet of fully consumable water stored in Lake Meredith to the Offset Account after April 1 on the following terms:


1. The water will be released from Lake Meredith and delivered to the Offset Account at a time after April 1 when the Division Engineer for Water Division 2 (Steve Witte) and the Water Commissioner for the Garden City Field Office (Mark Rude) agree that the risk that the 500 acre-feet will spill has passed, taking into consideration river flows upstream from John Martin Reservoir, snow pack in the Arkansas River Basin in Colorado, and reservoir content; provided that if the water has not been earlier released as provided above, the water shall be released from Lake Meredith and delivered to the Offset Account as soon after August 15, 1998 as space is available in John Martin Reservoir and the Reservoir is not spilling;
2. In addition to the 500 acre-feet of fully consumable water stored in Lake Meredith, LAWMA will provide sufficient water for transit losses to deliver the water to John Martin Reservoir.

David L. Pope
April 1, 1998

Page 2

This proposal for delivery of the 500 acre-feet after April 1 is acceptable to me. If you agree with this proposal, please confirm your agreement as soon as possible.


Very truly yours,


Hal D. Simpson
State Engineer

HDS/jmg

cc: David W. Robbins/Dennis M. Montgomery
John B. Draper
Steve Miller
Wendy C. Weiss
David L. Harrison
Don Higbee

Agreed to:


David L. Pope

April 7, 1998
Date

6849L.hds

STATE OF COLORADO

WATER DIVISION 2 OFFICE OF THE STATE ENGINEER

310 East Abriendo, Suite B
Pueblo, CO 81004
Phone (719) 542-3368
FAX (719) 544-0800



DO NOT DATE

STAMP

cc to Date Stamp

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

MEMORANDUM

DATE: June 23, 1998

TO: Mr. Mark Rude, Water Commissioner, Garden City Field Office


FROM: Steve Witte, Division Engineer
Division 2

RE: Delivery to Offset Account


This is to confirm that through a telephone conversation held this date we agreed that the risk of spill of the 500 acre-feet required as the Offset Account Storage Charge for 1998 has passed after having considered the various factors proposed in Hal Simpson's letter dated April 1, 1998 which was accepted by David Pope dated April 7, 1998.

I anticipate initiating actions to cause deliveries of the storage charge and other consumable water to the Offset Account in the near future. These actions will be documented as required by the Amended Offset Account Resolution.

Please indicate your confirmation of the foregoing by signing below and returning the original to me for my files.



Steven J. Witte



Mark Rude

6/23/98

Date

6/29/98

Date

se/MR062398

STATE OF COLORADO

WATER DIVISION 2
OFFICE OF THE STATE ENGINEER310 East Abriendo, Suite B
Pueblo, CO 81004
Phone (719) 542-3368
FAX (719) 544-0800

June 30, 1998

Roy Romer
GovernorJames S. Lochhead
Executive DirectorHal D. Simpson
State EngineerSteven J. Witte, P.E.
Division EngineerDavid L. Pope
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283

RE: Notice of Delivery to the Offset Account in John Martin Reservoir

Dear Mr. Pope:

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 a delivery of water to the Offset Account.

The Lower Arkansas Water Management Association (LAWMA) has initiated actions to deliver **500 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. The provisions in the April 1, 1998 letter from Hal Simpson to you concerning the delivery to the Offset Account of this water after April 1, 1998 have also been complied with. Also, LAWMA has initiated actions to deliver an additional **853.76 acre-feet** of fully consumable water to the Offset Account for the purpose of replacing depletions to usable stateline flow caused by the operations its replacement plan approved under the provisions of Rule 14 of the **AMENDED RULES AND REGULATIONS GOVERNING THE DIVERSION AND USE OF TRIBUTARY GROUND WATER IN THE ARKANSAS RIVER BASIN, COLORADO** ("Rules") and other substitute water supply plans operated by LAWMA. The total quantity to be delivered during this operation is **1353.76 acre-feet**.

LAWMA has purchased water from Colorado Springs Utilities and has initiated a release of that water from Lake Meredith. A copy of the purchase agreement is attached at Enclosure 1. The timing and quantities are described below. This is the same type of water described in the letter provided previously by Colorado Springs Utilities and attached at Enclosure 2.

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

Source of Water Delivered: Colorado Springs Utilities water from Lake Meredith.

Times Associated With Delivery

Release Initiated At: 1200 hours, 26 June, 1998

Release Terminates At: 1200 hours, 30 June, 1998

Arrival Starts at John Martin Reservoir: 1500 hours, 28 June, 1998
Arrival Finishes at John Martin Reservoir: 1500 hours, 2 July, 1998

Flow Rates Associated With Delivery (See Enclosure 3)

Release Flow Rate: 211.37 cfs
Arrival Flow Rate at John Martin Reservoir: 170.63 cfs

Extent Water is Fully Consumable:

Fully consumable water sold by Colorado Springs Utilities to LAWMA.

Return Flow Information

Quantity: Not Applicable
Timing: Not Applicable
Location: Not Applicable

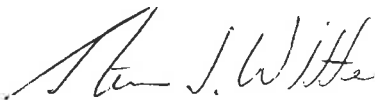
Please provide your instructions for the disposition of the water being delivered as Storage Charge Water.

- Release to River
 Transfer to Kansas Article II Account
 Retain in Offset Account

Also, please provide your instructions for the disposition of the other fully consumable water being delivered.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

3 Enclosures

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

AGREEMENT FOR THE PURCHASE OF WATER

THIS AGREEMENT is made and entered this 17 day of April 1998 by and between Colorado Springs Utilities, hereinafter called "CSU", and Lower Arkansas Water Management Association hereinafter called "LAWMA."

WITNESSED

WHEREAS, LAWMA requires releases of water to the Arkansas River for delivery to the Kansas State line to offset depletions of ground water resulting from post 1985 well users well pumping.

WHEREAS, LAWMA desires to purchase reusable water from CSU in 1998 to be used to offset depletions caused by members' wells.

WHEREAS, LAWMA desires to make available CSU's reusable water from its available water sources to the Division 2 Engineer in 1998 for well depletions caused by LAWMA members' wells.

WHEREAS, in 1998 CSU agrees to release reusable water from one or a combination of the following sources: Lake Meredith, Pueblo Reservoir, and Reusable Return Flows on Fountain Creek, for delivery to the Arkansas River by LAWMA.

WHEREAS, pursuant to the State Engineer's March 27, 1998 approval of LAWMA's replacement plan, LAWMA is required to deliver 500 acre-feet of consumable water to the Offset Account in John Martin Reservoir for Colorado's obligation of Storage Charge Water.

AGREEMENT

NOW, THEREFORE, IT IS AGREED:

1. CSU agrees to sell to LAWMA 1,677 acre-feet of reusable water delivered to the Arkansas River from Lake Meredith, and/or Pueblo Reservoir, and/or Reusable Return Flows on Fountain Creek between March 15, 1998 and November 15, 1998.
2. Cost per acre-foot and cumulative minimum delivery amounts shall be set according to the following schedule:

<u>Cost per acre-foot</u>	<u>Schedule Date</u>	<u>Cumulative Min. Delivery</u>
\$ 6.00 per acre-foot	March 15, 1998 – June 30, 1998	1,677 acre-feet
\$ 8.00 per acre-foot	July 1, 1998 – September 30, 1998	
\$ 10.00 per acre-foot	October 1, 1998 – November 15, 1998	

Water for Brad Cummings Irrigation, Carder, Inc. Gravel Pit, Midwestern Farms Resources Gravel Pit, Prowers County Gravel Pit, Justin Young, Jr. Wildlife Ponds, and

Enclosure 1

attached Exhibit A. The schedule may be modified by ten (10) business days prior notice.

3. CSU agrees to release this reusable water at an approximate flow rate of 60 cfs from Lake Meredith, and/or Pueblo Reservoir, and/or Reusable Return Flows on Fountain Creek between March 15, 1998 and November 15, 1998, not to exceed a total of 1,677 acre-feet.
4. The water sold hereunder shall be measured at the Lake Meredith outlet, and LAWMA shall be responsible for all transit losses associated with the delivery of this water from that point.
5. LAWMA agrees to take or pay for 1,677 acre-feet of reusable water at a minimum payment of \$10,062 (Ten Thousand and Sixty Two Dollars) upon receipt of an invoice from CSU. An additional invoice will be sent to LAWMA following final delivery of said water. This invoice shall reconcile the time of the actual amount of water delivered and associated charges as set forth in Paragraph 2 above and the initial \$10,062 payment by LAWMA to CSU.
6. CSU is not obligated to extend or renew this contract or deliver reusable water beyond November 15, 1998. LAWMA and CSU acknowledge and agree that this sale is based upon the circumstances now existing. This Agreement shall in no way obligate CSU at any future time to provide water for LAWMA's use after November 15, 1998.
7. LAWMA is responsible for obtaining approval by the State Engineer or Division 2 Engineer, as well as all other necessary approvals required for delivery of this water for LAWMA's intended uses from Lake Meredith, Lake Henry, and Pueblo Reservoir.
8. Delivery of this water must be coordinated with the Division 2 Engineer, Mr. Allen Ringle of the Colorado Canal Company, and Mr. Scott Howell of CSU. A one-day notice must be provided to Mr. Ringle and Mr. Howell prior to beginning delivery of this water.
9. CSU makes no warranty as to the water quality of delivered water to LAWMA for its intended use as detailed above.
10. CSU will not be obligated to sell water under this Agreement if in CSU's sole judgment such water is required to supply the needs of CSU.
11. All water furnished under this agreement by CSU shall be for one time use only.
12. The water furnished under this agreement shall not be used for future residential development.
13. This Agreement contains the entire understanding between parties, no modification, amendment, notation, or other alteration to this Agreement shall be valid of any force or effect unless mutually agreed to by the parties in writing as an addendum to this Agreement. At the time of the Execution of the Agreement, there are no other terms, conditions, requirements, or obligations affecting this Agreement, which are not specifically set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on this 17 day of April, 1998.

COLORADO SPRINGS UTILITIES
WATER RESOURCES DEPARTMENT

BY: Leah D. Ash
Leah D. Ash, Director

LOWER ARKANSAS WATER
MANAGEMENT ASSOCIATION

BY: Donald E. Hyle

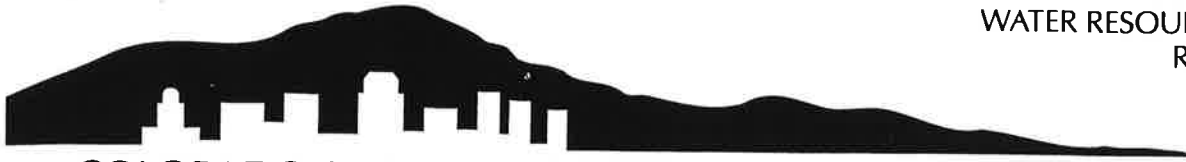
APPROVED AS TO FORM:
[Signature]
Colorado Springs Utilities Legal Counsel

c:\wrd_csr\lcp\agreements\lcp_agr_0404.doc

Exhibit A

1998 COLORADO SPRINGS UTILITIES RELEASES OF REUSABLE WATER FOR LAWMA

Month	Units=Acre-Feet				Midwestern Farms		Prowers County		Justin Young, Jr. Wildlife Ponds		LAWMA's Offset Account		Total AF
	Brad Cummings Irrigation	Carder, Inc. Gravel PK	Resources Gravel Pk	Gravel Pk	County Gravel Pk	Gravel Pk	Wildlife Ponds	Storage Charge	Storage Charge	Total AF			
Apr-98	0.00	4.30	5.80	1.60			0.00	0.00	0.00	11.70			
May-98	0.00	5.00	6.60	1.90			0.00	0.00	0.00	13.50			
Jun-98	833.00	42.50	88.90	12.70		74.10	600.00	1,651.20					
Jul-98	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Aug-98	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Sep-98	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Oct-98	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Nov-98	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Dec-98	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Jan-99	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Feb-99	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Mar-99	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00			
Annual	833.00	51.80	101.30	16.20		74.10	600.00	1,651.20					



COLORADO SPRINGS UTILITIES
RECEIVED

MAR 31 1997

March 26, 1997

Mr. Steve Witte
State Engineer's Office
P.O. Box 5728
Pueblo, Colorado 81003

Dear Mr. Witte:

Colorado Springs Utilities has agreed to sell fully reusable Colorado Canal Consumptive Use waters from our account in Lake Meredith, to the Lower Arkansas Water Management Association (LAWMA). This water is scheduled to be released from Lake Meredith between March 26 and April 1, 1997, and then stored in the Off Set Account in John Martin Reservoir.

Should you have any further questions, please feel free to contact me at (719) 448-8720.

Sincerely,

Scott E. Howell
Senior Analyst

roz

c: Philip C. Saletta

Enclosure 2

TRANSIT LOSS AND TRAVELTIME COMPUTATION

HEADGATE DIVERSION

Meredith Outlet

FOR SITE NO. 13 : ~~Holbrook canal headgate~~

RELEASE DATE: 6 / 26 / 98
 TIME: 1200 (MILITARY)
 MILES: 68.5
 BASE RELEASE: 228.5 CFS
 TYPE OF WATER: LAWMA CU
 DURATION: 4 DAYS

SUBREACH	ANTECEDENT STREAMFLOW	PERCENT TRANSIT LOSS	PROJECTED HOURS	ARRIVAL	
				TIME	DATE
1	1,690	2.05	4.29	1617	6 26 98
2	1,520	1.44	5.76	2227	6 26 98
3	847	1.85	9.72	834	6 27 98
4	698	0.49	2.28	1051	6 27 98
5	0	0.00	0.00	0	0 0 0
6	0	0.00	0.00	0	0 0 0
SUBTOTAL		5.83	22.05	HOURS	

ADJUSTMENT FACTOR FOR BASE RELEASE OF 228.50 CFS = 0.95
 ADJUSTMENT FACTOR FOR RELEASE DURATION OF 4 DAYS = 1.35

ADJUSTED TRANSIT LOSS TO SITE NO. 13 = 7.50 PERCENT. FOR A DIVERSION OF
 211.37 CFS AT SITE NO. 13, THE REQUIRED RESERVOIR RELEASE = 228.50 CFS.

Release

Rate 211.37 cfs

Duration 4 days

Quantity 1677 acre-feet

Start at 1200 hrs, 26 June 1998

End at 1200 hrs, 30 June 1998

Enclosure 3

 TRANSIT LOSS AND TRAVELTIME COMPUTATION

BASE RELEASE

FOR SITE NO. 20 : John Martin Dam

RELEASE DATE: 6 / 26 / 98
 TIME: 1200 (MILITARY)
 MILES: 142.2
 BASE RELEASE: 228.5 CFS
 TYPE OF WATER: LAWMA CU
 DURATION: 4 DAYS

SUBREACH	ANTECEDENT STREAMFLOW	PERCENT TRANSIT LOSS	PROJECTED HOURS	ARRIVAL	
				TIME	DATE
1	1,690	2.05	4.29	1617	6 26 98
2	1,520	1.44	5.76	2227	6 26 98
3	847	1.85	9.72	834	6 27 98
4	698	2.95	13.87	2250	6 27 98
5	43	6.93	15.74	1459	6 28 98
6	90	4.48	15.23	636	6 29 98
SUBTOTAL		19.71	64.61	HOURS	

 ADJUSTMENT FACTOR FOR BASE RELEASE OF 228.50 CFS = 0.95
 ADJUSTMENT FACTOR FOR RELEASE DURATION OF 4 DAYS = 1.35

 ADJUSTED TRANSIT LOSS TO SITE NO. 20 = 25.33 PERCENT. FOR A RESERVOIR
 RELEASE OF 228.50 CFS, THE DIVERSION AT SITE NO. 20 = 170.63 CFS.

Delivery
 Rate 170.63 cfs
 Duration 4 days
 Quantity 1353.76 acre-feet

Enclosure 3 (continued)

STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

310 East Abriendo, Suite B
Pueblo, CO 81004
Phone (719) 542-3368
FAX (719) 544-0800

Corrected Copy

August 10, 1998



Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

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

RE: Notice of Delivery to the Offset Account in John Martin Reservoir

Dear Mr. Pope:

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 a delivery of water to the Offset Account. This letter provides the monthly reporting of deliveries to the Offset Account from the Lower Arkansas Water Management Association (LAWMA) shares of the Highland Irrigation Company using the procedures described in my letter of August 25, 1997 which provided the initial notice of the delivery of water from this replacement source. This is the first of the monthly reports of deliveries from the Highland Canal to be provided in 1998 and covers the period from the initiation of deliveries on July 11, 1998 through the end of July, 1998. Reports will be provided on a monthly basis for each month when deliveries are made.

Enclosure 1 contains the accounting spreadsheet of deliveries from the Highland Canal for the month of July. The format of this spreadsheet is provided and described in my letter of August 25, 1997. Enclosure 2 contains the accounting sheets for the Offset Account for July which reflect the delivery of the quantities reported in Enclosure 1 to the appropriate subaccounts of the Offset Account. Enclosure 3 is an update of the discharge rating tables which were provided in my letter of August 25, 1997.

The following table summarizes the delivery of water into the Offset Account during the reporting period. As stated in my August 25, 1997 letter, the return flow water is being stored in the Offset Account for delivery to conservation storage in John Martin Reservoir during the months of December (1998) and January (1999).

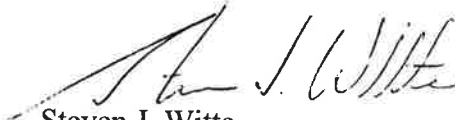
MONTH-	C. U. Water (ac-ft)	Return Flow (ac-ft)
July	477.61	21.43

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

David L. Pope
August 10, 1997

Page 2

Sincerely,

A handwritten signature in black ink, appearing to read "Steven J. Witte". The signature is written in a cursive style with a large, sweeping initial "S".

Steven J. Witte
Division Engineer
Colorado Division of Water Resources

3 Enclosures

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Accounting Spreadsheet
Deliveries from Highland Canal to Offset Account
Month-July 1998

Day	Mode (1 or 2)	Diversion at 5 ft Flume (cfs)	Wasteway #3 Flow Rate (cfs)	Transit Loss to JMR (%)	Arrival Rate at JMR (cfs)	Arrival Quantity at JMR (ac-ft)	Amount to CU Water Account (ac-ft)	Amount to Return Flow Acct (ac-ft)	
1	2	0.20	0.00	0.00	0.00	0.00	0.00	0.00	
2	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	2	11.90	10.71	0.058024	10.09	20.01	13.81	0.62	
12	2	36.40	32.76	0.053246	31.02	61.53	42.45	1.91	
13	2	56.00	50.40	0.047451	48.01	95.23	65.71	2.95	
14	2	57.50	51.75	0.047451	49.29	97.77	67.46	3.03	
15	2	52.70	47.43	0.042358	45.42	90.09	62.16	2.79	
16	2	36.20	32.58	0.055805	30.76	61.01	42.10	1.89	
17	2	19.00	17.10	0.056342	16.16	32.05	22.09	0.99	
18	2	16.90	15.21	0.066268	14.20	28.17	19.43	0.87	
19	2	15.05	14.08	0.066268	13.15	26.08	18.00	0.81	
20	2	11.10	9.99	0.066908	9.32	18.49	12.76	0.57	
21	2	7.10	6.39	0.075040	5.91	11.72	8.09	0.36	
22	2	6.35	4.64	0.077080	4.28	8.49	5.86	0.26	
23	2	5.80	0.00	0.000000	0.00	0.00	0.00	0.00	
24	2	5.60	0.00	0.000000	0.00	0.00	0.00	0.00	
25	2	6.20	0.00	0.000000	0.00	0.00	0.00	0.00	
26	2	4.80	0.00	0.000000	0.00	0.00	0.00	0.00	
27	2	4.35	0.00	0.000000	0.00	0.00	0.00	0.00	
28	2	2.78	2.50	0.071616	2.32	4.60	3.18	0.14	
29	2	3.32	2.99	0.021674	2.93	5.81	4.09	0.18	
30	2	18.00	16.20	0.021469	15.85	31.44	21.69	0.97	
31	2	57.00	51.30	0.021060	50.22	99.61	68.73	3.09	
		Note: Diversion at flume and wasteway are 24 hr prior to date shown							
		Canal out until July 10							

Enclosure 1

RECEIVED
AUG 05 1998

JUL 1998:	OFFSET ACCOUNT				CONSUMABLE WATER				RETURN FLOW				PG 1
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1	338.44	0.00	0.77	701.69	338.44	0.00	0.77	701.69	0.00	0.00	0.00	0.00	
2	313.31	0.00	1.01	1039.36	313.31	0.00	1.01	1039.36	0.00	0.00	0.00	0.00	
3	0.00	0.00	1.32	1351.66	0.00	0.00	1.32	1351.66	0.00	0.00	0.00	0.00	
4	0.00	0.00	1.30	1350.34	0.00	0.00	1.30	1350.34	0.00	0.00	0.00	0.00	
5	0.00	0.00	1.33	1349.04	0.00	0.00	1.33	1349.04	0.00	0.00	0.00	0.00	
6	0.00	0.00	1.39	1347.71	0.00	0.00	1.39	1347.71	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.81	1346.32	0.00	0.00	0.81	1346.32	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.79	1345.51	0.00	0.00	0.79	1345.51	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.99	1344.72	0.00	0.00	0.99	1344.72	0.00	0.00	0.00	0.00	
10	0.00	0.00	1.05	1343.73	0.00	0.00	1.05	1343.73	0.00	0.00	0.00	0.00	
11	14.43	0.00	1.07	1342.68	13.81	0.00	1.07	1342.68	0.00	0.00	0.00	0.00	
12	44.36	0.00	1.08	1356.04	42.45	0.00	1.08	1356.04	1.91	0.00	0.00	0.62	
13	68.66	0.00	1.24	1399.32	65.71	0.00	1.24	1399.32	2.95	0.00	0.00	2.53	
14	70.49	0.00	1.42	1466.74	67.46	0.00	1.41	1461.26	3.03	0.00	0.00	5.48	
15	64.95	0.00	1.69	1535.81	62.16	0.00	1.68	1527.31	2.79	0.00	0.01	8.50	
16	43.99	0.00	1.52	1599.07	42.10	0.00	1.51	1587.79	1.89	0.00	0.01	11.28	
17	23.08	0.00	1.81	1641.54	22.09	0.00	1.80	1628.38	0.99	0.00	0.01	13.16	
18	20.30	0.00	1.83	1662.81	19.43	0.00	1.81	1648.67	0.87	0.00	0.02	14.14	
19	18.81	0.00	1.85	1681.28	18.00	0.00	1.83	1666.29	0.81	0.00	0.02	14.99	
20	13.33	0.00	2.01	1698.24	12.76	0.00	1.99	1682.46	0.57	0.00	0.02	15.78	
21	8.45	0.00	2.28	1709.56	8.09	0.00	2.26	1693.23	0.36	0.00	0.02	16.33	
22	6.12	0.00	1.37	1715.73	5.86	0.00	1.36	1699.06	0.26	0.00	0.02	16.67	
23	0.00	0.00	1.39	1720.48	0.00	0.00	1.38	1699.06	0.26	0.00	0.01	16.92	
24	0.00	0.00	1.39	1719.09	0.00	0.00	1.38	1702.18	0.00	0.00	0.01	16.91	
25	0.00	0.00	1.44	1717.70	0.00	0.00	1.43	1700.80	0.00	0.00	0.01	16.90	
26	0.00	0.00	1.45	1716.26	0.00	0.00	1.43	1699.37	0.00	0.00	0.01	16.89	
27	0.00	0.00	0.64	1714.81	0.00	0.00	0.63	1699.37	0.00	0.00	0.01	16.88	
28	3.32	0.00	1.17	1714.17	3.18	0.00	1.16	1697.93	0.14	0.00	0.01	16.87	
29	4.27	0.00	1.99	1711.17	4.09	0.00	1.97	1697.30	0.18	0.00	0.02	17.00	
30	22.66	0.00	1.17	1718.60	21.69	0.00	1.16	1699.32	0.97	0.00	0.02	17.16	
31	71.82	0.00	1.21	1740.09	68.73	0.00	1.20	1721.97	3.09	0.00	0.01	18.12	
OT	1150.79	0.00	41.78	1810.70	1129.36	0.00	41.55	1789.50	21.43	0.00	0.23	21.20	

JUL 1998:	COLORADO UPSTREAM				CONSUMABLE WATER				KANSAS				PG 1
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1	0.00	0.00	0.00	0.00	338.44	0.00	0.22	202.01	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	313.31	0.00	0.52	540.23	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	0.00	0.00	0.83	853.02	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.82	852.19	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.00	0.00	0.84	851.37	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.00	0.00	0.88	850.53	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	0.00	0.00	0.51	849.65	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.50	849.14	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.00	0.00	0.62	848.64	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	0.00	0.00	0.66	848.02	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	13.81	0.00	0.68	847.36	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	42.45	0.00	0.69	860.49	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	65.71	0.00	0.80	902.25	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	67.46	0.00	0.93	967.16	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	62.16	0.00	1.14	1033.69	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	42.10	0.00	1.04	1094.71	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	22.09	0.00	1.26	1135.77	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	19.43	0.00	1.27	1156.60	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	18.00	0.00	1.29	1174.76	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	12.76	0.00	1.41	1191.47	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	8.09	0.00	1.61	1202.82	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	5.86	0.00	0.97	1209.30	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1214.19	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1213.21	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	0.00	0.00	1.03	1212.23	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1211.21	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1210.18	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.00	3.18	0.00	0.83	1210.18	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	4.09	0.00	1.41	1209.73	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	21.69	0.00	0.83	1212.08	0.00	0.00	0.00	0.00	
31	0.00	0.00	0.00	0.00	68.73	0.00	0.86	1214.76	0.00	0.00	0.00	0.00	
TOT	0.00	0.00	0.00	0.00	1129.36	0.00	27.88	1303.49	0.00	0.00	0.00	0.00	

Enclosure 2

CONSUMABLE WATER

JUL 1998:	KANSAS STORAGE CHARGE				TOTAL				INFLW	RELEASE	EVAP	OWN
	INFLW	RELEASE	EVAP	OWN	INFLW	RELEASE	EVAP	OWN				
1	0.00	0.00	0.55	499.68				701.69				
2	0.00	0.00	0.49	499.13	338.44	0.00	0.77	1039.36				
3	0.00	0.00	0.49	498.64	313.31	0.00	1.01	1351.66				
4	0.00	0.00	0.48	498.15	0.00	0.00	1.32	1350.34				
5	0.00	0.00	0.48	497.67	0.00	0.00	1.30	1349.04				
6	0.00	0.00	0.49	497.18	0.00	0.00	1.33	1347.71				
7	0.00	0.00	0.51	496.67	0.00	0.00	1.39	1346.32				
8	0.00	0.00	0.30	496.37	0.00	0.00	0.81	1345.51				
9	0.00	0.00	0.29	496.08	0.00	0.00	0.79	1344.72				
10	0.00	0.00	0.37	495.71	0.00	0.00	0.99	1343.73				
11	0.00	0.00	0.39	495.32	0.00	0.00	1.05	1342.68				
12	0.00	0.00	0.39	494.93	13.81	0.00	1.07	1355.42				
13	0.00	0.00	0.39	494.54	42.45	0.00	1.08	1396.79				
14	0.00	0.00	0.44	494.10	65.71	0.00	1.24	1461.26				
15	0.00	0.00	0.48	493.62	67.46	0.00	1.41	1527.31				
16	0.00	0.00	0.54	493.08	62.16	0.00	1.68	1587.79				
17	0.00	0.00	0.47	492.61	42.10	0.00	1.51	1628.38				
18	0.00	0.00	0.54	492.07	22.09	0.00	1.80	1648.67				
19	0.00	0.00	0.54	491.53	19.43	0.00	1.81	1666.29				
20	0.00	0.00	0.54	490.99	18.00	0.00	1.83	1682.46				
21	0.00	0.00	0.58	490.41	12.76	0.00	1.99	1693.23				
22	0.00	0.00	0.65	489.76	8.09	0.00	2.26	1699.06				
23	0.00	0.00	0.39	489.37	5.86	0.00	1.36	1703.56				
24	0.00	0.00	0.40	488.97	0.00	0.00	1.38	1702.18				
25	0.00	0.00	0.40	488.57	0.00	0.00	1.38	1700.80				
26	0.00	0.00	0.41	488.16	0.00	0.00	1.43	1699.37				
27	0.00	0.00	0.41	487.75	0.00	0.00	1.44	1697.93				
28	0.00	0.00	0.18	487.57	0.00	0.00	0.63	1697.30				
29	0.00	0.00	0.33	487.24	3.18	0.00	1.16	1699.32				
30	0.00	0.00	0.56	486.68	4.09	0.00	1.97	1701.44				
31	0.00	0.00	0.33	486.35	21.69	0.00	1.16	1721.97				
TOT	0.00	0.00	13.67	486.01	68.73	0.00	1.20	1789.50				

RETURN FLOW

JUL 1998:	INSTATE				STATE LINE				TOTAL			
	INFLW	RELEASE	EVAP	OWN	INFLW	RELEASE	EVAP	OWN	INFLW	RELEASE	EVAP	OWN
1	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	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	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	0.00	0.00	0.00	0.00	0.00	0.00
11	0.62	0.00	0.00	0.62	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.62
12	1.91	0.00	0.00	2.53	0.00	0.00	0.00	0.00	1.91	0.00	0.00	2.53
13	2.95	0.00	0.00	5.48	0.00	0.00	0.00	0.00	2.95	0.00	0.00	5.48
14	3.03	0.00	0.01	8.50	0.00	0.00	0.00	0.00	3.03	0.00	0.01	8.50
15	2.79	0.00	0.01	11.28	0.00	0.00	0.00	0.00	2.79	0.00	0.01	11.28
16	1.89	0.00	0.01	13.16	0.00	0.00	0.00	0.00	1.89	0.00	0.01	13.16
17	0.99	0.00	0.01	14.14	0.00	0.00	0.00	0.00	0.99	0.00	0.01	14.14
18	0.87	0.00	0.02	14.99	0.00	0.00	0.00	0.00	0.87	0.00	0.02	14.99
19	0.81	0.00	0.02	15.78	0.00	0.00	0.00	0.00	0.81	0.00	0.02	15.78
20	0.57	0.00	0.02	16.33	0.00	0.00	0.00	0.00	0.57	0.00	0.02	16.33
21	0.36	0.00	0.02	16.67	0.00	0.00	0.00	0.00	0.36	0.00	0.02	16.67
22	0.26	0.00	0.01	16.92	0.00	0.00	0.00	0.00	0.26	0.00	0.01	16.92
23	0.00	0.00	0.01	16.91	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.91
24	0.00	0.00	0.01	16.90	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.90
25	0.00	0.00	0.01	16.89	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.89
26	0.00	0.00	0.01	16.88	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.88
27	0.00	0.00	0.01	16.87	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.87
28	0.14	0.00	0.01	17.00	0.00	0.00	0.00	0.00	0.14	0.00	0.01	17.00
29	0.18	0.00	0.02	17.16	0.00	0.00	0.00	0.00	0.18	0.00	0.02	17.16
30	0.97	0.00	0.01	18.12	0.00	0.00	0.00	0.00	0.97	0.00	0.01	18.12
31	3.09	0.00	0.01	21.20	0.00	0.00	0.00	0.00	3.09	0.00	0.01	21.20
TOT	21.43	0.00	0.23		0.00	0.00	0.00		21.43	0.00	0.23	

D. Straw

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MAY 18 1998

DIVISION ENGINEER
PUEBLO, COLORADO

May 14, 1998

Mr. Donald F. Higbee
Lower Arkansas Water Management Association
307 South Fifth
P.O. Box 1161
Lamar, Colorado 81052

Subject: Discharge Rating Table for Slide Gate
at Wasteway No. 3 – Highland Canal

Dear Don:

Enclosed is the revised rating table (28 pages) for the gate at Wasteway No. 3 on the Highland Canal. This table replaces the rating table (July 7, 1997) used last year.

On May 6, 1998, we measured the discharge through the gate in the channel leading to the Purgatoire River. Following is a summary of those measurements as well as the measurements made in 1997:

<u>Date</u>	<u>Gage Height</u> <u>(feet)</u>	<u>Gate Setting</u> <u>(inches)</u>	<u>Discharge</u> <u>(cfs)</u>	<u>Coefficient, C</u>
5/6/98	1.52	52.75	16.6	0.699
5/6/98	1.46	51.00	22.3	0.700
5/6/98	1.18	47.75	33.4	0.731
7/2/97	0.415	56.00	4.98	0.675
7/2/97	0.20	55.25	6.88	0.675
7/2/97	0.08	54.50	7.49	0.577

Discharge through an orifice can be estimated using the following equation:

$$Q = CA\sqrt{2gH}$$

Where Q = discharge in cfs
A = area of the orifice, square feet
S = acceleration due to gravity, 32.2 feet per second²
H = measured head, feet
C = discharge coefficient

In this case, the area, A, of the orifice is calculated as follows:

Enclosure 3

Mr. Donald F. Higbee
May 14, 1998
Page 2

$$A = \frac{(57.75 - G) \times W}{144}$$

where G = Gate setting, inches
W = Width, inches

The width of the gate opening is 40.25 inches. Due to the installation of new wooden gate frame this spring, the width is 1 inch narrower than the width measured last year. The gate setting is measured from the top of the gate leaf to the top of the gate frame. When the gate is closed, the distance is 57.75 inches.

The measurements were used to calculate the discharge coefficients by rearranging the orifice equation. The discharge coefficient for the 6 measurements averaged 0.68 which is slightly larger than the coefficient derived from last year's measurements. The values shown in the rating table reflect the adjustment to the discharge coefficient and the width of the gate.

Walter described a problem with the rating table used last year when the gage height was less than 0.3 feet and the gate opening was fairly large. At this gate height, the flow passing down-ditch was very small, probably 1 to 2 cfs. I expect that there was considerable turbulence at the gate with this small head. I recommend that in similar circumstances Walter should calculate the discharge through the gate by the following procedure:

1. Record the 5-foot Parshall flume flow.
2. Add the amount pumped by Davidson.
3. Multiply the total by 90 percent to account for losses.
4. Subtract the deliveries to other shareholders (Davidson, Nelson, Shiba, Spady, and Waldroupe).
5. The difference is the amount flowing through Wasteway No. 3.

Please call if you have any questions.

Sincerely yours,

HELTON & WILLIAMSEN, P.C.



Thomas A. Williamsen

TAW/mic

Enclosure

cc: Walter Garcia w/enc.
Bill Howland w/enc.
Dale Straw w/enc.

HIGHLAND CANAL
WASTE GATE #3
RATING

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
57 3/4	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
57 1/2	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.67	0.67	0.67	0.67	0.67	0.67
57 1/4	1.31	1.31	1.32	1.32	1.32	1.32	1.33	1.33	1.33	1.33	1.33	1.34	1.34	1.34	1.34
57	1.97	1.97	1.97	1.98	1.98	1.98	1.99	1.99	1.99	2.00	2.00	2.00	2.01	2.01	2.01
56 3/4	2.62	2.63	2.63	2.64	2.64	2.65	2.65	2.66	2.66	2.66	2.67	2.67	2.68	2.68	2.69
56 1/2	3.28	3.29	3.29	3.30	3.30	3.31	3.31	3.32	3.32	3.33	3.34	3.34	3.35	3.35	3.36
56 1/4	3.94	3.94	3.95	3.96	3.96	3.97	3.98	3.98	3.99	4.00	4.00	4.01	4.02	4.02	4.03
56	4.59	4.60	4.61	4.62	4.62	4.63	4.64	4.65	4.65	4.66	4.67	4.68	4.68	4.69	4.70
55 3/4	5.25	5.26	5.27	5.27	5.28	5.29	5.30	5.31	5.32	5.33	5.34	5.35	5.35	5.36	5.37
55 1/2	5.90	5.91	5.92	5.93	5.94	5.95	5.96	5.97	5.98	5.99	6.00	6.01	6.02	6.03	6.04
55 1/4	6.56	6.57	6.58	6.59	6.60	6.62	6.63	6.64	6.65	6.66	6.67	6.68	6.69	6.70	6.71
55	7.22	7.23	7.24	7.25	7.27	7.28	7.29	7.30	7.31	7.33	7.34	7.35	7.36	7.37	7.39
54 3/4	7.87	7.89	7.90	7.91	7.93	7.94	7.95	7.97	7.98	7.99	8.00	8.02	8.03	8.04	8.06
54 1/2	8.53	8.54	8.56	8.57	8.59	8.60	8.61	8.63	8.64	8.66	8.67	8.69	8.70	8.71	8.73
54 1/4	9.18	9.20	9.22	9.23	9.25	9.26	9.28	9.29	9.31	9.32	9.34	9.35	9.37	9.38	9.40
54	9.84	9.86	9.87	9.89	9.91	9.92	9.94	9.96	9.97	9.99	10.01	10.02	10.04	10.05	10.07
53 3/4	10.50	10.51	10.53	10.55	10.57	10.59	10.60	10.62	10.64	10.66	10.67	10.69	10.71	10.72	10.74
53 1/2	11.15	11.17	11.19	11.21	11.23	11.25	11.27	11.28	11.30	11.32	11.34	11.36	11.38	11.40	11.41
53 1/4	11.81	11.83	11.85	11.87	11.89	11.91	11.93	11.95	11.97	11.99	12.01	12.03	12.05	12.07	12.09
53	12.47	12.49	12.51	12.53	12.55	12.57	12.59	12.61	12.63	12.65	12.67	12.69	12.72	12.74	12.76
52 3/4	13.12	13.14	13.17	13.19	13.21	13.23	13.25	13.28	13.30	13.32	13.34	13.36	13.38	13.41	13.43
52 1/2	13.78	13.80	13.82	13.85	13.87	13.89	13.92	13.94	13.96	13.99	14.01	14.03	14.05	14.08	14.10
52 1/4	14.43	14.46	14.48	14.51	14.53	14.55	14.58	14.60	14.63	14.65	14.68	14.70	14.72	14.75	14.77
52	15.09	15.11	15.14	15.17	15.19	15.22	15.24	15.27	15.29	15.32	15.34	15.37	15.39	15.42	15.44
51 3/4	15.75	15.77	15.80	15.82	15.85	15.88	15.90	15.93	15.96	15.98	16.01	16.04	16.06	16.09	16.11
51 1/2	16.40	16.43	16.46	16.48	16.51	16.54	16.57	16.59	16.62	16.65	16.68	16.70	16.73	16.76	16.78
51 1/4	17.06	17.09	17.11	17.14	17.17	17.20	17.23	17.26	17.29	17.31	17.34	17.37	17.40	17.43	17.46
51	17.71	17.74	17.77	17.80	17.83	17.86	17.89	17.92	17.95	17.98	18.01	18.04	18.07	18.10	18.13
50 3/4	18.37	18.40	18.43	18.46	18.49	18.52	18.55	18.59	18.62	18.65	18.68	18.71	18.74	18.77	18.80
50 1/2	19.03	19.06	19.09	19.12	19.15	19.19	19.22	19.25	19.28	19.31	19.34	19.38	19.41	19.44	19.47
50 1/4	19.68	19.71	19.75	19.78	19.81	19.85	19.88	19.91	19.95	19.98	20.01	20.04	20.08	20.11	20.14
50	20.34	20.37	20.41	20.44	20.47	20.51	20.54	20.58	20.61	20.64	20.68	20.71	20.75	20.78	20.81
49 3/4	20.99	21.03	21.06	21.10	21.14	21.17	21.21	21.24	21.28	21.31	21.35	21.38	21.42	21.45	21.48
49 1/2	21.65	21.69	21.72	21.76	21.80	21.83	21.87	21.90	21.94	21.98	22.01	22.05	22.08	22.12	22.16
49 1/4	22.31	22.34	22.38	22.42	22.46	22.49	22.53	22.57	22.61	22.64	22.68	22.72	22.75	22.79	22.83
49	22.96	23.00	23.04	23.08	23.12	23.16	23.19	23.23	23.27	23.31	23.35	23.38	23.42	23.46	23.50
48 3/4	23.62	23.66	23.70	23.74	23.78	23.82	23.86	23.90	23.94	23.97	24.01	24.05	24.09	24.13	24.17
48 1/2	24.27	24.32	24.36	24.40	24.44	24.48	24.52	24.56	24.60	24.64	24.68	24.72	24.76	24.80	24.84
48 1/4	24.93	24.97	25.01	25.06	25.10	25.14	25.18	25.22	25.26	25.31	25.35	25.39	25.43	25.47	25.51
48	25.59	25.63	25.67	25.72	25.76	25.80	25.84	25.89	25.93	25.97	26.01	26.06	26.10	26.14	26.18
47 3/4	26.24	26.29	26.33	26.37	26.42	26.46	26.51	26.55	26.59	26.64	26.68	26.73	26.77	26.81	26.86
47 1/2	26.90	26.94	26.99	27.03	27.08	27.12	27.17	27.21	27.26	27.30	27.35	27.39	27.44	27.48	27.53
47 1/4	27.55	27.60	27.65	27.69	27.74	27.79	27.83	27.88	27.92	27.97	28.02	28.06	28.11	28.15	28.20
47	28.21	28.26	28.31	28.35	28.40	28.45	28.49	28.54	28.59	28.64	28.68	28.73	28.78	28.82	28.87
46 3/4	28.87	28.92	28.96	29.01	29.06	29.11	29.16	29.21	29.25	29.30	29.35	29.40	29.45	29.49	29.54
46 1/2	29.52	29.57	29.62	29.67	29.72	29.77	29.82	29.87	29.92	29.97	30.02	30.07	30.12	30.16	30.21
46 1/4	30.18	30.23	30.28	30.33	30.38	30.43	30.48	30.53	30.58	30.63	30.68	30.73	30.78	30.83	30.88
46	30.83	30.89	30.94	30.99	31.04	31.09	31.15	31.20	31.25	31.30	31.35	31.40	31.45	31.50	31.56
45 3/4	31.49	31.54	31.60	31.65	31.70	31.76	31.81	31.86	31.91	31.97	32.02	32.07	32.12	32.17	32.23

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.30
57 3/4	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
57 1/2	0.67	0.67	0.67	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.69	0.69	0.69
57 1/4	1.34	1.35	1.35	1.35	1.35	1.36	1.36	1.36	1.36	1.36	1.37	1.37	1.37	1.37	1.37
57	2.02	2.02	2.02	2.03	2.03	2.03	2.04	2.04	2.04	2.05	2.05	2.05	2.06	2.06	2.06
56 3/4	2.69	2.69	2.70	2.70	2.71	2.71	2.72	2.72	2.72	2.73	2.73	2.74	2.74	2.75	2.75
56 1/2	3.36	3.37	3.37	3.38	3.38	3.39	3.39	3.40	3.41	3.41	3.42	3.42	3.43	3.43	3.44
56 1/4	4.03	4.04	4.05	4.05	4.06	4.07	4.07	4.08	4.09	4.09	4.10	4.11	4.11	4.12	4.12
56	4.71	4.71	4.72	4.73	4.74	4.75	4.75	4.76	4.77	4.77	4.78	4.79	4.80	4.80	4.81
55 3/4	5.38	5.39	5.40	5.41	5.41	5.42	5.43	5.44	5.45	5.46	5.47	5.47	5.48	5.49	5.50
55 1/2	6.05	6.06	6.07	6.08	6.09	6.10	6.11	6.12	6.13	6.14	6.15	6.16	6.17	6.18	6.19
55 1/4	6.72	6.74	6.75	6.76	6.77	6.78	6.79	6.80	6.81	6.82	6.83	6.84	6.85	6.86	6.87
55	7.40	7.41	7.42	7.43	7.44	7.46	7.47	7.48	7.49	7.50	7.52	7.53	7.54	7.55	7.56
54 3/4	8.07	8.08	8.10	8.11	8.12	8.13	8.15	8.16	8.17	8.19	8.20	8.21	8.22	8.24	8.25
54 1/2	8.74	8.76	8.77	8.78	8.80	8.81	8.83	8.84	8.85	8.87	8.88	8.90	8.91	8.92	8.94
54 1/4	9.41	9.43	9.44	9.46	9.47	9.49	9.51	9.52	9.53	9.55	9.56	9.58	9.59	9.61	9.62
54	10.09	10.10	10.12	10.14	10.15	10.17	10.18	10.20	10.22	10.23	10.25	10.26	10.28	10.30	10.31
53 3/4	10.76	10.78	10.79	10.81	10.83	10.85	10.86	10.88	10.90	10.91	10.93	10.95	10.97	10.98	11.00
53 1/2	11.43	11.45	11.47	11.49	11.51	11.52	11.54	11.56	11.58	11.60	11.61	11.63	11.65	11.67	11.69
53 1/4	12.10	12.12	12.14	12.16	12.18	12.20	12.22	12.24	12.26	12.28	12.30	12.32	12.34	12.35	12.37
53	12.78	12.80	12.82	12.84	12.86	12.88	12.90	12.92	12.94	12.96	12.98	13.00	13.02	13.04	13.06
52 3/4	13.45	13.47	13.49	13.51	13.54	13.56	13.58	13.60	13.62	13.64	13.66	13.69	13.71	13.73	13.75
52 1/2	14.12	14.14	14.17	14.19	14.21	14.24	14.26	14.28	14.30	14.32	14.35	14.37	14.39	14.41	14.44
52 1/4	14.79	14.82	14.84	14.87	14.89	14.91	14.94	14.96	14.98	15.01	15.03	15.05	15.08	15.10	15.12
52	15.47	15.49	15.52	15.54	15.57	15.59	15.62	15.64	15.66	15.69	15.71	15.74	15.76	15.79	15.81
51 3/4	16.14	16.17	16.19	16.22	16.24	16.27	16.29	16.32	16.35	16.37	16.40	16.42	16.45	16.47	16.50
51 1/2	16.81	16.84	16.87	16.89	16.92	16.95	16.97	17.00	17.03	17.05	17.08	17.11	17.13	17.16	17.19
51 1/4	17.48	17.51	17.54	17.57	17.60	17.62	17.65	17.68	17.71	17.74	17.76	17.79	17.82	17.85	17.87
51	18.16	18.19	18.22	18.24	18.27	18.30	18.33	18.36	18.39	18.42	18.45	18.48	18.50	18.53	18.56
50 3/4	18.83	18.86	18.89	18.92	18.95	18.98	19.01	19.04	19.07	19.10	19.13	19.16	19.19	19.22	19.25
50 1/2	19.50	19.53	19.56	19.60	19.63	19.66	19.69	19.72	19.75	19.78	19.81	19.84	19.87	19.91	19.94
50 1/4	20.17	20.21	20.24	20.27	20.30	20.34	20.37	20.40	20.43	20.46	20.50	20.53	20.56	20.59	20.62
50	20.85	20.88	20.91	20.95	20.98	21.01	21.05	21.08	21.11	21.15	21.18	21.21	21.25	21.28	21.31
49 3/4	21.52	21.55	21.59	21.62	21.66	21.69	21.73	21.76	21.79	21.83	21.86	21.90	21.93	21.96	22.00
49 1/2	22.19	22.23	22.26	22.30	22.33	22.37	22.40	22.44	22.48	22.51	22.55	22.58	22.62	22.65	22.69
49 1/4	22.86	22.90	22.94	22.97	23.01	23.05	23.08	23.12	23.16	23.19	23.23	23.26	23.30	23.34	23.37
49	23.54	23.57	23.61	23.65	23.69	23.73	23.76	23.80	23.84	23.87	23.91	23.95	23.99	24.02	24.06
48 3/4	24.21	24.25	24.29	24.33	24.36	24.40	24.44	24.48	24.52	24.56	24.60	24.63	24.67	24.71	24.75
48 1/2	24.88	24.92	24.96	25.00	25.04	25.08	25.12	25.16	25.20	25.24	25.28	25.32	25.36	25.40	25.44
48 1/4	25.55	25.60	25.64	25.68	25.72	25.76	25.80	25.84	25.88	25.92	25.96	26.00	26.04	26.08	26.12
48	26.23	26.27	26.31	26.35	26.39	26.44	26.48	26.52	26.56	26.60	26.64	26.69	26.73	26.77	26.81
47 3/4	26.90	26.94	26.99	27.03	27.07	27.11	27.16	27.20	27.24	27.29	27.33	27.37	27.41	27.46	27.50
47 1/2	27.57	27.62	27.66	27.70	27.75	27.79	27.84	27.88	27.92	27.97	28.01	28.05	28.10	28.14	28.19
47 1/4	28.24	28.29	28.33	28.38	28.42	28.47	28.52	28.56	28.60	28.65	28.69	28.74	28.78	28.83	28.87
47	28.92	28.96	29.01	29.06	29.10	29.15	29.19	29.24	29.29	29.33	29.38	29.42	29.47	29.51	29.56
46 3/4	29.59	29.64	29.68	29.73	29.78	29.83	29.87	29.92	29.97	30.01	30.06	30.11	30.15	30.20	30.25
46 1/2	30.26	30.31	30.36	30.41	30.46	30.50	30.55	30.60	30.65	30.70	30.74	30.79	30.84	30.89	30.93
46 1/4	30.93	30.98	31.03	31.08	31.13	31.18	31.23	31.28	31.33	31.38	31.43	31.48	31.52	31.57	31.62
46	31.61	31.66	31.71	31.76	31.81	31.86	31.91	31.96	32.01	32.06	32.11	32.16	32.21	32.26	32.31
45 3/4	32.28	32.33	32.38	32.43	32.49	32.54	32.59	32.64	32.69	32.74	32.79	32.84	32.90	32.95	33.00

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45
57 3/4	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
57 1/2	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
57 1/4	1.38	1.38	1.38	1.38	1.39	1.39	1.39	1.39	1.39	1.40	1.40	1.40	1.40	1.40	1.41
57	2.07	2.07	2.07	2.07	2.08	2.08	2.08	2.09	2.09	2.09	2.10	2.10	2.10	2.11	2.11
56 3/4	2.75	2.76	2.76	2.77	2.77	2.78	2.78	2.78	2.79	2.79	2.80	2.80	2.80	2.81	2.81
56 1/2	3.44	3.45	3.45	3.46	3.46	3.47	3.47	3.48	3.48	3.49	3.49	3.50	3.51	3.51	3.52
56 1/4	4.13	4.14	4.14	4.15	4.16	4.16	4.17	4.18	4.18	4.19	4.19	4.20	4.21	4.21	4.22
56	4.82	4.83	4.83	4.84	4.85	4.86	4.86	4.87	4.88	4.89	4.89	4.90	4.91	4.91	4.92
55 3/4	5.51	5.52	5.52	5.53	5.54	5.55	5.56	5.57	5.58	5.58	5.59	5.60	5.61	5.62	5.63
55 1/2	6.20	6.21	6.22	6.22	6.23	6.24	6.25	6.26	6.27	6.28	6.29	6.30	6.31	6.32	6.33
55 1/4	6.89	6.90	6.91	6.92	6.93	6.94	6.95	6.96	6.97	6.98	6.99	7.00	7.01	7.02	7.03
55	7.57	7.59	7.60	7.61	7.62	7.63	7.64	7.65	7.67	7.68	7.69	7.70	7.71	7.72	7.73
54 3/4	8.26	8.27	8.29	8.30	8.31	8.33	8.34	8.35	8.36	8.38	8.39	8.40	8.41	8.43	8.44
54 1/2	8.95	8.96	8.98	8.99	9.01	9.02	9.03	9.05	9.06	9.07	9.09	9.10	9.11	9.13	9.14
54 1/4	9.64	9.65	9.67	9.68	9.70	9.71	9.73	9.74	9.76	9.77	9.79	9.80	9.81	9.83	9.84
54	10.33	10.34	10.36	10.37	10.39	10.41	10.42	10.44	10.45	10.47	10.48	10.50	10.52	10.53	10.55
53 3/4	11.02	11.03	11.05	11.07	11.08	11.10	11.12	11.13	11.15	11.17	11.18	11.20	11.22	11.23	11.25
53 1/2	11.70	11.72	11.74	11.76	11.78	11.79	11.81	11.83	11.85	11.86	11.88	11.90	11.92	11.94	11.95
53 1/4	12.39	12.41	12.43	12.45	12.47	12.49	12.51	12.53	12.54	12.56	12.58	12.60	12.62	12.64	12.66
53	13.08	13.10	13.12	13.14	13.16	13.18	13.20	13.22	13.24	13.26	13.28	13.30	13.32	13.34	13.36
52 3/4	13.77	13.79	13.81	13.83	13.85	13.88	13.90	13.92	13.94	13.96	13.98	14.00	14.02	14.04	14.06
52 1/2	14.46	14.48	14.50	14.52	14.55	14.57	14.59	14.61	14.63	14.66	14.68	14.70	14.72	14.74	14.77
52 1/4	15.15	15.17	15.19	15.22	15.24	15.26	15.29	15.31	15.33	15.35	15.38	15.40	15.42	15.45	15.47
52	15.84	15.86	15.88	15.91	15.93	15.96	15.98	16.00	16.03	16.05	16.08	16.10	16.12	16.15	16.17
51 3/4	16.52	16.55	16.57	16.60	16.63	16.65	16.68	16.70	16.73	16.75	16.78	16.80	16.83	16.85	16.88
51 1/2	17.21	17.24	17.27	17.29	17.32	17.34	17.37	17.40	17.42	17.45	17.47	17.50	17.53	17.55	17.58
51 1/4	17.90	17.93	17.96	17.98	18.01	18.04	18.06	18.09	18.12	18.15	18.17	18.20	18.23	18.25	18.28
51	18.59	18.62	18.65	18.67	18.70	18.73	18.76	18.79	18.82	18.84	18.87	18.90	18.93	18.96	18.98
50 3/4	19.28	19.31	19.34	19.37	19.40	19.43	19.45	19.48	19.51	19.54	19.57	19.60	19.63	19.66	19.69
50 1/2	19.97	20.00	20.03	20.06	20.09	20.12	20.15	20.18	20.21	20.24	20.27	20.30	20.33	20.36	20.39
50 1/4	20.66	20.69	20.72	20.75	20.78	20.81	20.84	20.88	20.91	20.94	20.97	21.00	21.03	21.06	21.09
50	21.34	21.38	21.41	21.44	21.47	21.51	21.54	21.57	21.60	21.64	21.67	21.70	21.73	21.76	21.80
49 3/4	22.03	22.07	22.10	22.13	22.17	22.20	22.23	22.27	22.30	22.33	22.37	22.40	22.43	22.47	22.50
49 1/2	22.72	22.76	22.79	22.82	22.86	22.89	22.93	22.96	23.00	23.03	23.07	23.10	23.13	23.17	23.20
49 1/4	23.41	23.44	23.48	23.52	23.55	23.59	23.62	23.66	23.69	23.73	23.77	23.80	23.84	23.87	23.91
49	24.10	24.13	24.17	24.21	24.24	24.28	24.32	24.35	24.39	24.43	24.46	24.50	24.54	24.57	24.61
48 3/4	24.79	24.82	24.86	24.90	24.94	24.98	25.01	25.05	25.09	25.13	25.16	25.20	25.24	25.28	25.31
48 1/2	25.47	25.51	25.55	25.59	25.63	25.67	25.71	25.75	25.79	25.82	25.86	25.90	25.94	25.98	26.02
48 1/4	26.16	26.20	26.24	26.28	26.32	26.36	26.40	26.44	26.48	26.52	26.56	26.60	26.64	26.68	26.72
48	26.85	26.89	26.93	26.97	27.02	27.06	27.10	27.14	27.18	27.22	27.26	27.30	27.34	27.38	27.42
47 3/4	27.54	27.58	27.62	27.67	27.71	27.75	27.79	27.83	27.88	27.92	27.96	28.00	28.04	28.08	28.13
47 1/2	28.23	28.27	28.31	28.36	28.40	28.44	28.49	28.53	28.57	28.62	28.66	28.70	28.74	28.79	28.83
47 1/4	28.92	28.96	29.01	29.05	29.09	29.14	29.18	29.23	29.27	29.31	29.36	29.40	29.44	29.49	29.53
47	29.61	29.65	29.70	29.74	29.79	29.83	29.88	29.92	29.97	30.01	30.06	30.10	30.15	30.19	30.23
46 3/4	30.29	30.34	30.39	30.43	30.48	30.53	30.57	30.62	30.66	30.71	30.76	30.80	30.85	30.89	30.94
46 1/2	30.98	31.03	31.08	31.12	31.17	31.22	31.27	31.31	31.36	31.41	31.45	31.50	31.55	31.59	31.64
46 1/4	31.67	31.72	31.77	31.82	31.86	31.91	31.96	32.01	32.06	32.11	32.15	32.20	32.25	32.30	32.34
46	32.36	32.41	32.46	32.51	32.56	32.61	32.66	32.71	32.75	32.80	32.85	32.90	32.95	33.00	33.05
45 3/4	33.05	33.10	33.15	33.20	33.25	33.30	33.35	33.40	33.45	33.50	33.55	33.60	33.65	33.70	33.75

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60
57 3/4	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
57 1/2	0.70	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.72	0.72	0.72	0.72
57 1/4	1.41	1.41	1.41	1.41	1.42	1.42	1.42	1.42	1.42	1.43	1.43	1.43	1.43	1.43	1.44
57	2.11	2.12	2.12	2.12	2.12	2.13	2.13	2.13	2.14	2.14	2.14	2.15	2.15	2.15	2.16
56 3/4	2.82	2.82	2.82	2.83	2.83	2.84	2.84	2.85	2.85	2.85	2.86	2.86	2.87	2.87	2.87
56 1/2	3.52	3.53	3.53	3.54	3.54	3.55	3.55	3.56	3.56	3.57	3.57	3.58	3.58	3.59	3.59
56 1/4	4.22	4.23	4.24	4.24	4.25	4.26	4.26	4.27	4.27	4.28	4.29	4.29	4.30	4.30	4.31
56	4.93	4.94	4.94	4.95	4.96	4.97	4.97	4.98	4.99	4.99	5.00	5.01	5.02	5.02	5.03
55 3/4	5.63	5.64	5.65	5.66	5.67	5.67	5.68	5.69	5.70	5.71	5.72	5.72	5.73	5.74	5.75
55 1/2	6.34	6.35	6.36	6.37	6.37	6.38	6.39	6.40	6.41	6.42	6.43	6.44	6.45	6.46	6.47
55 1/4	7.04	7.05	7.06	7.07	7.08	7.09	7.10	7.11	7.12	7.13	7.14	7.15	7.16	7.17	7.18
55	7.75	7.76	7.77	7.78	7.79	7.80	7.81	7.82	7.84	7.85	7.86	7.87	7.88	7.89	7.90
54 3/4	8.45	8.46	8.47	8.49	8.50	8.51	8.52	8.54	8.55	8.56	8.57	8.59	8.60	8.61	8.62
54 1/2	9.15	9.17	9.18	9.19	9.21	9.22	9.23	9.25	9.26	9.27	9.29	9.30	9.31	9.33	9.34
54 1/4	9.86	9.87	9.89	9.90	9.92	9.93	9.94	9.96	9.97	9.99	10.00	10.02	10.03	10.04	10.06
54	10.56	10.58	10.59	10.61	10.62	10.64	10.65	10.67	10.69	10.70	10.72	10.73	10.75	10.76	10.78
53 3/4	11.27	11.28	11.30	11.32	11.33	11.35	11.37	11.38	11.40	11.41	11.43	11.45	11.46	11.48	11.50
53 1/2	11.97	11.99	12.01	12.02	12.04	12.06	12.08	12.09	12.11	12.13	12.15	12.16	12.18	12.20	12.21
53 1/4	12.67	12.69	12.71	12.73	12.75	12.77	12.79	12.80	12.82	12.84	12.86	12.88	12.90	12.91	12.93
53	13.38	13.40	13.42	13.44	13.46	13.48	13.50	13.52	13.54	13.55	13.57	13.59	13.61	13.63	13.65
52 3/4	14.08	14.10	14.12	14.15	14.17	14.19	14.21	14.23	14.25	14.27	14.29	14.31	14.33	14.35	14.37
52 1/2	14.79	14.81	14.83	14.85	14.87	14.90	14.92	14.94	14.96	14.98	15.00	15.02	15.05	15.07	15.09
52 1/4	15.49	15.51	15.54	15.56	15.58	15.60	15.63	15.65	15.67	15.69	15.72	15.74	15.76	15.78	15.81
52	16.20	16.22	16.24	16.27	16.29	16.31	16.34	16.36	16.38	16.41	16.43	16.45	16.48	16.50	16.52
51 3/4	16.90	16.92	16.95	16.97	17.00	17.02	17.05	17.07	17.10	17.12	17.15	17.17	17.19	17.22	17.24
51 1/2	17.60	17.63	17.66	17.68	17.71	17.73	17.76	17.78	17.81	17.83	17.86	17.89	17.91	17.94	17.96
51 1/4	18.31	18.34	18.36	18.39	18.42	18.44	18.47	18.50	18.52	18.55	18.57	18.60	18.63	18.65	18.68
51	19.01	19.04	19.07	19.10	19.12	19.15	19.18	19.21	19.23	19.26	19.29	19.32	19.34	19.37	19.40
50 3/4	19.72	19.75	19.77	19.80	19.83	19.86	19.89	19.92	19.95	19.98	20.00	20.03	20.06	20.09	20.12
50 1/2	20.42	20.45	20.48	20.51	20.54	20.57	20.60	20.63	20.66	20.69	20.72	20.75	20.78	20.81	20.84
50 1/4	21.12	21.16	21.19	21.22	21.25	21.28	21.31	21.34	21.37	21.40	21.43	21.46	21.49	21.52	21.55
50	21.83	21.86	21.89	21.92	21.96	21.99	22.02	22.05	22.08	22.12	22.15	22.18	22.21	22.24	22.27
49 3/4	22.53	22.57	22.60	22.63	22.66	22.70	22.73	22.76	22.80	22.83	22.86	22.89	22.93	22.96	22.99
49 1/2	23.24	23.27	23.31	23.34	23.37	23.41	23.44	23.47	23.51	23.54	23.58	23.61	23.64	23.68	23.71
49 1/4	23.94	23.98	24.01	24.05	24.08	24.12	24.15	24.19	24.22	24.26	24.29	24.32	24.36	24.39	24.43
49	24.65	24.68	24.72	24.75	24.79	24.83	24.86	24.90	24.93	24.97	25.00	25.04	25.08	25.11	25.15
48 3/4	25.35	25.39	25.42	25.46	25.50	25.53	25.57	25.61	25.65	25.68	25.72	25.76	25.79	25.83	25.86
48 1/2	26.05	26.09	26.13	26.17	26.21	26.24	26.28	26.32	26.36	26.40	26.43	26.47	26.51	26.55	26.58
48 1/4	26.76	26.80	26.84	26.88	26.91	26.95	26.99	27.03	27.07	27.11	27.15	27.19	27.22	27.26	27.30
48	27.46	27.50	27.54	27.58	27.62	27.66	27.70	27.74	27.78	27.82	27.86	27.90	27.94	27.98	28.02
47 3/4	28.17	28.21	28.25	28.29	28.33	28.37	28.41	28.45	28.49	28.54	28.58	28.62	28.66	28.70	28.74
47 1/2	28.87	28.91	28.96	29.00	29.04	29.08	29.12	29.17	29.21	29.25	29.29	29.33	29.37	29.42	29.46
47 1/4	29.57	29.62	29.66	29.70	29.75	29.79	29.83	29.88	29.92	29.96	30.01	30.05	30.09	30.13	30.18
47	30.28	30.32	30.37	30.41	30.46	30.50	30.54	30.59	30.63	30.68	30.72	30.76	30.81	30.85	30.89
46 3/4	30.98	31.03	31.07	31.12	31.16	31.21	31.25	31.30	31.34	31.39	31.43	31.48	31.52	31.57	31.61
46 1/2	31.69	31.73	31.78	31.83	31.87	31.92	31.96	32.01	32.06	32.10	32.15	32.19	32.24	32.29	32.33
46 1/4	32.39	32.44	32.49	32.53	32.58	32.63	32.68	32.72	32.77	32.82	32.86	32.91	32.96	33.00	33.05
46	33.10	33.14	33.19	33.24	33.29	33.34	33.39	33.43	33.48	33.53	33.58	33.63	33.67	33.72	33.77
45 3/4	33.80	33.85	33.90	33.95	34.00	34.05	34.10	34.14	34.19	34.24	34.29	34.34	34.39	34.44	34.49

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70	0.71	0.72	0.73	0.74	0.75
57 3/4	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
57 1/2	0.72	0.72	0.72	0.72	0.72	0.72	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
57 1/4	1.44	1.44	1.44	1.45	1.45	1.45	1.45	1.45	1.46	1.46	1.46	1.46	1.46	1.47	1.47
57	2.16	2.16	2.16	2.17	2.17	2.17	2.18	2.18	2.18	2.19	2.19	2.19	2.19	2.20	2.20
56 3/4	2.88	2.88	2.89	2.89	2.89	2.90	2.90	2.91	2.91	2.91	2.92	2.92	2.93	2.93	2.93
56 1/2	3.60	3.60	3.61	3.61	3.62	3.62	3.63	3.63	3.64	3.64	3.65	3.65	3.66	3.66	3.67
56 1/4	4.32	4.32	4.33	4.34	4.34	4.35	4.35	4.36	4.37	4.37	4.38	4.38	4.39	4.40	4.40
56	5.04	5.04	5.05	5.06	5.06	5.07	5.08	5.09	5.09	5.10	5.11	5.11	5.12	5.13	5.13
55 3/4	5.76	5.76	5.77	5.78	5.79	5.80	5.80	5.81	5.82	5.83	5.84	5.84	5.85	5.86	5.87
55 1/2	6.48	6.48	6.49	6.50	6.51	6.52	6.53	6.54	6.55	6.56	6.57	6.57	6.58	6.59	6.60
55 1/4	7.19	7.20	7.22	7.23	7.24	7.25	7.26	7.27	7.28	7.29	7.30	7.31	7.32	7.33	7.33
55	7.91	7.93	7.94	7.95	7.96	7.97	7.98	7.99	8.00	8.01	8.02	8.04	8.05	8.06	8.07
54 3/4	8.63	8.65	8.66	8.67	8.68	8.69	8.71	8.72	8.73	8.74	8.75	8.77	8.78	8.79	8.80
54 1/2	9.35	9.37	9.38	9.39	9.41	9.42	9.43	9.44	9.46	9.47	9.48	9.50	9.51	9.52	9.54
54 1/4	10.07	10.09	10.10	10.12	10.13	10.14	10.16	10.17	10.19	10.20	10.21	10.23	10.24	10.26	10.27
54	10.79	10.81	10.82	10.84	10.85	10.87	10.88	10.90	10.91	10.93	10.94	10.96	10.97	10.99	11.00
53 3/4	11.51	11.53	11.54	11.56	11.58	11.59	11.61	11.62	11.64	11.66	11.67	11.69	11.70	11.72	11.74
53 1/2	12.23	12.25	12.27	12.28	12.30	12.32	12.33	12.35	12.37	12.38	12.40	12.42	12.44	12.45	12.47
53 1/4	12.95	12.97	12.99	13.01	13.02	13.04	13.06	13.08	13.10	13.11	13.13	13.15	13.17	13.19	13.20
53	13.67	13.69	13.71	13.73	13.75	13.77	13.78	13.80	13.82	13.84	13.86	13.88	13.90	13.92	13.94
52 3/4	14.39	14.41	14.43	14.45	14.47	14.49	14.51	14.53	14.55	14.57	14.59	14.61	14.63	14.65	14.67
52 1/2	15.11	15.13	15.15	15.17	15.19	15.21	15.24	15.26	15.28	15.30	15.32	15.34	15.36	15.38	15.40
52 1/4	15.83	15.85	15.87	15.90	15.92	15.94	15.96	15.98	16.01	16.03	16.05	16.07	16.09	16.12	16.14
52	16.55	16.57	16.59	16.62	16.64	16.66	16.69	16.71	16.73	16.76	16.78	16.80	16.82	16.85	16.87
51 3/4	17.27	17.29	17.32	17.34	17.36	17.39	17.41	17.44	17.46	17.48	17.51	17.53	17.56	17.58	17.60
51 1/2	17.99	18.01	18.04	18.06	18.09	18.11	18.14	18.16	18.19	18.21	18.24	18.26	18.29	18.31	18.34
51 1/4	18.71	18.73	18.76	18.79	18.81	18.84	18.86	18.89	18.92	18.94	18.97	18.99	19.02	19.05	19.07
51	19.43	19.45	19.48	19.51	19.53	19.56	19.59	19.62	19.64	19.67	19.70	19.72	19.75	19.78	19.80
50 3/4	20.15	20.17	20.20	20.23	20.26	20.29	20.31	20.34	20.37	20.40	20.43	20.45	20.48	20.51	20.54
50 1/2	20.86	20.89	20.92	20.95	20.98	21.01	21.04	21.07	21.10	21.13	21.16	21.18	21.21	21.24	21.27
50 1/4	21.58	21.61	21.65	21.68	21.71	21.74	21.77	21.80	21.83	21.86	21.89	21.92	21.95	21.98	22.00
50	22.30	22.34	22.37	22.40	22.43	22.46	22.49	22.52	22.55	22.58	22.62	22.65	22.68	22.71	22.74
49 3/4	23.02	23.06	23.09	23.12	23.15	23.18	23.22	23.25	23.28	23.31	23.34	23.38	23.41	23.44	23.47
49 1/2	23.74	23.78	23.81	23.84	23.88	23.91	23.94	23.98	24.01	24.04	24.07	24.11	24.14	24.17	24.21
49 1/4	24.46	24.50	24.53	24.57	24.60	24.63	24.67	24.70	24.74	24.77	24.80	24.84	24.87	24.91	24.94
49	25.18	25.22	25.25	25.29	25.32	25.36	25.39	25.43	25.46	25.50	25.53	25.57	25.60	25.64	25.67
48 3/4	25.90	25.94	25.97	26.01	26.05	26.08	26.12	26.15	26.19	26.23	26.26	26.30	26.33	26.37	26.41
48 1/2	26.62	26.66	26.70	26.73	26.77	26.81	26.84	26.88	26.92	26.96	26.99	27.03	27.07	27.10	27.14
48 1/4	27.34	27.38	27.42	27.46	27.49	27.53	27.57	27.61	27.65	27.68	27.72	27.76	27.80	27.84	27.87
48	28.06	28.10	28.14	28.18	28.22	28.26	28.30	28.33	28.37	28.41	28.45	28.49	28.53	28.57	28.61
47 3/4	28.78	28.82	28.86	28.90	28.94	28.98	29.02	29.06	29.10	29.14	29.18	29.22	29.26	29.30	29.34
47 1/2	29.50	29.54	29.58	29.62	29.66	29.71	29.75	29.79	29.83	29.87	29.91	29.95	29.99	30.03	30.07
47 1/4	30.22	30.26	30.30	30.35	30.39	30.43	30.47	30.51	30.56	30.60	30.64	30.68	30.72	30.77	30.81
47	30.94	30.98	31.02	31.07	31.11	31.15	31.20	31.24	31.28	31.33	31.37	31.41	31.45	31.50	31.54
46 3/4	31.66	31.70	31.75	31.79	31.83	31.88	31.92	31.97	32.01	32.05	32.10	32.14	32.19	32.23	32.27
46 1/2	32.38	32.42	32.47	32.51	32.56	32.60	32.65	32.69	32.74	32.78	32.83	32.87	32.92	32.96	33.01
46 1/4	33.10	33.14	33.19	33.24	33.28	33.33	33.37	33.42	33.47	33.51	33.56	33.60	33.65	33.70	33.74
46	33.82	33.86	33.91	33.96	34.01	34.05	34.10	34.15	34.19	34.24	34.29	34.33	34.38	34.43	34.47
45 3/4	34.54	34.58	34.63	34.68	34.73	34.78	34.82	34.87	34.92	34.97	35.02	35.06	35.11	35.16	35.21

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.76	0.77	0.78	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90
57 3/4	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
57 1/2	0.73	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.75	0.75	0.75	0.75
57 1/4	1.47	1.47	1.47	1.47	1.48	1.48	1.48	1.48	1.48	1.49	1.49	1.49	1.49	1.49	1.50
57	2.20	2.21	2.21	2.21	2.22	2.22	2.22	2.22	2.23	2.23	2.23	2.24	2.24	2.24	2.24
56 3/4	2.94	2.94	2.95	2.95	2.95	2.96	2.96	2.97	2.97	2.97	2.98	2.98	2.99	2.99	2.99
56 1/2	3.67	3.68	3.68	3.69	3.69	3.70	3.70	3.71	3.71	3.72	3.72	3.73	3.73	3.74	3.74
56 1/4	4.41	4.41	4.42	4.42	4.43	4.44	4.44	4.45	4.45	4.46	4.47	4.47	4.48	4.48	4.49
56	5.14	5.15	5.16	5.16	5.17	5.18	5.18	5.19	5.20	5.20	5.21	5.22	5.22	5.23	5.24
55 3/4	5.88	5.88	5.89	5.90	5.91	5.92	5.92	5.93	5.94	5.95	5.95	5.96	5.97	5.98	5.99
55 1/2	6.61	6.62	6.63	6.64	6.65	6.65	6.66	6.67	6.68	6.69	6.70	6.71	6.72	6.73	6.73
55 1/4	7.34	7.35	7.36	7.37	7.38	7.39	7.40	7.41	7.42	7.43	7.44	7.45	7.46	7.47	7.48
55	8.08	8.09	8.10	8.11	8.12	8.13	8.14	8.16	8.17	8.18	8.19	8.20	8.21	8.22	8.23
54 3/4	8.81	8.83	8.84	8.85	8.86	8.87	8.88	8.90	8.91	8.92	8.93	8.94	8.96	8.97	8.98
54 1/2	9.55	9.56	9.57	9.59	9.60	9.61	9.63	9.64	9.65	9.66	9.68	9.69	9.70	9.71	9.73
54 1/4	10.28	10.30	10.31	10.32	10.34	10.35	10.37	10.38	10.39	10.41	10.42	10.43	10.45	10.46	10.47
54	11.02	11.03	11.05	11.06	11.08	11.09	11.11	11.12	11.14	11.15	11.16	11.18	11.19	11.21	11.22
53 3/4	11.75	11.77	11.78	11.80	11.81	11.83	11.85	11.86	11.88	11.89	11.91	11.92	11.94	11.96	11.97
53 1/2	12.49	12.50	12.52	12.54	12.55	12.57	12.59	12.60	12.62	12.64	12.65	12.67	12.69	12.70	12.72
53 1/4	13.22	13.24	13.26	13.27	13.29	13.31	13.33	13.34	13.36	13.38	13.40	13.42	13.43	13.45	13.47
53	13.96	13.97	13.99	14.01	14.03	14.05	14.07	14.09	14.10	14.12	14.14	14.16	14.18	14.20	14.22
52 3/4	14.69	14.71	14.73	14.75	14.77	14.79	14.81	14.83	14.85	14.87	14.89	14.91	14.93	14.94	14.96
52 1/2	15.42	15.44	15.47	15.49	15.51	15.53	15.55	15.57	15.59	15.61	15.63	15.65	15.67	15.69	15.71
52 1/4	16.16	16.18	16.20	16.22	16.25	16.27	16.29	16.31	16.33	16.35	16.37	16.40	16.42	16.44	16.46
52	16.89	16.92	16.94	16.96	16.98	17.01	17.03	17.05	17.07	17.10	17.12	17.14	17.16	17.19	17.21
51 3/4	17.63	17.65	17.68	17.70	17.72	17.75	17.77	17.79	17.82	17.84	17.86	17.89	17.91	17.93	17.96
51 1/2	18.36	18.39	18.41	18.44	18.46	18.49	18.51	18.53	18.56	18.58	18.61	18.63	18.66	18.68	18.71
51 1/4	19.10	19.12	19.15	19.17	19.20	19.22	19.25	19.28	19.30	19.33	19.35	19.38	19.40	19.43	19.45
51	19.83	19.86	19.88	19.91	19.94	19.96	19.99	20.02	20.04	20.07	20.10	20.12	20.15	20.18	20.20
50 3/4	20.57	20.59	20.62	20.65	20.68	20.70	20.73	20.76	20.79	20.81	20.84	20.87	20.90	20.92	20.95
50 1/2	21.30	21.33	21.36	21.39	21.41	21.44	21.47	21.50	21.53	21.56	21.59	21.61	21.64	21.67	21.70
50 1/4	22.03	22.06	22.09	22.12	22.15	22.18	22.21	22.24	22.27	22.30	22.33	22.36	22.39	22.42	22.45
50	22.77	22.80	22.83	22.86	22.89	22.92	22.95	22.98	23.01	23.04	23.07	23.10	23.13	23.16	23.19
49 3/4	23.50	23.54	23.57	23.60	23.63	23.66	23.69	23.72	23.76	23.79	23.82	23.85	23.88	23.91	23.94
49 1/2	24.24	24.27	24.30	24.34	24.37	24.40	24.43	24.47	24.50	24.53	24.56	24.59	24.63	24.66	24.69
49 1/4	24.97	25.01	25.04	25.07	25.11	25.14	25.17	25.21	25.24	25.27	25.31	25.34	25.37	25.41	25.44
49	25.71	25.74	25.78	25.81	25.85	25.88	25.91	25.95	25.98	26.02	26.05	26.09	26.12	26.15	26.19
48 3/4	26.44	26.48	26.51	26.55	26.58	26.62	26.65	26.69	26.72	26.76	26.80	26.83	26.87	26.90	26.94
48 1/2	27.18	27.21	27.25	27.29	27.32	27.36	27.39	27.43	27.47	27.50	27.54	27.58	27.61	27.65	27.68
48 1/4	27.91	27.95	27.99	28.02	28.06	28.10	28.14	28.17	28.21	28.25	28.28	28.32	28.36	28.40	28.43
48	28.64	28.68	28.72	28.76	28.80	28.84	28.88	28.91	28.95	28.99	29.03	29.07	29.10	29.14	29.18
47 3/4	29.38	29.42	29.46	29.50	29.54	29.58	29.62	29.66	29.69	29.73	29.77	29.81	29.85	29.89	29.93
47 1/2	30.11	30.15	30.19	30.24	30.28	30.32	30.36	30.40	30.44	30.48	30.52	30.56	30.60	30.64	30.68
47 1/4	30.85	30.89	30.93	30.97	31.01	31.06	31.10	31.14	31.18	31.22	31.26	31.30	31.34	31.38	31.42
47	31.58	31.63	31.67	31.71	31.75	31.79	31.84	31.88	31.92	31.96	32.01	32.05	32.09	32.13	32.17
46 3/4	32.32	32.36	32.40	32.45	32.49	32.53	32.58	32.62	32.66	32.71	32.75	32.79	32.84	32.88	32.92
46 1/2	33.05	33.10	33.14	33.19	33.23	33.27	33.32	33.36	33.41	33.45	33.49	33.54	33.58	33.63	33.67
46 1/4	33.79	33.83	33.88	33.92	33.97	34.01	34.06	34.10	34.15	34.19	34.24	34.28	34.33	34.37	34.42
46	34.52	34.57	34.61	34.66	34.71	34.75	34.80	34.84	34.89	34.94	34.98	35.03	35.07	35.12	35.17
45 3/4	35.26	35.30	35.35	35.40	35.44	35.49	35.54	35.59	35.63	35.68	35.73	35.77	35.82	35.87	35.91

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04	1.05
57 3/4	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
57 1/2	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
57 1/4	1.50	1.50	1.50	1.50	1.51	1.51	1.51	1.51	1.51	1.52	1.52	1.52	1.52	1.52	1.53
57	2.25	2.25	2.25	2.26	2.26	2.26	2.26	2.27	2.27	2.27	2.28	2.28	2.28	2.29	2.29
56 3/4	3.00	3.00	3.00	3.01	3.01	3.02	3.02	3.02	3.03	3.03	3.04	3.04	3.04	3.05	3.05
56 1/2	3.75	3.75	3.76	3.76	3.77	3.77	3.77	3.78	3.78	3.79	3.79	3.80	3.80	3.81	3.81
56 1/4	4.50	4.50	4.51	4.51	4.52	4.52	4.53	4.54	4.54	4.55	4.55	4.56	4.56	4.57	4.58
56	5.24	5.25	5.26	5.26	5.27	5.28	5.28	5.29	5.30	5.31	5.31	5.32	5.33	5.33	5.34
55 3/4	5.99	6.00	6.01	6.02	6.02	6.03	6.04	6.05	6.06	6.06	6.07	6.08	6.09	6.09	6.10
55 1/2	6.74	6.75	6.76	6.77	6.78	6.79	6.79	6.80	6.81	6.82	6.83	6.84	6.85	6.86	6.86
55 1/4	7.49	7.50	7.51	7.52	7.53	7.54	7.55	7.56	7.57	7.58	7.59	7.60	7.61	7.62	7.63
55	8.24	8.25	8.26	8.27	8.28	8.29	8.30	8.32	8.33	8.34	8.35	8.36	8.37	8.38	8.39
54 3/4	8.99	9.00	9.01	9.03	9.04	9.05	9.06	9.07	9.08	9.09	9.11	9.12	9.13	9.14	9.15
54 1/2	9.74	9.75	9.76	9.78	9.79	9.80	9.81	9.83	9.84	9.85	9.86	9.88	9.89	9.90	9.91
54 1/4	10.49	10.50	10.52	10.53	10.54	10.56	10.57	10.58	10.60	10.61	10.62	10.64	10.65	10.66	10.68
54	11.24	11.25	11.27	11.28	11.30	11.31	11.32	11.34	11.35	11.37	11.38	11.40	11.41	11.43	11.44
53 3/4	11.99	12.00	12.02	12.03	12.05	12.06	12.08	12.10	12.11	12.13	12.14	12.16	12.17	12.19	12.20
53 1/2	12.74	12.75	12.77	12.79	12.80	12.82	12.83	12.85	12.87	12.88	12.90	12.92	12.93	12.95	12.97
53 1/4	13.49	13.50	13.52	13.54	13.56	13.57	13.59	13.61	13.62	13.64	13.66	13.68	13.69	13.71	13.73
53	14.23	14.25	14.27	14.29	14.31	14.33	14.34	14.36	14.38	14.40	14.42	14.44	14.45	14.47	14.49
52 3/4	14.98	15.00	15.02	15.04	15.06	15.08	15.10	15.12	15.14	15.16	15.18	15.20	15.21	15.23	15.25
52 1/2	15.73	15.75	15.77	15.79	15.81	15.83	15.85	15.87	15.90	15.92	15.94	15.96	15.98	16.00	16.02
52 1/4	16.48	16.50	16.52	16.55	16.57	16.59	16.61	16.63	16.65	16.67	16.69	16.72	16.74	16.76	16.78
52	17.23	17.25	17.28	17.30	17.32	17.34	17.36	17.39	17.41	17.43	17.45	17.48	17.50	17.52	17.54
51 3/4	17.98	18.00	18.03	18.05	18.07	18.10	18.12	18.14	18.17	18.19	18.21	18.23	18.26	18.28	18.30
51 1/2	18.73	18.75	18.78	18.80	18.83	18.85	18.87	18.90	18.92	18.95	18.97	18.99	19.02	19.04	19.07
51 1/4	19.48	19.50	19.53	19.55	19.58	19.60	19.63	19.65	19.68	19.70	19.73	19.75	19.78	19.80	19.83
51	20.23	20.25	20.28	20.31	20.33	20.36	20.38	20.41	20.44	20.46	20.49	20.51	20.54	20.57	20.59
50 3/4	20.98	21.00	21.03	21.06	21.09	21.11	21.14	21.17	21.19	21.22	21.25	21.27	21.30	21.33	21.35
50 1/2	21.73	21.75	21.78	21.81	21.84	21.87	21.89	21.92	21.95	21.98	22.01	22.03	22.06	22.09	22.12
50 1/4	22.48	22.50	22.53	22.56	22.59	22.62	22.65	22.68	22.71	22.74	22.76	22.79	22.82	22.85	22.88
50	23.22	23.25	23.28	23.31	23.34	23.37	23.40	23.43	23.46	23.49	23.52	23.55	23.58	23.61	23.64
49 3/4	23.97	24.00	24.04	24.07	24.10	24.13	24.16	24.19	24.22	24.25	24.28	24.31	24.34	24.37	24.40
49 1/2	24.72	24.76	24.79	24.82	24.85	24.88	24.91	24.95	24.98	25.01	25.04	25.07	25.10	25.14	25.17
49 1/4	25.47	25.51	25.54	25.57	25.60	25.64	25.67	25.70	25.73	25.77	25.80	25.83	25.87	25.90	25.93
49	26.22	26.26	26.29	26.32	26.36	26.39	26.42	26.46	26.49	26.53	26.56	26.59	26.63	26.66	26.69
48 3/4	26.97	27.01	27.04	27.08	27.11	27.14	27.18	27.21	27.25	27.28	27.32	27.35	27.39	27.42	27.46
48 1/2	27.72	27.76	27.79	27.83	27.86	27.90	27.93	27.97	28.01	28.04	28.08	28.11	28.15	28.18	28.22
48 1/4	28.47	28.51	28.54	28.58	28.62	28.65	28.69	28.73	28.76	28.80	28.84	28.87	28.91	28.94	28.98
48	29.22	29.26	29.29	29.33	29.37	29.41	29.44	29.48	29.52	29.56	29.59	29.63	29.67	29.71	29.74
47 3/4	29.97	30.01	30.04	30.08	30.12	30.16	30.20	30.24	30.28	30.31	30.35	30.39	30.43	30.47	30.51
47 1/2	30.72	30.76	30.80	30.84	30.88	30.91	30.95	30.99	31.03	31.07	31.11	31.15	31.19	31.23	31.27
47 1/4	31.47	31.51	31.55	31.59	31.63	31.67	31.71	31.75	31.79	31.83	31.87	31.91	31.95	31.99	32.03
47	32.21	32.26	32.30	32.34	32.38	32.42	32.46	32.51	32.55	32.59	32.63	32.67	32.71	32.75	32.79
46 3/4	32.96	33.01	33.05	33.09	33.13	33.18	33.22	33.26	33.30	33.35	33.39	33.43	33.47	33.51	33.56
46 1/2	33.71	33.76	33.80	33.84	33.89	33.93	33.97	34.02	34.06	34.10	34.15	34.19	34.23	34.28	34.32
46 1/4	34.46	34.51	34.55	34.60	34.64	34.68	34.73	34.77	34.82	34.86	34.91	34.95	34.99	35.04	35.08
46	35.21	35.26	35.30	35.35	35.39	35.44	35.48	35.53	35.57	35.62	35.66	35.71	35.75	35.80	35.84
45 3/4	35.96	36.01	36.05	36.10	36.15	36.19	36.24	36.29	36.33	36.38	36.42	36.47	36.52	36.56	36.61

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20
57 3/4	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
57 1/2	0.76	0.76	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.78	0.78
57 1/4	1.53	1.53	1.53	1.53	1.53	1.54	1.54	1.54	1.54	1.54	1.55	1.55	1.55	1.55	1.55
57	2.29	2.29	2.30	2.30	2.30	2.31	2.31	2.31	2.31	2.32	2.32	2.32	2.32	2.33	2.33
56 3/4	3.05	3.06	3.06	3.07	3.07	3.07	3.08	3.08	3.08	3.09	3.09	3.10	3.10	3.10	3.11
56 1/2	3.82	3.82	3.83	3.83	3.84	3.84	3.85	3.85	3.86	3.86	3.87	3.87	3.87	3.88	3.88
56 1/4	4.58	4.59	4.59	4.60	4.60	4.61	4.62	4.62	4.63	4.63	4.64	4.64	4.65	4.66	4.66
56	5.35	5.35	5.36	5.37	5.37	5.38	5.39	5.39	5.40	5.40	5.41	5.42	5.42	5.43	5.44
55 3/4	6.11	6.12	6.12	6.13	6.14	6.15	6.15	6.16	6.17	6.18	6.18	6.19	6.20	6.21	6.21
55 1/2	6.87	6.88	6.89	6.90	6.91	6.92	6.92	6.93	6.94	6.95	6.96	6.97	6.97	6.98	6.99
55 1/4	7.64	7.65	7.66	7.66	7.67	7.68	7.69	7.70	7.71	7.72	7.73	7.74	7.75	7.76	7.77
55	8.40	8.41	8.42	8.43	8.44	8.45	8.46	8.47	8.48	8.49	8.50	8.51	8.52	8.53	8.54
54 3/4	9.16	9.17	9.19	9.20	9.21	9.22	9.23	9.24	9.25	9.27	9.28	9.29	9.30	9.31	9.32
54 1/2	9.93	9.94	9.95	9.96	9.98	9.99	10.00	10.01	10.03	10.04	10.05	10.06	10.07	10.09	10.10
54 1/4	10.69	10.70	10.72	10.73	10.74	10.76	10.77	10.78	10.80	10.81	10.82	10.84	10.85	10.86	10.88
54	11.45	11.47	11.48	11.50	11.51	11.53	11.54	11.55	11.57	11.58	11.60	11.61	11.62	11.64	11.65
53 3/4	12.22	12.23	12.25	12.26	12.28	12.29	12.31	12.32	12.34	12.35	12.37	12.38	12.40	12.41	12.43
53 1/2	12.98	13.00	13.01	13.03	13.05	13.06	13.08	13.09	13.11	13.13	13.14	13.16	13.17	13.19	13.21
53 1/4	13.74	13.76	13.78	13.80	13.81	13.83	13.85	13.86	13.88	13.90	13.92	13.93	13.95	13.97	13.98
53	14.51	14.53	14.54	14.56	14.58	14.60	14.62	14.63	14.65	14.67	14.69	14.71	14.72	14.74	14.76
52 3/4	15.27	15.29	15.31	15.33	15.35	15.37	15.39	15.40	15.42	15.44	15.46	15.48	15.50	15.52	15.54
52 1/2	16.04	16.06	16.08	16.10	16.12	16.14	16.16	16.18	16.19	16.21	16.23	16.25	16.27	16.29	16.31
52 1/4	16.80	16.82	16.84	16.86	16.88	16.90	16.92	16.95	16.97	16.99	17.01	17.03	17.05	17.07	17.09
52	17.56	17.58	17.61	17.63	17.65	17.67	17.69	17.72	17.74	17.76	17.78	17.80	17.82	17.85	17.87
51 3/4	18.33	18.35	18.37	18.39	18.42	18.44	18.46	18.49	18.51	18.53	18.55	18.58	18.60	18.62	18.64
51 1/2	19.09	19.11	19.14	19.16	19.19	19.21	19.23	19.26	19.28	19.30	19.33	19.35	19.37	19.40	19.42
51 1/4	19.85	19.88	19.90	19.93	19.95	19.98	20.00	20.03	20.05	20.08	20.10	20.12	20.15	20.17	20.20
51	20.62	20.64	20.67	20.69	20.72	20.75	20.77	20.80	20.82	20.85	20.87	20.90	20.92	20.95	20.97
50 3/4	21.38	21.41	21.43	21.46	21.49	21.51	21.54	21.57	21.59	21.62	21.65	21.67	21.70	21.72	21.75
50 1/2	22.14	22.17	22.20	22.23	22.25	22.28	22.31	22.34	22.36	22.39	22.42	22.45	22.47	22.50	22.53
50 1/4	22.91	22.94	22.97	22.99	23.02	23.05	23.08	23.11	23.14	23.16	23.19	23.22	23.25	23.28	23.30
50	23.67	23.70	23.73	23.76	23.79	23.82	23.85	23.88	23.91	23.94	23.97	23.99	24.02	24.05	24.08
49 3/4	24.44	24.47	24.50	24.53	24.56	24.59	24.62	24.65	24.68	24.71	24.74	24.77	24.80	24.83	24.86
49 1/2	25.20	25.23	25.26	25.29	25.32	25.36	25.39	25.42	25.45	25.48	25.51	25.54	25.57	25.60	25.63
49 1/4	25.96	25.99	26.03	26.06	26.09	26.12	26.16	26.19	26.22	26.25	26.28	26.32	26.35	26.38	26.41
49	26.73	26.76	26.79	26.83	26.86	26.89	26.93	26.96	26.99	27.02	27.06	27.09	27.12	27.16	27.19
48 3/4	27.49	27.52	27.56	27.59	27.63	27.66	27.69	27.73	27.76	27.80	27.83	27.86	27.90	27.93	27.97
48 1/2	28.25	28.29	28.32	28.36	28.39	28.43	28.46	28.50	28.53	28.57	28.60	28.64	28.67	28.71	28.74
48 1/4	29.02	29.05	29.09	29.13	29.16	29.20	29.23	29.27	29.30	29.34	29.38	29.41	29.45	29.48	29.52
48	29.78	29.82	29.85	29.89	29.93	29.97	30.00	30.04	30.08	30.11	30.15	30.19	30.22	30.26	30.30
47 3/4	30.54	30.58	30.62	30.66	30.70	30.73	30.77	30.81	30.85	30.88	30.92	30.96	31.00	31.04	31.07
47 1/2	31.31	31.35	31.39	31.42	31.46	31.50	31.54	31.58	31.62	31.66	31.70	31.73	31.77	31.81	31.85
47 1/4	32.07	32.11	32.15	32.19	32.23	32.27	32.31	32.35	32.39	32.43	32.47	32.51	32.55	32.59	32.63
47	32.83	32.88	32.92	32.96	33.00	33.04	33.08	33.12	33.16	33.20	33.24	33.28	33.32	33.36	33.40
46 3/4	33.60	33.64	33.68	33.72	33.77	33.81	33.85	33.89	33.93	33.97	34.01	34.06	34.10	34.14	34.18
46 1/2	34.36	34.40	34.45	34.49	34.53	34.58	34.62	34.66	34.70	34.75	34.79	34.83	34.87	34.91	34.96
46 1/4	35.13	35.17	35.21	35.26	35.30	35.34	35.39	35.43	35.47	35.52	35.56	35.60	35.65	35.69	35.73
46	35.89	35.93	35.98	36.02	36.07	36.11	36.16	36.20	36.25	36.29	36.33	36.38	36.42	36.47	36.51
45 3/4	36.65	36.70	36.74	36.79	36.84	36.88	36.93	36.97	37.02	37.06	37.11	37.15	37.20	37.24	37.29

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32	1.33	1.34	1.35
57 3/4	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
57 1/2	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.79	0.79	0.79	0.79	0.79	0.79	0.79
57 1/4	1.56	1.56	1.56	1.56	1.56	1.56	1.57	1.57	1.57	1.57	1.57	1.58	1.58	1.58	1.58
57	2.33	2.34	2.34	2.34	2.34	2.35	2.35	2.35	2.36	2.36	2.36	2.36	2.37	2.37	2.37
56 3/4	3.11	3.11	3.12	3.12	3.13	3.13	3.13	3.14	3.14	3.14	3.15	3.15	3.16	3.16	3.16
56 1/2	3.89	3.89	3.90	3.90	3.91	3.91	3.92	3.92	3.93	3.93	3.94	3.94	3.94	3.95	3.95
56 1/4	4.67	4.67	4.68	4.68	4.69	4.69	4.70	4.71	4.71	4.72	4.72	4.73	4.73	4.74	4.74
56	5.44	5.45	5.46	5.46	5.47	5.48	5.48	5.49	5.50	5.50	5.51	5.52	5.52	5.53	5.54
55 3/4	6.22	6.23	6.24	6.24	6.25	6.26	6.27	6.27	6.28	6.29	6.30	6.30	6.31	6.32	6.33
55 1/2	7.00	7.01	7.02	7.02	7.03	7.04	7.05	7.06	7.07	7.08	7.08	7.09	7.10	7.11	7.12
55 1/4	7.78	7.79	7.80	7.81	7.81	7.82	7.83	7.84	7.85	7.86	7.87	7.88	7.89	7.90	7.91
55	8.56	8.57	8.58	8.59	8.60	8.61	8.62	8.63	8.64	8.65	8.66	8.67	8.68	8.69	8.70
54 3/4	9.33	9.34	9.36	9.37	9.38	9.39	9.40	9.41	9.42	9.43	9.44	9.46	9.47	9.48	9.49
54 1/2	10.11	10.12	10.14	10.15	10.16	10.17	10.18	10.20	10.21	10.22	10.23	10.24	10.26	10.27	10.28
54 1/4	10.89	10.90	10.91	10.93	10.94	10.95	10.97	10.98	10.99	11.01	11.02	11.03	11.04	11.06	11.07
54	11.67	11.68	11.69	11.71	11.72	11.74	11.75	11.76	11.78	11.79	11.81	11.82	11.83	11.85	11.86
53 3/4	12.44	12.46	12.47	12.49	12.50	12.52	12.53	12.55	12.56	12.58	12.59	12.61	12.62	12.64	12.65
53 1/2	13.22	13.24	13.25	13.27	13.29	13.30	13.32	13.33	13.35	13.36	13.38	13.40	13.41	13.43	13.44
53 1/4	14.00	14.02	14.03	14.05	14.07	14.08	14.10	14.12	14.13	14.15	14.17	14.18	14.20	14.22	14.23
53	14.78	14.80	14.81	14.83	14.85	14.87	14.88	14.90	14.92	14.94	14.95	14.97	14.99	15.01	15.02
52 3/4	15.56	15.57	15.59	15.61	15.63	15.65	15.67	15.69	15.70	15.72	15.74	15.76	15.78	15.80	15.81
52 1/2	16.33	16.35	16.37	16.39	16.41	16.43	16.45	16.47	16.49	16.51	16.53	16.55	16.57	16.59	16.61
52 1/4	17.11	17.13	17.15	17.17	17.19	17.21	17.23	17.25	17.27	17.29	17.32	17.34	17.36	17.38	17.40
52	17.89	17.91	17.93	17.95	17.97	18.00	18.02	18.04	18.06	18.08	18.10	18.12	18.14	18.17	18.19
51 3/4	18.67	18.69	18.71	18.73	18.76	18.78	18.80	18.82	18.84	18.87	18.89	18.91	18.93	18.96	18.98
51 1/2	19.44	19.47	19.49	19.51	19.54	19.56	19.58	19.61	19.63	19.65	19.68	19.70	19.72	19.75	19.77
51 1/4	20.22	20.25	20.27	20.29	20.32	20.34	20.37	20.39	20.42	20.44	20.46	20.49	20.51	20.54	20.56
51	21.00	21.02	21.05	21.07	21.10	21.13	21.15	21.18	21.20	21.23	21.25	21.28	21.30	21.32	21.35
50 3/4	21.78	21.80	21.83	21.86	21.88	21.91	21.93	21.96	21.99	22.01	22.04	22.06	22.09	22.11	22.14
50 1/2	22.55	22.58	22.61	22.64	22.66	22.69	22.72	22.74	22.77	22.80	22.82	22.85	22.88	22.90	22.93
50 1/4	23.33	23.36	23.39	23.42	23.44	23.47	23.50	23.53	23.56	23.58	23.61	23.64	23.67	23.69	23.72
50	24.11	24.14	24.17	24.20	24.23	24.25	24.28	24.31	24.34	24.37	24.40	24.43	24.46	24.48	24.51
49 3/4	24.89	24.92	24.95	24.98	25.01	25.04	25.07	25.10	25.13	25.16	25.19	25.22	25.24	25.27	25.30
49 1/2	25.67	25.70	25.73	25.76	25.79	25.82	25.85	25.88	25.91	25.94	25.97	26.00	26.03	26.06	26.09
49 1/4	26.44	26.48	26.51	26.54	26.57	26.60	26.63	26.67	26.70	26.73	26.76	26.79	26.82	26.85	26.88
49	27.22	27.25	27.29	27.32	27.35	27.38	27.42	27.45	27.48	27.51	27.55	27.58	27.61	27.64	27.68
48 3/4	28.00	28.03	28.07	28.10	28.13	28.17	28.20	28.23	28.27	28.30	28.33	28.37	28.40	28.43	28.47
48 1/2	28.78	28.81	28.85	28.88	28.91	28.95	28.98	29.02	29.05	29.09	29.12	29.15	29.19	29.22	29.26
48 1/4	29.55	29.59	29.63	29.66	29.70	29.73	29.77	29.80	29.84	29.87	29.91	29.94	29.98	30.01	30.05
48	30.33	30.37	30.41	30.44	30.48	30.51	30.55	30.59	30.62	30.66	30.69	30.73	30.77	30.80	30.84
47 3/4	31.11	31.15	31.18	31.22	31.26	31.30	31.33	31.37	31.41	31.44	31.48	31.52	31.56	31.59	31.63
47 1/2	31.89	31.93	31.96	32.00	32.04	32.08	32.12	32.16	32.19	32.23	32.27	32.31	32.34	32.38	32.42
47 1/4	32.67	32.70	32.74	32.78	32.82	32.86	32.90	32.94	32.98	33.02	33.06	33.09	33.13	33.17	33.21
47	33.44	33.48	33.52	33.56	33.60	33.64	33.68	33.72	33.76	33.80	33.84	33.88	33.92	33.96	34.00
46 3/4	34.22	34.26	34.30	34.34	34.39	34.43	34.47	34.51	34.55	34.59	34.63	34.67	34.71	34.75	34.79
46 1/2	35.00	35.04	35.08	35.12	35.17	35.21	35.25	35.29	35.33	35.38	35.42	35.46	35.50	35.54	35.58
46 1/4	35.78	35.82	35.86	35.91	35.95	35.99	36.03	36.08	36.12	36.16	36.20	36.25	36.29	36.33	36.37
46	36.55	36.60	36.64	36.69	36.73	36.77	36.82	36.86	36.90	36.95	36.99	37.03	37.08	37.12	37.16
45 3/4	37.33	37.38	37.42	37.47	37.51	37.56	37.60	37.64	37.69	37.73	37.78	37.82	37.87	37.91	37.96

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.36	1.37	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.48	1.49	1.50
57 3/4	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
57 1/2	0.79	0.79	0.79	0.79	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
57 1/4	1.58	1.59	1.59	1.59	1.59	1.59	1.59	1.60	1.60	1.60	1.60	1.60	1.61	1.61	1.61
57	2.37	2.38	2.38	2.38	2.39	2.39	2.39	2.39	2.40	2.40	2.40	2.41	2.41	2.41	2.41
56 3/4	3.17	3.17	3.17	3.18	3.18	3.18	3.19	3.19	3.20	3.20	3.20	3.21	3.21	3.21	3.22
56 1/2	3.96	3.96	3.97	3.97	3.98	3.98	3.99	3.99	3.99	4.00	4.00	4.01	4.01	4.02	4.02
56 1/4	4.75	4.76	4.76	4.77	4.77	4.78	4.78	4.79	4.79	4.80	4.80	4.81	4.82	4.82	4.83
56	5.54	5.55	5.55	5.56	5.57	5.57	5.58	5.59	5.59	5.60	5.61	5.61	5.62	5.62	5.63
55 3/4	6.33	6.34	6.35	6.36	6.36	6.37	6.38	6.38	6.39	6.40	6.41	6.41	6.42	6.43	6.44
55 1/2	7.12	7.13	7.14	7.15	7.16	7.17	7.17	7.18	7.19	7.20	7.21	7.22	7.22	7.23	7.24
55 1/4	7.92	7.93	7.93	7.94	7.95	7.96	7.97	7.98	7.99	8.00	8.01	8.02	8.03	8.04	8.04
55	8.71	8.72	8.73	8.74	8.75	8.76	8.77	8.78	8.79	8.80	8.81	8.82	8.83	8.84	8.85
54 3/4	9.50	9.51	9.52	9.53	9.54	9.55	9.57	9.58	9.59	9.60	9.61	9.62	9.63	9.64	9.65
54 1/2	10.29	10.30	10.32	10.33	10.34	10.35	10.36	10.37	10.39	10.40	10.41	10.42	10.43	10.45	10.46
54 1/4	11.08	11.10	11.11	11.12	11.13	11.15	11.16	11.17	11.19	11.20	11.21	11.22	11.24	11.25	11.26
54	11.87	11.89	11.90	11.92	11.93	11.94	11.96	11.97	11.98	12.00	12.01	12.03	12.04	12.05	12.07
53 3/4	12.67	12.68	12.70	12.71	12.73	12.74	12.75	12.77	12.78	12.80	12.81	12.83	12.84	12.86	12.87
53 1/2	13.46	13.47	13.49	13.50	13.52	13.54	13.55	13.57	13.58	13.60	13.61	13.63	13.64	13.66	13.67
53 1/4	14.25	14.27	14.28	14.30	14.32	14.33	14.35	14.36	14.38	14.40	14.41	14.43	14.45	14.46	14.48
53	15.04	15.06	15.08	15.09	15.11	15.13	15.15	15.16	15.18	15.20	15.21	15.23	15.25	15.27	15.28
52 3/4	15.83	15.85	15.87	15.89	15.91	15.92	15.94	15.96	15.98	16.00	16.02	16.03	16.05	16.07	16.09
52 1/2	16.62	16.64	16.66	16.68	16.70	16.72	16.74	16.76	16.78	16.80	16.82	16.84	16.85	16.87	16.89
52 1/4	17.42	17.44	17.46	17.48	17.50	17.52	17.54	17.56	17.58	17.60	17.62	17.64	17.66	17.68	17.70
52	18.21	18.23	18.25	18.27	18.29	18.31	18.33	18.36	18.38	18.40	18.42	18.44	18.46	18.48	18.50
51 3/4	19.00	19.02	19.04	19.07	19.09	19.11	19.13	19.15	19.18	19.20	19.22	19.24	19.26	19.28	19.31
51 1/2	19.79	19.81	19.84	19.86	19.88	19.91	19.93	19.95	19.97	20.00	20.02	20.04	20.06	20.09	20.11
51 1/4	20.58	20.61	20.63	20.65	20.68	20.70	20.73	20.75	20.77	20.80	20.82	20.84	20.87	20.89	20.91
51	21.37	21.40	21.42	21.45	21.47	21.50	21.52	21.55	21.57	21.60	21.62	21.65	21.67	21.69	21.72
50 3/4	22.17	22.19	22.22	22.24	22.27	22.29	22.32	22.35	22.37	22.40	22.42	22.45	22.47	22.50	22.52
50 1/2	22.96	22.98	23.01	23.04	23.06	23.09	23.12	23.14	23.17	23.20	23.22	23.25	23.28	23.30	23.33
50 1/4	23.75	23.78	23.80	23.83	23.86	23.89	23.91	23.94	23.97	24.00	24.02	24.05	24.08	24.11	24.13
50	24.54	24.57	24.60	24.63	24.65	24.68	24.71	24.74	24.77	24.80	24.82	24.85	24.88	24.91	24.94
49 3/4	25.33	25.36	25.39	25.42	25.45	25.48	25.51	25.54	25.57	25.60	25.63	25.65	25.68	25.71	25.74
49 1/2	26.12	26.15	26.19	26.22	26.25	26.28	26.31	26.34	26.37	26.40	26.43	26.46	26.49	26.52	26.55
49 1/4	26.92	26.95	26.98	27.01	27.04	27.07	27.10	27.13	27.16	27.20	27.23	27.26	27.29	27.32	27.35
49	27.71	27.74	27.77	27.80	27.84	27.87	27.90	27.93	27.96	28.00	28.03	28.06	28.09	28.12	28.15
48 3/4	28.50	28.53	28.57	28.60	28.63	28.66	28.70	28.73	28.76	28.80	28.83	28.86	28.89	28.93	28.96
48 1/2	29.29	29.33	29.36	29.39	29.43	29.46	29.49	29.53	29.56	29.60	29.63	29.66	29.70	29.73	29.76
48 1/4	30.08	30.12	30.15	30.19	30.22	30.26	30.29	30.33	30.36	30.40	30.43	30.46	30.50	30.53	30.57
48	30.87	30.91	30.95	30.98	31.02	31.05	31.09	31.12	31.16	31.20	31.23	31.27	31.30	31.34	31.37
47 3/4	31.67	31.70	31.74	31.78	31.81	31.85	31.89	31.92	31.96	31.99	32.03	32.07	32.10	32.14	32.18
47 1/2	32.46	32.50	32.53	32.57	32.61	32.65	32.68	32.72	32.76	32.79	32.83	32.87	32.91	32.94	32.98
47 1/4	33.25	33.29	33.33	33.36	33.40	33.44	33.48	33.52	33.56	33.59	33.63	33.67	33.71	33.75	33.79
47	34.04	34.08	34.12	34.16	34.20	34.24	34.28	34.32	34.36	34.39	34.43	34.47	34.51	34.55	34.59
46 3/4	34.83	34.87	34.91	34.95	34.99	35.03	35.07	35.11	35.15	35.19	35.23	35.27	35.31	35.35	35.39
46 1/2	35.62	35.67	35.71	35.75	35.79	35.83	35.87	35.91	35.95	35.99	36.04	36.08	36.12	36.16	36.20
46 1/4	36.42	36.46	36.50	36.54	36.58	36.63	36.67	36.71	36.75	36.79	36.84	36.88	36.92	36.96	37.00
46	37.21	37.25	37.29	37.34	37.38	37.42	37.47	37.51	37.55	37.59	37.64	37.68	37.72	37.76	37.81
45 3/4	38.00	38.04	38.09	38.13	38.18	38.22	38.26	38.31	38.35	38.39	38.44	38.48	38.52	38.57	38.61

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.51	1.52	1.53	1.54	1.55	1.56	1.57	1.58	1.59	1.60	1.61	1.62	1.63	1.64	1.65
57 3/4	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
57 1/2	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.82	0.82	0.82	0.82
57 1/4	1.61	1.61	1.61	1.62	1.62	1.62	1.62	1.62	1.62	1.63	1.63	1.63	1.63	1.63	1.64
57	2.42	2.42	2.42	2.42	2.43	2.43	2.43	2.43	2.44	2.44	2.44	2.45	2.45	2.45	2.45
56 3/4	3.22	3.22	3.23	3.23	3.24	3.24	3.24	3.25	3.25	3.25	3.26	3.26	3.26	3.27	3.27
56 1/2	4.03	4.03	4.04	4.04	4.04	4.05	4.05	4.06	4.06	4.07	4.07	4.08	4.08	4.08	4.09
56 1/4	4.83	4.84	4.84	4.85	4.85	4.86	4.86	4.87	4.87	4.88	4.89	4.89	4.90	4.90	4.91
56	5.64	5.64	5.65	5.66	5.66	5.67	5.67	5.68	5.69	5.69	5.70	5.71	5.71	5.72	5.72
55 3/4	6.44	6.45	6.46	6.46	6.47	6.48	6.49	6.49	6.50	6.51	6.51	6.52	6.53	6.54	6.54
55 1/2	7.25	7.26	7.26	7.27	7.28	7.29	7.30	7.30	7.31	7.32	7.33	7.34	7.34	7.35	7.36
55 1/4	8.05	8.06	8.07	8.08	8.09	8.10	8.11	8.12	8.12	8.13	8.14	8.15	8.16	8.17	8.18
55	8.86	8.87	8.88	8.89	8.90	8.91	8.92	8.93	8.94	8.95	8.96	8.97	8.98	8.99	9.00
54 3/4	9.66	9.67	9.69	9.70	9.71	9.72	9.73	9.74	9.75	9.76	9.77	9.78	9.79	9.80	9.81
54 1/2	10.47	10.48	10.49	10.50	10.52	10.53	10.54	10.55	10.56	10.57	10.59	10.60	10.61	10.62	10.63
54 1/4	11.27	11.29	11.30	11.31	11.32	11.34	11.35	11.36	11.37	11.39	11.40	11.41	11.42	11.44	11.45
54	12.08	12.09	12.11	12.12	12.13	12.15	12.16	12.17	12.19	12.20	12.21	12.23	12.24	12.25	12.27
53 3/4	12.88	12.90	12.91	12.93	12.94	12.96	12.97	12.99	13.00	13.01	13.03	13.04	13.06	13.07	13.09
53 1/2	13.69	13.71	13.72	13.74	13.75	13.77	13.78	13.80	13.81	13.83	13.84	13.86	13.87	13.89	13.90
53 1/4	14.50	14.51	14.53	14.54	14.56	14.58	14.59	14.61	14.62	14.64	14.66	14.67	14.69	14.71	14.72
53	15.30	15.32	15.34	15.35	15.37	15.39	15.40	15.42	15.44	15.45	15.47	15.49	15.51	15.52	15.54
52 3/4	16.11	16.12	16.14	16.16	16.18	16.20	16.21	16.23	16.25	16.27	16.29	16.30	16.32	16.34	16.36
52 1/2	16.91	16.93	16.95	16.97	16.99	17.01	17.02	17.04	17.06	17.08	17.10	17.12	17.14	17.16	17.17
52 1/4	17.72	17.74	17.76	17.78	17.80	17.82	17.84	17.86	17.87	17.89	17.91	17.93	17.95	17.97	17.99
52	18.52	18.54	18.56	18.58	18.60	18.63	18.65	18.67	18.69	18.71	18.73	18.75	18.77	18.79	18.81
51 3/4	19.33	19.35	19.37	19.39	19.41	19.44	19.46	19.48	19.50	19.52	19.54	19.56	19.59	19.61	19.63
51 1/2	20.13	20.16	20.18	20.20	20.22	20.25	20.27	20.29	20.31	20.33	20.36	20.38	20.40	20.42	20.45
51 1/4	20.94	20.96	20.98	21.01	21.03	21.06	21.08	21.10	21.12	21.15	21.17	21.19	21.22	21.24	21.26
51	21.74	21.77	21.79	21.82	21.84	21.86	21.89	21.91	21.94	21.96	21.99	22.01	22.03	22.06	22.08
50 3/4	22.55	22.57	22.60	22.62	22.65	22.67	22.70	22.72	22.75	22.78	22.80	22.83	22.85	22.87	22.90
50 1/2	23.35	23.38	23.41	23.43	23.46	23.48	23.51	23.54	23.56	23.59	23.61	23.64	23.67	23.69	23.72
50 1/4	24.16	24.19	24.21	24.24	24.27	24.29	24.32	24.35	24.37	24.40	24.43	24.46	24.48	24.51	24.54
50	24.96	24.99	25.02	25.05	25.08	25.10	25.13	25.16	25.19	25.22	25.24	25.27	25.30	25.33	25.35
49 3/4	25.77	25.80	25.83	25.86	25.89	25.91	25.94	25.97	26.00	26.03	26.06	26.09	26.11	26.14	26.17
49 1/2	26.58	26.60	26.63	26.66	26.69	26.72	26.75	26.78	26.81	26.84	26.87	26.90	26.93	26.96	26.99
49 1/4	27.38	27.41	27.44	27.47	27.50	27.53	27.56	27.59	27.62	27.66	27.69	27.72	27.75	27.78	27.81
49	28.19	28.22	28.25	28.28	28.31	28.34	28.37	28.41	28.44	28.47	28.50	28.53	28.56	28.59	28.62
48 3/4	28.99	29.02	29.06	29.09	29.12	29.15	29.19	29.22	29.25	29.28	29.31	29.35	29.38	29.41	29.44
48 1/2	29.80	29.83	29.86	29.90	29.93	29.96	30.00	30.03	30.06	30.10	30.13	30.16	30.19	30.23	30.26
48 1/4	30.60	30.64	30.67	30.70	30.74	30.77	30.81	30.84	30.87	30.91	30.94	30.98	31.01	31.04	31.08
48	31.41	31.44	31.48	31.51	31.55	31.58	31.62	31.65	31.69	31.72	31.76	31.79	31.83	31.86	31.90
47 3/4	32.21	32.25	32.28	32.32	32.36	32.39	32.43	32.46	32.50	32.54	32.57	32.61	32.64	32.68	32.71
47 1/2	33.02	33.05	33.09	33.13	33.17	33.20	33.24	33.28	33.31	33.35	33.39	33.42	33.46	33.50	33.53
47 1/4	33.82	33.86	33.90	33.94	33.97	34.01	34.05	34.09	34.12	34.16	34.20	34.24	34.27	34.31	34.35
47	34.63	34.67	34.71	34.74	34.78	34.82	34.86	34.90	34.94	34.98	35.01	35.05	35.09	35.13	35.17
46 3/4	35.43	35.47	35.51	35.55	35.59	35.63	35.67	35.71	35.75	35.79	35.83	35.87	35.91	35.95	35.99
46 1/2	36.24	36.28	36.32	36.36	36.40	36.44	36.48	36.52	36.56	36.60	36.64	36.68	36.72	36.76	36.80
46 1/4	37.04	37.09	37.13	37.17	37.21	37.25	37.29	37.33	37.37	37.42	37.46	37.50	37.54	37.58	37.62
46	37.85	37.89	37.93	37.98	38.02	38.06	38.10	38.15	38.19	38.23	38.27	38.31	38.36	38.40	38.44
45 3/4	38.65	38.70	38.74	38.78	38.83	38.87	38.91	38.96	39.00	39.04	39.09	39.13	39.17	39.21	39.26

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.66	1.67	1.68	1.69	1.70	1.71	1.72	1.73	1.74	1.75	1.76	1.77	1.78	1.79	1.80
57 3/4	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
57 1/2	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.83	0.83	0.83
57 1/4	1.64	1.64	1.64	1.64	1.64	1.65	1.65	1.65	1.65	1.65	1.66	1.66	1.66	1.66	1.66
57	2.46	2.46	2.46	2.46	2.47	2.47	2.47	2.47	2.48	2.48	2.48	2.49	2.49	2.49	2.49
56 3/4	3.27	3.28	3.28	3.29	3.29	3.29	3.30	3.30	3.30	3.31	3.31	3.31	3.32	3.32	3.32
56 1/2	4.09	4.10	4.10	4.11	4.11	4.12	4.12	4.12	4.13	4.13	4.14	4.14	4.15	4.15	4.16
56 1/4	4.91	4.92	4.92	4.93	4.93	4.94	4.94	4.95	4.95	4.96	4.97	4.97	4.98	4.98	4.99
56	5.73	5.74	5.74	5.75	5.76	5.76	5.77	5.77	5.78	5.79	5.79	5.80	5.81	5.81	5.82
55 3/4	6.55	6.56	6.56	6.57	6.58	6.59	6.59	6.60	6.61	6.61	6.62	6.63	6.63	6.64	6.65
55 1/2	7.37	7.38	7.38	7.39	7.40	7.41	7.42	7.42	7.43	7.44	7.45	7.46	7.46	7.47	7.48
55 1/4	8.19	8.20	8.21	8.21	8.22	8.23	8.24	8.25	8.26	8.27	8.28	8.28	8.29	8.30	8.31
55	9.01	9.02	9.03	9.04	9.05	9.05	9.06	9.07	9.08	9.09	9.10	9.11	9.12	9.13	9.14
54 3/4	9.82	9.84	9.85	9.86	9.87	9.88	9.89	9.90	9.91	9.92	9.93	9.94	9.95	9.96	9.97
54 1/2	10.64	10.66	10.67	10.68	10.69	10.70	10.71	10.72	10.74	10.75	10.76	10.77	10.78	10.79	10.80
54 1/4	11.46	11.47	11.49	11.50	11.51	11.52	11.54	11.55	11.56	11.57	11.59	11.60	11.61	11.62	11.64
54	12.28	12.29	12.31	12.32	12.33	12.35	12.36	12.37	12.39	12.40	12.41	12.43	12.44	12.45	12.47
53 3/4	13.10	13.11	13.13	13.14	13.16	13.17	13.18	13.20	13.21	13.23	13.24	13.26	13.27	13.28	13.30
53 1/2	13.92	13.93	13.95	13.96	13.98	13.99	14.01	14.02	14.04	14.05	14.07	14.08	14.10	14.11	14.13
53 1/4	14.74	14.75	14.77	14.79	14.80	14.82	14.83	14.85	14.86	14.88	14.90	14.91	14.93	14.94	14.96
53	15.56	15.57	15.59	15.61	15.62	15.64	15.66	15.67	15.69	15.71	15.72	15.74	15.76	15.77	15.79
52 3/4	16.37	16.39	16.41	16.43	16.45	16.46	16.48	16.50	16.52	16.53	16.55	16.57	16.59	16.60	16.62
52 1/2	17.19	17.21	17.23	17.25	17.27	17.29	17.31	17.32	17.34	17.36	17.38	17.40	17.42	17.43	17.45
52 1/4	18.01	18.03	18.05	18.07	18.09	18.11	18.13	18.15	18.17	18.19	18.21	18.23	18.25	18.26	18.28
52	18.83	18.85	18.87	18.89	18.91	18.93	18.95	18.97	18.99	19.01	19.03	19.05	19.07	19.09	19.11
51 3/4	19.65	19.67	19.69	19.71	19.73	19.76	19.78	19.80	19.82	19.84	19.86	19.88	19.90	19.92	19.95
51 1/2	20.47	20.49	20.51	20.53	20.56	20.58	20.60	20.62	20.65	20.67	20.69	20.71	20.73	20.76	20.78
51 1/4	21.29	21.31	21.33	21.36	21.38	21.40	21.43	21.45	21.47	21.49	21.52	21.54	21.56	21.59	21.61
51	22.11	22.13	22.15	22.18	22.20	22.23	22.25	22.27	22.30	22.32	22.34	22.37	22.39	22.42	22.44
50 3/4	22.92	22.95	22.97	23.00	23.02	23.05	23.07	23.10	23.12	23.15	23.17	23.20	23.22	23.25	23.27
50 1/2	23.74	23.77	23.79	23.82	23.85	23.87	23.90	23.92	23.95	23.97	24.00	24.03	24.05	24.08	24.10
50 1/4	24.56	24.59	24.62	24.64	24.67	24.70	24.72	24.75	24.77	24.80	24.83	24.85	24.88	24.91	24.93
50	25.38	25.41	25.44	25.46	25.49	25.52	25.55	25.57	25.60	25.63	25.65	25.68	25.71	25.74	25.76
49 3/4	26.20	26.23	26.26	26.28	26.31	26.34	26.37	26.40	26.43	26.45	26.48	26.51	26.54	26.57	26.59
49 1/2	27.02	27.05	27.08	27.11	27.14	27.16	27.19	27.22	27.25	27.28	27.31	27.34	27.37	27.40	27.43
49 1/4	27.84	27.87	27.90	27.93	27.96	27.99	28.02	28.05	28.08	28.11	28.14	28.17	28.20	28.23	28.26
49	28.66	28.69	28.72	28.75	28.78	28.81	28.84	28.87	28.90	28.93	28.97	29.00	29.03	29.06	29.09
48 3/4	29.47	29.51	29.54	29.57	29.60	29.63	29.67	29.70	29.73	29.76	29.79	29.82	29.86	29.89	29.92
48 1/2	30.29	30.33	30.36	30.39	30.42	30.46	30.49	30.52	30.56	30.59	30.62	30.65	30.69	30.72	30.75
48 1/4	31.11	31.15	31.18	31.21	31.25	31.28	31.31	31.35	31.38	31.41	31.45	31.48	31.51	31.55	31.58
48	31.93	31.97	32.00	32.03	32.07	32.10	32.14	32.17	32.21	32.24	32.28	32.31	32.34	32.38	32.41
47 3/4	32.75	32.79	32.82	32.86	32.89	32.93	32.96	33.00	33.03	33.07	33.10	33.14	33.17	33.21	33.24
47 1/2	33.57	33.60	33.64	33.68	33.71	33.75	33.79	33.82	33.86	33.89	33.93	33.97	34.00	34.04	34.07
47 1/4	34.39	34.42	34.46	34.50	34.54	34.57	34.61	34.65	34.68	34.72	34.76	34.79	34.83	34.87	34.91
47	35.21	35.24	35.28	35.32	35.36	35.40	35.43	35.47	35.51	35.55	35.59	35.62	35.66	35.70	35.74
46 3/4	36.02	36.06	36.10	36.14	36.18	36.22	36.26	36.30	36.34	36.37	36.41	36.45	36.49	36.53	36.57
46 1/2	36.84	36.88	36.92	36.96	37.00	37.04	37.08	37.12	37.16	37.20	37.24	37.28	37.32	37.36	37.40
46 1/4	37.66	37.70	37.74	37.78	37.83	37.87	37.91	37.95	37.99	38.03	38.07	38.11	38.15	38.19	38.23
46	38.48	38.52	38.56	38.61	38.65	38.69	38.73	38.77	38.81	38.85	38.90	38.94	38.98	39.02	39.06
45 3/4	39.30	39.34	39.38	39.43	39.47	39.51	39.55	39.60	39.64	39.68	39.72	39.77	39.81	39.85	39.89

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.81	1.82	1.83	1.84	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93	1.94	1.95
57 3/4	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
57 1/2	0.83	0.83	0.83	0.83	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
57 1/4	1.66	1.67	1.67	1.67	1.67	1.67	1.67	1.68	1.68	1.68	1.68	1.68	1.68	1.69	1.69
57	2.50	2.50	2.50	2.50	2.51	2.51	2.51	2.51	2.52	2.52	2.52	2.52	2.53	2.53	2.53
56 3/4	3.33	3.33	3.33	3.34	3.34	3.35	3.35	3.35	3.36	3.36	3.36	3.37	3.37	3.37	3.38
56 1/2	4.16	4.16	4.17	4.17	4.18	4.18	4.19	4.19	4.19	4.20	4.20	4.21	4.21	4.22	4.22
56 1/4	4.99	5.00	5.00	5.01	5.01	5.02	5.02	5.03	5.03	5.04	5.04	5.05	5.05	5.06	5.06
56	5.82	5.83	5.84	5.84	5.85	5.85	5.86	5.87	5.87	5.88	5.88	5.89	5.90	5.90	5.91
55 3/4	6.66	6.66	6.67	6.68	6.68	6.69	6.70	6.70	6.71	6.72	6.73	6.73	6.74	6.75	6.75
55 1/2	7.49	7.50	7.50	7.51	7.52	7.53	7.53	7.54	7.55	7.56	7.57	7.57	7.58	7.59	7.60
55 1/4	8.32	8.33	8.34	8.35	8.35	8.36	8.37	8.38	8.39	8.40	8.41	8.42	8.42	8.43	8.44
55	9.15	9.16	9.17	9.18	9.19	9.20	9.21	9.22	9.23	9.24	9.25	9.26	9.27	9.28	9.29
54 3/4	9.98	9.99	10.00	10.01	10.03	10.04	10.05	10.06	10.07	10.08	10.09	10.10	10.11	10.12	10.13
54 1/2	10.82	10.83	10.84	10.85	10.86	10.87	10.88	10.89	10.91	10.92	10.93	10.94	10.95	10.96	10.97
54 1/4	11.65	11.66	11.67	11.68	11.70	11.71	11.72	11.73	11.74	11.76	11.77	11.78	11.79	11.81	11.82
54	12.48	12.49	12.51	12.52	12.53	12.54	12.56	12.57	12.58	12.60	12.61	12.62	12.64	12.65	12.66
53 3/4	13.31	13.33	13.34	13.35	13.37	13.38	13.39	13.41	13.42	13.44	13.45	13.46	13.48	13.49	13.51
53 1/2	14.14	14.16	14.17	14.19	14.20	14.22	14.23	14.25	14.26	14.28	14.29	14.31	14.32	14.34	14.35
53 1/4	14.98	14.99	15.01	15.02	15.04	15.05	15.07	15.08	15.10	15.12	15.13	15.15	15.16	15.18	15.19
53	15.81	15.82	15.84	15.86	15.87	15.89	15.91	15.92	15.94	15.96	15.97	15.99	16.01	16.02	16.04
52 3/4	16.64	16.66	16.67	16.69	16.71	16.73	16.74	16.76	16.78	16.80	16.81	16.83	16.85	16.86	16.88
52 1/2	17.47	17.49	17.51	17.53	17.54	17.56	17.58	17.60	17.62	17.64	17.65	17.67	17.69	17.71	17.73
52 1/4	18.30	18.32	18.34	18.36	18.38	18.40	18.42	18.44	18.46	18.48	18.49	18.51	18.53	18.55	18.57
52	19.13	19.16	19.18	19.20	19.22	19.24	19.26	19.28	19.30	19.31	19.33	19.35	19.37	19.39	19.41
51 3/4	19.97	19.99	20.01	20.03	20.05	20.07	20.09	20.11	20.13	20.15	20.18	20.20	20.22	20.24	20.26
51 1/2	20.80	20.82	20.84	20.86	20.89	20.91	20.93	20.95	20.97	20.99	21.02	21.04	21.06	21.08	21.10
51 1/4	21.63	21.65	21.68	21.70	21.72	21.74	21.77	21.79	21.81	21.83	21.86	21.88	21.90	21.92	21.95
51	22.46	22.49	22.51	22.53	22.56	22.58	22.60	22.63	22.65	22.67	22.70	22.72	22.74	22.77	22.79
50 3/4	23.29	23.32	23.34	23.37	23.39	23.42	23.44	23.47	23.49	23.51	23.54	23.56	23.59	23.61	23.63
50 1/2	24.13	24.15	24.18	24.20	24.23	24.25	24.28	24.30	24.33	24.35	24.38	24.40	24.43	24.45	24.48
50 1/4	24.96	24.98	25.01	25.04	25.06	25.09	25.12	25.14	25.17	25.19	25.22	25.25	25.27	25.30	25.32
50	25.79	25.82	25.84	25.87	25.90	25.93	25.95	25.98	26.01	26.03	26.06	26.09	26.11	26.14	26.17
49 3/4	26.62	26.65	26.68	26.71	26.73	26.76	26.79	26.82	26.85	26.87	26.90	26.93	26.96	26.98	27.01
49 1/2	27.45	27.48	27.51	27.54	27.57	27.60	27.63	27.66	27.68	27.71	27.74	27.77	27.80	27.83	27.86
49 1/4	28.29	28.32	28.35	28.38	28.40	28.43	28.46	28.49	28.52	28.55	28.58	28.61	28.64	28.67	28.70
49	29.12	29.15	29.18	29.21	29.24	29.27	29.30	29.33	29.36	29.39	29.42	29.45	29.48	29.51	29.54
48 3/4	29.95	29.98	30.01	30.04	30.08	30.11	30.14	30.17	30.20	30.23	30.26	30.29	30.33	30.36	30.39
48 1/2	30.78	30.81	30.85	30.88	30.91	30.94	30.98	31.01	31.04	31.07	31.10	31.14	31.17	31.20	31.23
48 1/4	31.61	31.65	31.68	31.71	31.75	31.78	31.81	31.85	31.88	31.91	31.94	31.98	32.01	32.04	32.08
48	32.45	32.48	32.51	32.55	32.58	32.62	32.65	32.68	32.72	32.75	32.79	32.82	32.85	32.89	32.92
47 3/4	33.28	33.31	33.35	33.38	33.42	33.45	33.49	33.52	33.56	33.59	33.63	33.66	33.69	33.73	33.76
47 1/2	34.11	34.15	34.18	34.22	34.25	34.29	34.32	34.36	34.40	34.43	34.47	34.50	34.54	34.57	34.61
47 1/4	34.94	34.98	35.02	35.05	35.09	35.13	35.16	35.20	35.23	35.27	35.31	35.34	35.38	35.42	35.45
47	35.77	35.81	35.85	35.89	35.92	35.96	36.00	36.04	36.07	36.11	36.15	36.18	36.22	36.26	36.30
46 3/4	36.61	36.64	36.68	36.72	36.76	36.80	36.84	36.87	36.91	36.95	36.99	37.03	37.06	37.10	37.14
46 1/2	37.44	37.48	37.52	37.56	37.59	37.63	37.67	37.71	37.75	37.79	37.83	37.87	37.91	37.95	37.98
46 1/4	38.27	38.31	38.35	38.39	38.43	38.47	38.51	38.55	38.59	38.63	38.67	38.71	38.75	38.79	38.83
46	39.10	39.14	39.18	39.22	39.27	39.31	39.35	39.39	39.43	39.47	39.51	39.55	39.59	39.63	39.67
45 3/4	39.93	39.98	40.02	40.06	40.10	40.14	40.18	40.23	40.27	40.31	40.35	40.39	40.43	40.48	40.52

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.96	1.97	1.98	1.99	2.00	2.01	2.02	2.03	2.04	2.05	2.06	2.07	2.08	2.09	2.10
57 3/4	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
57 1/2	0.84	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.86	0.86	0.86
57 1/4	1.69	1.69	1.69	1.70	1.70	1.70	1.70	1.70	1.70	1.71	1.71	1.71	1.71	1.71	1.71
57	2.53	2.54	2.54	2.54	2.55	2.55	2.55	2.55	2.56	2.56	2.56	2.56	2.57	2.57	2.57
56 3/4	3.38	3.38	3.39	3.39	3.39	3.40	3.40	3.40	3.41	3.41	3.41	3.42	3.42	3.42	3.43
56 1/2	4.22	4.23	4.23	4.24	4.24	4.25	4.25	4.25	4.26	4.26	4.27	4.27	4.28	4.28	4.28
56 1/4	5.07	5.07	5.08	5.09	5.09	5.10	5.10	5.11	5.11	5.12	5.12	5.13	5.13	5.14	5.14
56	5.91	5.92	5.93	5.93	5.94	5.94	5.95	5.95	5.96	5.97	5.97	5.98	5.99	5.99	6.00
55 3/4	6.76	6.77	6.77	6.78	6.79	6.79	6.80	6.81	6.81	6.82	6.83	6.83	6.84	6.85	6.86
55 1/2	7.60	7.61	7.62	7.63	7.64	7.64	7.65	7.66	7.67	7.67	7.68	7.69	7.70	7.70	7.71
55 1/4	8.45	8.46	8.47	8.48	8.48	8.49	8.50	8.51	8.52	8.53	8.54	8.54	8.55	8.56	8.57
55	9.29	9.30	9.31	9.32	9.33	9.34	9.35	9.36	9.37	9.38	9.39	9.40	9.41	9.42	9.43
54 3/4	10.14	10.15	10.16	10.17	10.18	10.19	10.20	10.21	10.22	10.23	10.24	10.25	10.26	10.27	10.28
54 1/2	10.98	11.00	11.01	11.02	11.03	11.04	11.05	11.06	11.07	11.08	11.10	11.11	11.12	11.13	11.14
54 1/4	11.83	11.84	11.85	11.87	11.88	11.89	11.90	11.91	11.93	11.94	11.95	11.96	11.97	11.99	12.00
54	12.67	12.69	12.70	12.71	12.73	12.74	12.75	12.76	12.78	12.79	12.80	12.82	12.83	12.84	12.85
53 3/4	13.52	13.53	13.55	13.56	13.57	13.59	13.60	13.62	13.63	13.64	13.66	13.67	13.68	13.70	13.71
53 1/2	14.36	14.38	14.39	14.41	14.42	14.44	14.45	14.47	14.48	14.50	14.51	14.52	14.54	14.55	14.57
53 1/4	15.21	15.22	15.24	15.26	15.27	15.29	15.30	15.32	15.33	15.35	15.36	15.38	15.39	15.41	15.42
53	16.05	16.07	16.09	16.10	16.12	16.14	16.15	16.17	16.18	16.20	16.22	16.23	16.25	16.27	16.28
52 3/4	16.90	16.92	16.93	16.95	16.97	16.99	17.00	17.02	17.04	17.05	17.07	17.09	17.10	17.12	17.14
52 1/2	17.74	17.76	17.78	17.80	17.82	17.83	17.85	17.87	17.89	17.91	17.92	17.94	17.96	17.98	18.00
52 1/4	18.59	18.61	18.63	18.65	18.66	18.68	18.70	18.72	18.74	18.76	18.78	18.80	18.81	18.83	18.85
52	19.43	19.45	19.47	19.49	19.51	19.53	19.55	19.57	19.59	19.61	19.63	19.65	19.67	19.69	19.71
51 3/4	20.28	20.30	20.32	20.34	20.36	20.38	20.40	20.42	20.44	20.46	20.48	20.50	20.53	20.55	20.57
51 1/2	21.12	21.15	21.17	21.19	21.21	21.23	21.25	21.27	21.30	21.32	21.34	21.36	21.38	21.40	21.42
51 1/4	21.97	21.99	22.01	22.04	22.06	22.08	22.10	22.12	22.15	22.17	22.19	22.21	22.24	22.26	22.28
51	22.81	22.84	22.86	22.88	22.91	22.93	22.95	22.98	23.00	23.02	23.05	23.07	23.09	23.11	23.14
50 3/4	23.66	23.68	23.71	23.73	23.76	23.78	23.80	23.83	23.85	23.87	23.90	23.92	23.95	23.97	23.99
50 1/2	24.50	24.53	24.55	24.58	24.60	24.63	24.65	24.68	24.70	24.73	24.75	24.78	24.80	24.83	24.85
50 1/4	25.35	25.37	25.40	25.43	25.45	25.48	25.50	25.53	25.55	25.58	25.61	25.63	25.66	25.68	25.71
50	26.19	26.22	26.25	26.27	26.30	26.33	26.35	26.38	26.41	26.43	26.46	26.49	26.51	26.54	26.56
49 3/4	27.04	27.07	27.09	27.12	27.15	27.18	27.20	27.23	27.26	27.29	27.31	27.34	27.37	27.39	27.42
49 1/2	27.88	27.91	27.94	27.97	28.00	28.03	28.05	28.08	28.11	28.14	28.17	28.19	28.22	28.25	28.28
49 1/4	28.73	28.76	28.79	28.82	28.85	28.87	28.90	28.93	28.96	28.99	29.02	29.05	29.08	29.11	29.14
49	29.57	29.60	29.63	29.66	29.69	29.72	29.75	29.78	29.81	29.84	29.87	29.90	29.93	29.96	29.99
48 3/4	30.42	30.45	30.48	30.51	30.54	30.57	30.60	30.63	30.67	30.70	30.73	30.76	30.79	30.82	30.85
48 1/2	31.26	31.30	31.33	31.36	31.39	31.42	31.45	31.49	31.52	31.55	31.58	31.61	31.64	31.67	31.71
48 1/4	32.11	32.14	32.17	32.21	32.24	32.27	32.30	32.34	32.37	32.40	32.43	32.47	32.50	32.53	32.56
48	32.95	32.99	33.02	33.05	33.09	33.12	33.15	33.19	33.22	33.25	33.29	33.32	33.35	33.39	33.42
47 3/4	33.80	33.83	33.87	33.90	33.94	33.97	34.00	34.04	34.07	34.11	34.14	34.17	34.21	34.24	34.28
47 1/2	34.64	34.68	34.71	34.75	34.78	34.82	34.85	34.89	34.92	34.96	34.99	35.03	35.06	35.10	35.13
47 1/4	35.49	35.52	35.56	35.60	35.63	35.67	35.70	35.74	35.78	35.81	35.85	35.88	35.92	35.96	35.99
47	36.33	36.37	36.41	36.44	36.48	36.52	36.55	36.59	36.63	36.68	36.70	36.74	36.77	36.81	36.85
46 3/4	37.18	37.22	37.25	37.29	37.33	37.37	37.40	37.44	37.48	37.52	37.55	37.59	37.63	37.67	37.70
46 1/2	38.02	38.06	38.10	38.14	38.18	38.22	38.25	38.29	38.33	38.37	38.41	38.45	38.49	38.52	38.56
46 1/4	38.87	38.91	38.95	38.99	39.03	39.07	39.10	39.14	39.18	39.22	39.26	39.30	39.34	39.38	39.42
46	39.71	39.75	39.79	39.83	39.87	39.91	39.96	40.00	40.04	40.08	40.12	40.16	40.20	40.24	40.28
45 3/4	40.56	40.60	40.64	40.68	40.72	40.76	40.81	40.85	40.89	40.93	40.97	41.01	41.05	41.09	41.13

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
45 1/2	32.15	32.20	32.26	32.31	32.36	32.42	32.47	32.52	32.58	32.63	32.69	32.74	32.79	32.85	32.90
45 1/4	32.80	32.86	32.91	32.97	33.02	33.08	33.13	33.19	33.24	33.30	33.35	33.41	33.46	33.52	33.57
45	33.46	33.52	33.57	33.63	33.68	33.74	33.80	33.85	33.91	33.96	34.02	34.07	34.13	34.19	34.24
44 3/4	34.11	34.17	34.23	34.29	34.34	34.40	34.46	34.52	34.57	34.63	34.69	34.74	34.80	34.86	34.91
44 1/2	34.77	34.83	34.89	34.95	35.01	35.06	35.12	35.18	35.24	35.30	35.35	35.41	35.47	35.53	35.58
44 1/4	35.43	35.49	35.55	35.61	35.67	35.73	35.78	35.84	35.90	35.96	36.02	36.08	36.14	36.20	36.26
44	36.08	36.14	36.20	36.27	36.33	36.39	36.45	36.51	36.57	36.63	36.69	36.75	36.81	36.87	36.93
43 3/4	36.74	36.80	36.86	36.92	36.99	37.05	37.11	37.17	37.23	37.29	37.35	37.42	37.48	37.54	37.60
43 1/2	37.40	37.46	37.52	37.58	37.65	37.71	37.77	37.83	37.90	37.96	38.02	38.08	38.15	38.21	38.27
43 1/4	38.05	38.12	38.18	38.24	38.31	38.37	38.43	38.50	38.56	38.63	38.69	38.75	38.81	38.88	38.94
43	38.71	38.77	38.84	38.90	38.97	39.03	39.10	39.16	39.23	39.29	39.36	39.42	39.48	39.55	39.61
42 3/4	39.36	39.43	39.50	39.56	39.63	39.69	39.76	39.83	39.89	39.96	40.02	40.09	40.15	40.22	40.28
42 1/2	40.02	40.09	40.15	40.22	40.29	40.36	40.42	40.49	40.56	40.62	40.69	40.76	40.82	40.89	40.95
42 1/4	40.68	40.74	40.81	40.88	40.95	41.02	41.09	41.15	41.22	41.29	41.36	41.42	41.49	41.56	41.63
42	41.33	41.40	41.47	41.54	41.61	41.68	41.75	41.82	41.89	41.96	42.02	42.09	42.16	42.23	42.30
41 3/4	41.99	42.06	42.13	42.20	42.27	42.34	42.41	42.48	42.55	42.62	42.69	42.76	42.83	42.90	42.97
41 1/2	42.64	42.72	42.79	42.86	42.93	43.00	43.07	43.14	43.22	43.29	43.36	43.43	43.50	43.57	43.64
41 1/4	43.30	43.37	43.45	43.52	43.59	43.66	43.74	43.81	43.88	43.95	44.03	44.10	44.17	44.24	44.31
41	43.96	44.03	44.10	44.18	44.25	44.33	44.40	44.47	44.55	44.62	44.69	44.77	44.84	44.91	44.98
40 3/4	44.61	44.69	44.76	44.84	44.91	44.99	45.06	45.14	45.21	45.28	45.36	45.43	45.51	45.58	45.65
40 1/2	45.27	45.34	45.42	45.50	45.57	45.65	45.72	45.80	45.88	45.95	46.03	46.10	46.18	46.25	46.33
40 1/4	45.92	46.00	46.08	46.16	46.23	46.31	46.39	46.46	46.54	46.62	46.69	46.77	46.85	46.92	47.00
40	46.58	46.66	46.74	46.82	46.89	46.97	47.05	47.13	47.21	47.28	47.36	47.44	47.51	47.59	47.67
39 3/4	47.24	47.32	47.40	47.47	47.55	47.63	47.71	47.79	47.87	47.95	48.03	48.11	48.18	48.26	48.34
39 1/2	47.89	47.97	48.05	48.13	48.21	48.29	48.38	48.46	48.53	48.61	48.69	48.77	48.85	48.93	49.01
39 1/4	48.55	48.63	48.71	48.79	48.88	48.96	49.04	49.12	49.20	49.28	49.36	49.44	49.52	49.60	49.68
39	49.20	49.29	49.37	49.45	49.54	49.62	49.70	49.78	49.86	49.95	50.03	50.11	50.19	50.27	50.35
38 3/4	49.86	49.94	50.03	50.11	50.20	50.28	50.36	50.45	50.53	50.61	50.70	50.78	50.86	50.94	51.03
38 1/2	50.52	50.60	50.69	50.77	50.86	50.94	51.03	51.11	51.19	51.28	51.36	51.45	51.53	51.61	51.70
38 1/4	51.17	51.26	51.34	51.43	51.52	51.60	51.69	51.77	51.86	51.94	52.03	52.11	52.20	52.28	52.37
38	51.83	51.92	52.00	52.09	52.18	52.26	52.35	52.44	52.52	52.61	52.70	52.78	52.87	52.95	53.04
37 3/4	52.48	52.57	52.66	52.75	52.84	52.93	53.01	53.10	53.19	53.28	53.36	53.45	53.54	53.62	53.71
37 1/2	53.14	53.23	53.32	53.41	53.50	53.59	53.68	53.77	53.85	53.94	54.03	54.12	54.21	54.29	54.38
37 1/4	53.80	53.89	53.98	54.07	54.16	54.25	54.34	54.43	54.52	54.61	54.70	54.79	54.88	54.97	55.05
37	54.45	54.54	54.64	54.73	54.82	54.91	55.00	55.09	55.18	55.27	55.36	55.46	55.55	55.64	55.73
36 3/4	55.11	55.20	55.29	55.39	55.48	55.57	55.66	55.76	55.85	55.94	56.03	56.12	56.21	56.31	56.40
36 1/2	55.76	55.86	55.95	56.05	56.14	56.23	56.33	56.42	56.51	56.61	56.70	56.79	56.88	56.98	57.07
36 1/4	56.42	56.52	56.61	56.71	56.80	56.90	56.99	57.08	57.18	57.27	57.37	57.46	57.55	57.65	57.74
36	57.08	57.17	57.27	57.37	57.46	57.56	57.65	57.75	57.84	57.94	58.03	58.13	58.22	58.32	58.41
35 3/4	57.73	57.83	57.93	58.02	58.12	58.22	58.32	58.41	58.51	58.60	58.70	58.80	58.89	58.99	59.08
35 1/2	58.39	58.49	58.59	58.68	58.78	58.88	58.98	59.08	59.17	59.27	59.37	59.46	59.56	59.66	59.75
35 1/4	59.05	59.14	59.24	59.34	59.44	59.54	59.64	59.74	59.84	59.94	60.03	60.13	60.23	60.33	60.43
35	59.70	59.80	59.90	60.00	60.10	60.20	60.30	60.40	60.50	60.60	60.70	60.80	60.90	61.00	61.10
34 3/4	60.36	60.46	60.56	60.66	60.76	60.86	60.97	61.07	61.17	61.27	61.37	61.47	61.57	61.67	61.77
34 1/2	61.01	61.12	61.22	61.32	61.42	61.53	61.63	61.73	61.83	61.93	62.04	62.14	62.24	62.34	62.44
34 1/4	61.67	61.77	61.88	61.98	62.08	62.19	62.29	62.39	62.50	62.60	62.70	62.80	62.91	63.01	63.11
34	62.33	62.43	62.54	62.64	62.75	62.85	62.95	63.06	63.16	63.27	63.37	63.47	63.58	63.68	63.78
33 3/4	62.98	63.09	63.19	63.30	63.41	63.51	63.62	63.72	63.83	63.93	64.04	64.14	64.25	64.35	64.45
33 1/2	63.64	63.74	63.85	63.96	64.07	64.17	64.28	64.39	64.49	64.60	64.70	64.81	64.91	65.02	65.13

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.30
45 1/2	32.95	33.00	33.06	33.11	33.16	33.22	33.27	33.32	33.37	33.42	33.48	33.53	33.58	33.63	33.68
45 1/4	33.62	33.68	33.73	33.79	33.84	33.89	33.95	34.00	34.05	34.11	34.16	34.21	34.27	34.32	34.37
45	34.30	34.35	34.41	34.46	34.52	34.57	34.63	34.68	34.73	34.79	34.84	34.90	34.95	35.01	35.06
44 3/4	34.97	35.02	35.08	35.14	35.19	35.25	35.30	35.36	35.42	35.47	35.53	35.58	35.64	35.69	35.75
44 1/2	35.64	35.70	35.76	35.81	35.87	35.93	35.98	36.04	36.10	36.15	36.21	36.27	36.32	36.38	36.43
44 1/4	36.31	36.37	36.43	36.49	36.55	36.60	36.66	36.72	36.78	36.84	36.89	36.95	37.01	37.06	37.12
44	36.99	37.05	37.10	37.16	37.22	37.28	37.34	37.40	37.46	37.52	37.58	37.63	37.69	37.75	37.81
43 3/4	37.66	37.72	37.78	37.84	37.90	37.96	38.02	38.08	38.14	38.20	38.26	38.32	38.38	38.44	38.50
43 1/2	38.33	38.39	38.45	38.52	38.58	38.64	38.70	38.76	38.82	38.88	38.94	39.00	39.06	39.12	39.18
43 1/4	39.00	39.07	39.13	39.19	39.25	39.32	39.38	39.44	39.50	39.56	39.63	39.69	39.75	39.81	39.87
43	39.68	39.74	39.80	39.87	39.93	39.99	40.06	40.12	40.18	40.25	40.31	40.37	40.43	40.50	40.56
42 3/4	40.35	40.41	40.48	40.54	40.61	40.67	40.74	40.80	40.86	40.93	40.99	41.06	41.12	41.18	41.25
42 1/2	41.02	41.09	41.15	41.22	41.28	41.35	41.41	41.48	41.55	41.61	41.68	41.74	41.80	41.87	41.93
42 1/4	41.69	41.76	41.83	41.89	41.96	42.03	42.09	42.16	42.23	42.29	42.36	42.42	42.49	42.56	42.62
42	42.37	42.43	42.50	42.57	42.64	42.71	42.77	42.84	42.91	42.97	43.04	43.11	43.18	43.24	43.31
41 3/4	43.04	43.11	43.18	43.25	43.31	43.38	43.45	43.52	43.59	43.66	43.72	43.79	43.86	43.93	44.00
41 1/2	43.71	43.78	43.85	43.92	43.99	44.06	44.13	44.20	44.27	44.34	44.41	44.48	44.55	44.62	44.68
41 1/4	44.38	44.45	44.53	44.60	44.67	44.74	44.81	44.88	44.95	45.02	45.09	45.16	45.23	45.30	45.37
41	45.06	45.13	45.20	45.27	45.34	45.42	45.49	45.56	45.63	45.70	45.77	45.85	45.92	45.99	46.06
40 3/4	45.73	45.80	45.88	45.95	46.02	46.09	46.17	46.24	46.31	46.39	46.46	46.53	46.60	46.67	46.75
40 1/2	46.40	46.48	46.55	46.62	46.70	46.77	46.85	46.92	46.99	47.07	47.14	47.21	47.29	47.36	47.43
40 1/4	47.07	47.15	47.22	47.30	47.37	47.45	47.53	47.60	47.67	47.75	47.82	47.90	47.97	48.05	48.12
40	47.75	47.82	47.90	47.98	48.05	48.13	48.20	48.28	48.36	48.43	48.51	48.58	48.66	48.73	48.81
39 3/4	48.42	48.50	48.57	48.65	48.73	48.81	48.88	48.96	49.04	49.11	49.19	49.27	49.34	49.42	49.50
39 1/2	49.09	49.17	49.25	49.33	49.41	49.48	49.56	49.64	49.72	49.80	49.87	49.95	50.03	50.11	50.18
39 1/4	49.76	49.84	49.92	50.00	50.08	50.16	50.24	50.32	50.40	50.48	50.56	50.64	50.71	50.79	50.87
39	50.44	50.52	50.60	50.68	50.76	50.84	50.92	51.00	51.08	51.16	51.24	51.32	51.40	51.48	51.56
38 3/4	51.11	51.19	51.27	51.35	51.44	51.52	51.60	51.68	51.76	51.84	51.92	52.00	52.08	52.17	52.25
38 1/2	51.78	51.86	51.95	52.03	52.11	52.20	52.28	52.36	52.44	52.52	52.61	52.69	52.77	52.85	52.93
38 1/4	52.45	52.54	52.62	52.71	52.79	52.87	52.96	53.04	53.12	53.21	53.29	53.37	53.46	53.54	53.62
38	53.13	53.21	53.30	53.38	53.47	53.55	53.64	53.72	53.80	53.89	53.97	54.06	54.14	54.22	54.31
37 3/4	53.80	53.88	53.97	54.06	54.14	54.23	54.31	54.40	54.49	54.57	54.66	54.74	54.83	54.91	55.00
37 1/2	54.47	54.56	54.65	54.73	54.82	54.91	54.99	55.08	55.17	55.25	55.34	55.43	55.51	55.60	55.68
37 1/4	55.14	55.23	55.32	55.41	55.50	55.58	55.67	55.76	55.85	55.94	56.02	56.11	56.20	56.28	56.37
37	55.82	55.90	55.99	56.08	56.17	56.26	56.35	56.44	56.53	56.62	56.71	56.79	56.88	56.97	57.06
36 3/4	56.49	56.58	56.67	56.76	56.85	56.94	57.03	57.12	57.21	57.30	57.39	57.48	57.57	57.66	57.75
36 1/2	57.16	57.25	57.34	57.44	57.53	57.62	57.71	57.80	57.89	57.98	58.07	58.16	58.25	58.34	58.43
36 1/4	57.83	57.93	58.02	58.11	58.20	58.30	58.39	58.48	58.57	58.66	58.76	58.85	58.94	59.03	59.12
36	58.51	58.60	58.69	58.79	58.88	58.97	59.07	59.16	59.25	59.35	59.44	59.53	59.62	59.72	59.81
35 3/4	59.18	59.27	59.37	59.46	59.56	59.65	59.75	59.84	59.93	60.03	60.12	60.22	60.31	60.40	60.50
35 1/2	59.85	59.95	60.04	60.14	60.23	60.33	60.42	60.52	60.62	60.71	60.80	60.90	60.99	61.09	61.18
35 1/4	60.52	60.62	60.72	60.81	60.91	61.01	61.10	61.20	61.30	61.39	61.49	61.58	61.68	61.77	61.87
35	61.20	61.29	61.39	61.49	61.59	61.69	61.78	61.88	61.98	62.07	62.17	62.27	62.36	62.46	62.56
34 3/4	61.87	61.97	62.07	62.17	62.26	62.36	62.46	62.56	62.66	62.76	62.85	62.95	63.05	63.15	63.24
34 1/2	62.54	62.64	62.74	62.84	62.94	63.04	63.14	63.24	63.34	63.44	63.54	63.64	63.74	63.83	63.93
34 1/4	63.21	63.31	63.42	63.52	63.62	63.72	63.82	63.92	64.02	64.12	64.22	64.32	64.42	64.52	64.62
34	63.89	63.99	64.09	64.19	64.29	64.40	64.50	64.60	64.70	64.80	64.90	65.01	65.11	65.21	65.31
33 3/4	64.56	64.66	64.76	64.87	64.97	65.07	65.18	65.28	65.38	65.48	65.59	65.69	65.79	65.89	65.99
33 1/2	65.23	65.33	65.44	65.54	65.65	65.75	65.86	65.96	66.06	66.17	66.27	66.37	66.48	66.58	66.68

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45
45 1/2	33.74	33.79	33.84	33.89	33.94	33.99	34.05	34.10	34.15	34.20	34.25	34.30	34.35	34.40	34.45
45 1/4	34.43	34.48	34.53	34.58	34.64	34.69	34.74	34.79	34.84	34.90	34.95	35.00	35.05	35.10	35.16
45	35.11	35.17	35.22	35.27	35.33	35.38	35.44	35.49	35.54	35.59	35.65	35.70	35.75	35.81	35.86
44 3/4	35.80	35.86	35.91	35.97	36.02	36.08	36.13	36.18	36.24	36.29	36.35	36.40	36.45	36.51	36.56
44 1/2	36.49	36.55	36.60	36.66	36.71	36.77	36.82	36.88	36.94	36.99	37.05	37.10	37.16	37.21	37.27
44 1/4	37.18	37.24	37.29	37.35	37.41	37.46	37.52	37.58	37.63	37.69	37.74	37.80	37.86	37.91	37.97
44	37.87	37.93	37.98	38.04	38.10	38.16	38.21	38.27	38.33	38.39	38.44	38.50	38.56	38.62	38.67
43 3/4	38.56	38.62	38.67	38.73	38.79	38.85	38.91	38.97	39.03	39.08	39.14	39.20	39.26	39.32	39.38
43 1/2	39.24	39.30	39.36	39.42	39.48	39.54	39.60	39.66	39.72	39.78	39.84	39.90	39.96	40.02	40.08
43 1/4	39.93	39.99	40.06	40.12	40.18	40.24	40.30	40.36	40.42	40.48	40.54	40.60	40.66	40.72	40.78
43	40.62	40.68	40.75	40.81	40.87	40.93	40.99	41.06	41.12	41.18	41.24	41.30	41.36	41.42	41.48
42 3/4	41.31	41.37	41.44	41.50	41.56	41.63	41.69	41.75	41.81	41.88	41.94	42.00	42.06	42.13	42.19
42 1/2	42.00	42.06	42.13	42.19	42.26	42.32	42.38	42.45	42.51	42.57	42.64	42.70	42.76	42.83	42.89
42 1/4	42.69	42.75	42.82	42.88	42.95	43.01	43.08	43.14	43.21	43.27	43.34	43.40	43.47	43.53	43.59
42	43.38	43.44	43.51	43.57	43.64	43.71	43.77	43.84	43.90	43.97	44.04	44.10	44.17	44.23	44.30
41 3/4	44.06	44.13	44.20	44.27	44.33	44.40	44.47	44.53	44.60	44.67	44.73	44.80	44.87	44.93	45.00
41 1/2	44.75	44.82	44.89	44.96	45.03	45.09	45.16	45.23	45.30	45.37	45.43	45.50	45.57	45.64	45.70
41 1/4	45.44	45.51	45.58	45.65	45.72	45.79	45.86	45.93	46.00	46.06	46.13	46.20	46.27	46.34	46.41
41	46.13	46.20	46.27	46.34	46.41	46.48	46.55	46.62	46.69	46.76	46.83	46.90	46.97	47.04	47.11
40 3/4	46.82	46.89	46.96	47.03	47.10	47.18	47.25	47.32	47.39	47.46	47.53	47.60	47.67	47.74	47.81
40 1/2	47.51	47.58	47.65	47.72	47.80	47.87	47.94	48.01	48.09	48.16	48.23	48.30	48.37	48.44	48.52
40 1/4	48.20	48.27	48.34	48.42	48.49	48.56	48.64	48.71	48.78	48.86	48.93	49.00	49.07	49.15	49.22
40	48.88	48.96	49.03	49.11	49.18	49.26	49.33	49.41	49.48	49.55	49.63	49.70	49.78	49.85	49.92
39 3/4	49.57	49.65	49.72	49.80	49.88	49.95	50.03	50.10	50.18	50.25	50.33	50.40	50.48	50.55	50.63
39 1/2	50.26	50.34	50.41	50.49	50.57	50.64	50.72	50.80	50.87	50.95	51.03	51.10	51.18	51.25	51.33
39 1/4	50.95	51.03	51.11	51.18	51.26	51.34	51.42	51.49	51.57	51.65	51.72	51.80	51.88	51.95	52.03
39	51.64	51.72	51.80	51.87	51.95	52.03	52.11	52.19	52.27	52.35	52.42	52.50	52.58	52.66	52.73
38 3/4	52.33	52.41	52.49	52.57	52.65	52.73	52.81	52.88	52.96	53.04	53.12	53.20	53.28	53.36	53.44
38 1/2	53.01	53.10	53.18	53.26	53.34	53.42	53.50	53.58	53.66	53.74	53.82	53.90	53.98	54.06	54.14
38 1/4	53.70	53.79	53.87	53.95	54.03	54.11	54.19	54.28	54.36	54.44	54.52	54.60	54.68	54.76	54.84
38	54.39	54.47	54.56	54.64	54.72	54.81	54.89	54.97	55.05	55.14	55.22	55.30	55.38	55.47	55.55
37 3/4	55.08	55.16	55.25	55.33	55.42	55.50	55.58	55.67	55.75	55.84	55.92	56.00	56.08	56.17	56.25
37 1/2	55.77	55.85	55.94	56.02	56.11	56.19	56.28	56.36	56.45	56.53	56.62	56.70	56.79	56.87	56.95
37 1/4	56.46	56.54	56.63	56.72	56.80	56.89	56.97	57.06	57.15	57.23	57.32	57.40	57.49	57.57	57.66
37	57.15	57.23	57.32	57.41	57.50	57.58	57.67	57.76	57.84	57.93	58.02	58.10	58.19	58.27	58.36
36 3/4	57.83	57.92	58.01	58.10	58.19	58.28	58.36	58.45	58.54	58.63	58.71	58.80	58.89	58.98	59.06
36 1/2	58.52	58.61	58.70	58.79	58.88	58.97	59.06	59.15	59.24	59.32	59.41	59.50	59.59	59.68	59.77
36 1/4	59.21	59.30	59.39	59.48	59.57	59.66	59.75	59.84	59.93	60.02	60.11	60.20	60.29	60.38	60.47
36	59.90	59.99	60.08	60.17	60.27	60.36	60.45	60.54	60.63	60.72	60.81	60.90	60.99	61.08	61.17
35 3/4	60.59	60.68	60.77	60.87	60.96	61.05	61.14	61.24	61.33	61.42	61.51	61.60	61.69	61.78	61.88
35 1/2	61.28	61.37	61.46	61.56	61.65	61.74	61.84	61.93	62.02	62.12	62.21	62.30	62.39	62.49	62.58
35 1/4	61.97	62.06	62.15	62.25	62.34	62.44	62.53	62.63	62.72	62.81	62.91	63.00	63.10	63.19	63.28
35	62.65	62.75	62.85	62.94	63.04	63.13	63.23	63.32	63.42	63.51	63.61	63.70	63.80	63.89	63.98
34 3/4	63.34	63.44	63.54	63.63	63.73	63.83	63.92	64.02	64.11	64.21	64.31	64.40	64.50	64.59	64.69
34 1/2	64.03	64.13	64.23	64.32	64.42	64.52	64.62	64.71	64.81	64.91	65.01	65.10	65.20	65.29	65.39
34 1/4	64.72	64.82	64.92	65.02	65.11	65.21	65.31	65.41	65.51	65.61	65.70	65.80	65.90	66.00	66.09
34	65.41	65.51	65.61	65.71	65.81	65.91	66.01	66.11	66.21	66.30	66.40	66.50	66.60	66.70	66.80
33 3/4	66.10	66.20	66.30	66.40	66.50	66.60	66.70	66.80	66.90	67.00	67.10	67.20	67.30	67.40	67.50
33 1/2	66.78	66.89	66.99	67.09	67.19	67.29	67.40	67.50	67.60	67.70	67.80	67.90	68.00	68.10	68.20

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60
45 1/2	34.50	34.55	34.60	34.66	34.71	34.76	34.81	34.86	34.91	34.96	35.01	35.06	35.11	35.16	35.21
45 1/4	35.21	35.26	35.31	35.36	35.41	35.47	35.52	35.57	35.62	35.67	35.72	35.77	35.82	35.87	35.92
45	35.91	35.96	36.02	36.07	36.12	36.17	36.23	36.28	36.33	36.38	36.44	36.49	36.54	36.59	36.64
44 3/4	36.62	36.67	36.72	36.78	36.83	36.88	36.94	36.99	37.04	37.10	37.15	37.20	37.26	37.31	37.36
44 1/2	37.32	37.38	37.43	37.48	37.54	37.59	37.65	37.70	37.76	37.81	37.86	37.92	37.97	38.03	38.08
44 1/4	38.02	38.08	38.14	38.19	38.25	38.30	38.36	38.41	38.47	38.52	38.58	38.63	38.69	38.74	38.80
44	38.73	38.79	38.84	38.90	38.96	39.01	39.07	39.12	39.18	39.24	39.29	39.35	39.40	39.46	39.52
43 3/4	39.43	39.49	39.55	39.61	39.66	39.72	39.78	39.84	39.89	39.95	40.01	40.06	40.12	40.18	40.23
43 1/2	40.14	40.20	40.25	40.31	40.37	40.43	40.49	40.55	40.61	40.66	40.72	40.78	40.84	40.90	40.95
43 1/4	40.84	40.90	40.96	41.02	41.08	41.14	41.20	41.26	41.32	41.38	41.44	41.49	41.55	41.61	41.67
43	41.55	41.61	41.67	41.73	41.79	41.85	41.91	41.97	42.03	42.09	42.15	42.21	42.27	42.33	42.39
42 3/4	42.25	42.31	42.37	42.44	42.50	42.56	42.62	42.68	42.74	42.80	42.86	42.93	42.99	43.05	43.11
42 1/2	42.95	43.02	43.08	43.14	43.21	43.27	43.33	43.39	43.45	43.52	43.58	43.64	43.70	43.76	43.83
42 1/4	43.66	43.72	43.79	43.85	43.91	43.98	44.04	44.10	44.17	44.23	44.29	44.36	44.42	44.48	44.55
42	44.36	44.43	44.49	44.56	44.62	44.69	44.75	44.82	44.88	44.94	45.01	45.07	45.14	45.20	45.26
41 3/4	45.07	45.13	45.20	45.26	45.33	45.40	45.46	45.53	45.59	45.66	45.72	45.79	45.85	45.92	45.98
41 1/2	45.77	45.84	45.90	45.97	46.04	46.10	46.17	46.24	46.30	46.37	46.44	46.50	46.57	46.63	46.70
41 1/4	46.47	46.54	46.61	46.68	46.75	46.81	46.88	46.95	47.02	47.08	47.15	47.22	47.29	47.35	47.42
41	47.18	47.25	47.32	47.39	47.45	47.52	47.59	47.66	47.73	47.80	47.87	47.93	48.00	48.07	48.14
40 3/4	47.88	47.95	48.02	48.09	48.16	48.23	48.30	48.37	48.44	48.51	48.58	48.65	48.72	48.79	48.86
40 1/2	48.59	48.66	48.73	48.80	48.87	48.94	49.01	49.08	49.15	49.22	49.29	49.36	49.43	49.50	49.57
40 1/4	49.29	49.36	49.44	49.51	49.58	49.65	49.72	49.79	49.87	49.94	50.01	50.08	50.15	50.22	50.29
40	50.00	50.07	50.14	50.21	50.29	50.36	50.43	50.51	50.58	50.65	50.72	50.80	50.87	50.94	51.01
39 3/4	50.70	50.77	50.85	50.92	51.00	51.07	51.14	51.22	51.29	51.36	51.44	51.51	51.58	51.66	51.73
39 1/2	51.40	51.48	51.55	51.63	51.70	51.78	51.85	51.93	52.00	52.08	52.15	52.23	52.30	52.37	52.45
39 1/4	52.11	52.18	52.26	52.34	52.41	52.49	52.56	52.64	52.72	52.79	52.87	52.94	53.02	53.09	53.17
39	52.81	52.89	52.97	53.04	53.12	53.20	53.27	53.35	53.43	53.50	53.58	53.66	53.73	53.81	53.89
38 3/4	53.52	53.59	53.67	53.75	53.83	53.91	53.99	54.06	54.14	54.22	54.30	54.37	54.45	54.53	54.60
38 1/2	54.22	54.30	54.38	54.46	54.54	54.62	54.70	54.77	54.85	54.93	55.01	55.09	55.17	55.24	55.32
38 1/4	54.92	55.01	55.09	55.17	55.25	55.33	55.41	55.49	55.57	55.64	55.72	55.80	55.88	55.96	56.04
38	55.63	55.71	55.79	55.87	55.95	56.04	56.12	56.20	56.28	56.36	56.44	56.52	56.60	56.68	56.76
37 3/4	56.33	56.42	56.50	56.58	56.66	56.74	56.83	56.91	56.99	57.07	57.15	57.23	57.32	57.40	57.48
37 1/2	57.04	57.12	57.20	57.29	57.37	57.45	57.54	57.62	57.70	57.78	57.87	57.95	58.03	58.11	58.20
37 1/4	57.74	57.83	57.91	57.99	58.08	58.16	58.25	58.33	58.41	58.50	58.58	58.67	58.75	58.83	58.91
37	58.45	58.53	58.62	58.70	58.79	58.87	58.96	59.04	59.13	59.21	59.30	59.38	59.46	59.55	59.63
36 3/4	59.15	59.24	59.32	59.41	59.50	59.58	59.67	59.75	59.84	59.93	60.01	60.10	60.18	60.27	60.35
36 1/2	59.85	59.94	60.03	60.12	60.20	60.29	60.38	60.46	60.55	60.64	60.73	60.81	60.90	60.98	61.07
36 1/4	60.56	60.65	60.74	60.82	60.91	61.00	61.09	61.18	61.26	61.35	61.44	61.53	61.61	61.70	61.79
36	61.26	61.35	61.44	61.53	61.62	61.71	61.80	61.89	61.98	62.07	62.15	62.24	62.33	62.42	62.51
35 3/4	61.97	62.06	62.15	62.24	62.33	62.42	62.51	62.60	62.69	62.78	62.87	62.96	63.05	63.14	63.23
35 1/2	62.67	62.76	62.85	62.95	63.04	63.13	63.22	63.31	63.40	63.49	63.58	63.67	63.76	63.85	63.94
35 1/4	63.37	63.47	63.56	63.65	63.75	63.84	63.93	64.02	64.11	64.21	64.30	64.39	64.48	64.57	64.66
35	64.08	64.17	64.27	64.36	64.45	64.55	64.64	64.73	64.83	64.92	65.01	65.10	65.20	65.29	65.38
34 3/4	64.78	64.88	64.97	65.07	65.16	65.26	65.35	65.44	65.54	65.63	65.73	65.82	65.91	66.01	66.10
34 1/2	65.49	65.58	65.68	65.77	65.87	65.97	66.06	66.16	66.25	66.35	66.44	66.53	66.63	66.72	66.82
34 1/4	66.19	66.29	66.39	66.48	66.58	66.67	66.77	66.87	66.96	67.06	67.15	67.25	67.35	67.44	67.54
34	66.90	66.99	67.09	67.19	67.29	67.38	67.48	67.58	67.68	67.77	67.87	67.97	68.06	68.16	68.25
33 3/4	67.60	67.70	67.80	67.90	67.99	68.09	68.19	68.29	68.39	68.49	68.58	68.68	68.78	68.88	68.97
33 1/2	68.30	68.40	68.50	68.60	68.70	68.80	68.90	69.00	69.10	69.20	69.30	69.40	69.50	69.59	69.69

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70	0.71	0.72	0.73	0.74	0.75
45 1/2	35.25	35.30	35.35	35.40	35.45	35.50	35.55	35.60	35.65	35.70	35.75	35.80	35.84	35.89	35.94
45 1/4	35.97	36.02	36.08	36.13	36.18	36.23	36.28	36.33	36.38	36.43	36.48	36.53	36.58	36.63	36.67
45	36.69	36.75	36.80	36.85	36.90	36.95	37.00	37.05	37.10	37.15	37.21	37.26	37.31	37.36	37.41
44 3/4	37.41	37.47	37.52	37.57	37.62	37.67	37.73	37.78	37.83	37.88	37.93	37.99	38.04	38.09	38.14
44 1/2	38.13	38.19	38.24	38.29	38.35	38.40	38.45	38.51	38.56	38.61	38.66	38.72	38.77	38.82	38.88
44 1/4	38.85	38.91	38.96	39.02	39.07	39.12	39.18	39.23	39.29	39.34	39.39	39.45	39.50	39.56	39.61
44	39.57	39.63	39.68	39.74	39.79	39.85	39.90	39.96	40.01	40.07	40.12	40.18	40.23	40.29	40.34
43 3/4	40.29	40.35	40.40	40.46	40.52	40.57	40.63	40.69	40.74	40.80	40.85	40.91	40.96	41.02	41.08
43 1/2	41.01	41.07	41.13	41.18	41.24	41.30	41.35	41.41	41.47	41.53	41.58	41.64	41.70	41.75	41.81
43 1/4	41.73	41.79	41.85	41.91	41.96	42.02	42.08	42.14	42.20	42.25	42.31	42.37	42.43	42.49	42.54
43	42.45	42.51	42.57	42.63	42.69	42.75	42.81	42.86	42.92	42.98	43.04	43.10	43.16	43.22	43.28
42 3/4	43.17	43.23	43.29	43.35	43.41	43.47	43.53	43.59	43.65	43.71	43.77	43.83	43.89	43.95	44.01
42 1/2	43.89	43.95	44.01	44.07	44.13	44.20	44.26	44.32	44.38	44.44	44.50	44.56	44.62	44.68	44.74
42 1/4	44.61	44.67	44.73	44.80	44.86	44.92	44.98	45.04	45.11	45.17	45.23	45.29	45.35	45.42	45.48
42	45.33	45.39	45.45	45.52	45.58	45.64	45.71	45.77	45.83	45.90	45.96	46.02	46.09	46.15	46.21
41 3/4	46.05	46.11	46.18	46.24	46.30	46.37	46.43	46.50	46.56	46.63	46.69	46.75	46.82	46.88	46.94
41 1/2	46.77	46.83	46.90	46.96	47.03	47.09	47.16	47.22	47.29	47.35	47.42	47.48	47.55	47.61	47.68
41 1/4	47.49	47.55	47.62	47.69	47.75	47.82	47.88	47.95	48.02	48.08	48.15	48.21	48.28	48.35	48.41
41	48.21	48.27	48.34	48.41	48.48	48.54	48.61	48.68	48.74	48.81	48.88	48.94	49.01	49.08	49.14
40 3/4	48.92	48.99	49.06	49.13	49.20	49.27	49.34	49.40	49.47	49.54	49.61	49.67	49.74	49.81	49.88
40 1/2	49.64	49.71	49.78	49.85	49.92	49.99	50.06	50.13	50.20	50.27	50.34	50.41	50.47	50.54	50.61
40 1/4	50.36	50.43	50.51	50.58	50.65	50.72	50.79	50.86	50.93	51.00	51.07	51.14	51.21	51.28	51.34
40	51.08	51.15	51.23	51.30	51.37	51.44	51.51	51.58	51.65	51.72	51.80	51.87	51.94	52.01	52.08
39 3/4	51.80	51.88	51.95	52.02	52.09	52.17	52.24	52.31	52.38	52.45	52.53	52.60	52.67	52.74	52.81
39 1/2	52.52	52.60	52.67	52.74	52.82	52.89	52.96	53.04	53.11	53.18	53.25	53.33	53.40	53.47	53.55
39 1/4	53.24	53.32	53.39	53.47	53.54	53.61	53.69	53.76	53.84	53.91	53.98	54.06	54.13	54.21	54.28
39	53.96	54.04	54.11	54.19	54.26	54.34	54.41	54.49	54.56	54.64	54.71	54.79	54.86	54.94	55.01
38 3/4	54.68	54.76	54.83	54.91	54.99	55.06	55.14	55.22	55.29	55.37	55.44	55.52	55.59	55.67	55.75
38 1/2	55.40	55.48	55.56	55.63	55.71	55.79	55.87	55.94	56.02	56.10	56.17	56.25	56.33	56.40	56.48
38 1/4	56.12	56.20	56.28	56.36	56.43	56.51	56.59	56.67	56.75	56.82	56.90	56.98	57.06	57.14	57.21
38	56.84	56.92	57.00	57.08	57.16	57.24	57.32	57.40	57.47	57.55	57.63	57.71	57.79	57.87	57.95
37 3/4	57.56	57.64	57.72	57.80	57.88	57.96	58.04	58.12	58.20	58.28	58.36	58.44	58.52	58.60	58.68
37 1/2	58.28	58.36	58.44	58.52	58.60	58.69	58.77	58.85	58.93	59.01	59.09	59.17	59.25	59.33	59.41
37 1/4	59.00	59.08	59.16	59.25	59.33	59.41	59.49	59.57	59.66	59.74	59.82	59.90	59.98	60.07	60.15
37	59.72	59.80	59.88	59.97	60.05	60.13	60.22	60.30	60.38	60.47	60.55	60.63	60.72	60.80	60.88
36 3/4	60.44	60.52	60.61	60.69	60.78	60.86	60.94	61.03	61.11	61.20	61.28	61.36	61.45	61.53	61.61
36 1/2	61.16	61.24	61.33	61.41	61.50	61.58	61.67	61.75	61.84	61.92	62.01	62.09	62.18	62.26	62.35
36 1/4	61.88	61.96	62.05	62.14	62.22	62.31	62.39	62.48	62.57	62.65	62.74	62.82	62.91	63.00	63.08
36	62.59	62.68	62.77	62.86	62.95	63.03	63.12	63.21	63.29	63.38	63.47	63.55	63.64	63.73	63.81
35 3/4	63.31	63.40	63.49	63.58	63.67	63.76	63.85	63.93	64.02	64.11	64.20	64.29	64.37	64.46	64.55
35 1/2	64.03	64.12	64.21	64.30	64.39	64.48	64.57	64.66	64.75	64.84	64.93	65.02	65.10	65.19	65.28
35 1/4	64.75	64.84	64.94	65.03	65.12	65.21	65.30	65.39	65.48	65.57	65.66	65.75	65.84	65.93	66.01
35	65.47	65.56	65.66	65.75	65.84	65.93	66.02	66.11	66.20	66.30	66.39	66.48	66.57	66.66	66.75
34 3/4	66.19	66.29	66.38	66.47	66.56	66.66	66.75	66.84	66.93	67.02	67.12	67.21	67.30	67.39	67.48
34 1/2	66.91	67.01	67.10	67.19	67.29	67.38	67.47	67.57	67.66	67.75	67.85	67.94	68.03	68.12	68.21
34 1/4	67.63	67.73	67.82	67.92	68.01	68.10	68.20	68.29	68.39	68.48	68.57	68.67	68.76	68.86	68.95
34	68.35	68.45	68.54	68.64	68.73	68.83	68.92	69.02	69.11	69.21	69.30	69.40	69.49	69.59	69.68
33 3/4	69.07	69.17	69.26	69.36	69.46	69.55	69.65	69.75	69.84	69.94	70.03	70.13	70.22	70.32	70.42
33 1/2	69.79	69.89	69.99	70.08	70.18	70.28	70.38	70.47	70.57	70.67	70.76	70.86	70.96	71.05	71.15

STAFF GAGE HEIGHT (feet)

GATE (inches)	0.76	0.77	0.78	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90
45 1/2	35.99	36.04	36.09	36.13	36.18	36.23	36.28	36.33	36.38	36.42	36.47	36.52	36.57	36.61	36.66
45 1/4	36.72	36.77	36.82	36.87	36.92	36.97	37.02	37.07	37.12	37.17	37.22	37.26	37.31	37.36	37.41
45	37.46	37.51	37.56	37.61	37.66	37.71	37.76	37.81	37.86	37.91	37.96	38.01	38.06	38.11	38.16
44 3/4	38.19	38.24	38.30	38.35	38.40	38.45	38.50	38.55	38.60	38.65	38.70	38.76	38.81	38.86	38.91
44 1/2	38.93	38.98	39.03	39.08	39.14	39.19	39.24	39.29	39.35	39.40	39.45	39.50	39.55	39.60	39.66
44 1/4	39.66	39.72	39.77	39.82	39.88	39.93	39.98	40.03	40.09	40.14	40.19	40.25	40.30	40.35	40.40
44	40.40	40.45	40.51	40.56	40.61	40.67	40.72	40.78	40.83	40.88	40.94	40.99	41.04	41.10	41.15
43 3/4	41.13	41.19	41.24	41.30	41.35	41.41	41.46	41.52	41.57	41.63	41.68	41.74	41.79	41.85	41.90
43 1/2	41.87	41.92	41.98	42.03	42.09	42.15	42.20	42.26	42.31	42.37	42.43	42.48	42.54	42.59	42.65
43 1/4	42.60	42.66	42.71	42.77	42.83	42.89	42.94	43.00	43.06	43.11	43.17	43.23	43.28	43.34	43.40
43	43.33	43.39	43.45	43.51	43.57	43.63	43.68	43.74	43.80	43.86	43.91	43.97	44.03	44.09	44.14
42 3/4	44.07	44.13	44.19	44.25	44.31	44.36	44.42	44.48	44.54	44.60	44.66	44.72	44.78	44.83	44.89
42 1/2	44.80	44.86	44.92	44.98	45.04	45.10	45.16	45.22	45.28	45.34	45.40	45.46	45.52	45.58	45.64
42 1/4	45.54	45.60	45.66	45.72	45.78	45.84	45.90	45.97	46.03	46.09	46.15	46.21	46.27	46.33	46.39
42	46.27	46.33	46.40	46.46	46.52	46.58	46.65	46.71	46.77	46.83	46.89	46.95	47.01	47.08	47.14
41 3/4	47.01	47.07	47.13	47.20	47.26	47.32	47.39	47.45	47.51	47.57	47.64	47.70	47.76	47.82	47.89
41 1/2	47.74	47.81	47.87	47.93	48.00	48.06	48.13	48.19	48.25	48.32	48.38	48.44	48.51	48.57	48.63
41 1/4	48.48	48.54	48.61	48.67	48.74	48.80	48.87	48.93	49.00	49.06	49.12	49.19	49.25	49.32	49.38
41	49.21	49.28	49.34	49.41	49.47	49.54	49.61	49.67	49.74	49.80	49.87	49.93	50.00	50.07	50.13
40 3/4	49.94	50.01	50.08	50.15	50.21	50.28	50.35	50.41	50.48	50.55	50.61	50.68	50.75	50.81	50.88
40 1/2	50.68	50.75	50.82	50.88	50.95	51.02	51.09	51.16	51.22	51.29	51.36	51.43	51.49	51.56	51.63
40 1/4	51.41	51.48	51.55	51.62	51.69	51.76	51.83	51.90	51.97	52.03	52.10	52.17	52.24	52.31	52.37
40	52.15	52.22	52.29	52.36	52.43	52.50	52.57	52.64	52.71	52.78	52.85	52.92	52.99	53.05	53.12
39 3/4	52.88	52.95	53.03	53.10	53.17	53.24	53.31	53.38	53.45	53.52	53.59	53.66	53.73	53.80	53.87
39 1/2	53.62	53.69	53.76	53.83	53.91	53.98	54.05	54.12	54.19	54.26	54.34	54.41	54.48	54.55	54.62
39 1/4	54.35	54.42	54.50	54.57	54.64	54.72	54.79	54.86	54.93	55.01	55.08	55.15	55.22	55.30	55.37
39	55.09	55.16	55.23	55.31	55.38	55.46	55.53	55.60	55.68	55.75	55.82	55.90	55.97	56.04	56.12
38 3/4	55.82	55.90	55.97	56.05	56.12	56.20	56.27	56.34	56.42	56.49	56.57	56.64	56.72	56.79	56.86
38 1/2	56.56	56.63	56.71	56.78	56.86	56.94	57.01	57.09	57.16	57.24	57.31	57.39	57.46	57.54	57.61
38 1/4	57.29	57.37	57.44	57.52	57.60	57.67	57.75	57.83	57.90	57.98	58.06	58.13	58.21	58.28	58.36
38	58.02	58.10	58.18	58.26	58.34	58.41	58.49	58.57	58.65	58.72	58.80	58.88	58.96	59.03	59.11
37 3/4	58.76	58.84	58.92	59.00	59.07	59.15	59.23	59.31	59.39	59.47	59.55	59.62	59.70	59.78	59.86
37 1/2	59.49	59.57	59.65	59.73	59.81	59.89	59.97	60.05	60.13	60.21	60.29	60.37	60.45	60.53	60.61
37 1/4	60.23	60.31	60.39	60.47	60.55	60.63	60.71	60.79	60.87	60.95	61.03	61.11	61.19	61.27	61.35
37	60.96	61.04	61.13	61.21	61.29	61.37	61.45	61.53	61.62	61.70	61.78	61.86	61.94	62.02	62.10
36 3/4	61.70	61.78	61.86	61.95	62.03	62.11	62.19	62.28	62.36	62.44	62.52	62.60	62.69	62.77	62.85
36 1/2	62.43	62.52	62.60	62.68	62.77	62.85	62.93	63.02	63.10	63.18	63.27	63.35	63.43	63.52	63.60
36 1/4	63.17	63.25	63.34	63.42	63.51	63.59	63.67	63.76	63.84	63.93	64.01	64.10	64.18	64.26	64.35
36	63.90	63.99	64.07	64.16	64.24	64.33	64.41	64.50	64.59	64.67	64.76	64.84	64.93	65.01	65.09
35 3/4	64.63	64.72	64.81	64.90	64.98	65.07	65.16	65.24	65.33	65.41	65.50	65.59	65.67	65.76	65.84
35 1/2	65.37	65.46	65.55	65.63	65.72	65.81	65.90	65.98	66.07	66.16	66.24	66.33	66.42	66.50	66.59
35 1/4	66.10	66.19	66.28	66.37	66.46	66.55	66.64	66.72	66.81	66.90	66.99	67.08	67.16	67.25	67.34
35	66.84	66.93	67.02	67.11	67.20	67.29	67.38	67.47	67.55	67.64	67.73	67.82	67.91	68.00	68.09
34 3/4	67.57	67.66	67.75	67.85	67.94	68.03	68.12	68.21	68.30	68.39	68.48	68.57	68.66	68.75	68.84
34 1/2	68.31	68.40	68.49	68.58	68.67	68.77	68.86	68.95	69.04	69.13	69.22	69.31	69.40	69.49	69.58
34 1/4	69.04	69.13	69.23	69.32	69.41	69.51	69.60	69.69	69.78	69.87	69.97	70.06	70.15	70.24	70.33
34	69.78	69.87	69.96	70.06	70.15	70.24	70.34	70.43	70.52	70.62	70.71	70.80	70.90	70.99	71.08
33 3/4	70.51	70.61	70.70	70.79	70.89	70.98	71.08	71.17	71.27	71.36	71.45	71.55	71.64	71.74	71.83
33 1/2	71.24	71.34	71.44	71.53	71.63	71.72	71.82	71.91	72.01	72.10	72.20	72.29	72.39	72.48	72.58

STAFF GAGE HEIGHT (feet)

GATE (Inches)	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04	1.05
45 1/2	36.71	36.76	36.81	36.85	36.90	36.95	36.99	37.04	37.09	37.14	37.18	37.23	37.28	37.32	37.37
45 1/4	37.46	37.51	37.56	37.60	37.65	37.70	37.75	37.80	37.85	37.89	37.94	37.99	38.04	38.08	38.13
45	38.21	38.26	38.31	38.36	38.41	38.46	38.50	38.55	38.60	38.65	38.70	38.75	38.80	38.85	38.90
44 3/4	38.96	39.01	39.06	39.11	39.16	39.21	39.26	39.31	39.36	39.41	39.46	39.51	39.56	39.61	39.66
44 1/2	39.71	39.76	39.81	39.86	39.91	39.96	40.01	40.07	40.12	40.17	40.22	40.27	40.32	40.37	40.42
44 1/4	40.46	40.51	40.56	40.61	40.67	40.72	40.77	40.82	40.87	40.92	40.98	41.03	41.08	41.13	41.18
44	41.21	41.26	41.31	41.36	41.42	41.47	41.52	41.58	41.63	41.68	41.74	41.79	41.84	41.89	41.95
43 3/4	41.95	42.01	42.06	42.12	42.17	42.23	42.28	42.33	42.39	42.44	42.49	42.55	42.60	42.65	42.71
43 1/2	42.70	42.76	42.81	42.87	42.92	42.98	43.03	43.09	43.14	43.20	43.25	43.31	43.36	43.42	43.47
43 1/4	43.45	43.51	43.57	43.62	43.68	43.73	43.79	43.84	43.90	43.96	44.01	44.07	44.12	44.18	44.23
43	44.20	44.26	44.32	44.37	44.43	44.49	44.54	44.60	44.66	44.71	44.77	44.83	44.88	44.94	45.00
42 3/4	44.95	45.01	45.07	45.13	45.18	45.24	45.30	45.36	45.41	45.47	45.53	45.59	45.64	45.70	45.76
42 1/2	45.70	45.76	45.82	45.88	45.94	46.00	46.05	46.11	46.17	46.23	46.29	46.35	46.41	46.46	46.52
42 1/4	46.45	46.51	46.57	46.63	46.69	46.75	46.81	46.87	46.93	46.99	47.05	47.11	47.17	47.23	47.28
42	47.20	47.26	47.32	47.38	47.44	47.50	47.56	47.62	47.69	47.75	47.81	47.87	47.93	47.99	48.05
41 3/4	47.95	48.01	48.07	48.13	48.20	48.26	48.32	48.38	48.44	48.50	48.56	48.63	48.69	48.75	48.81
41 1/2	48.70	48.76	48.82	48.89	48.95	49.01	49.07	49.14	49.20	49.26	49.32	49.39	49.45	49.51	49.57
41 1/4	49.45	49.51	49.57	49.64	49.70	49.77	49.83	49.89	49.96	50.02	50.08	50.15	50.21	50.27	50.33
41	50.20	50.26	50.33	50.39	50.45	50.52	50.58	50.65	50.71	50.78	50.84	50.91	50.97	51.03	51.10
40 3/4	50.94	51.01	51.08	51.14	51.21	51.27	51.34	51.40	51.47	51.54	51.60	51.67	51.73	51.80	51.86
40 1/2	51.69	51.76	51.83	51.89	51.96	52.03	52.09	52.16	52.23	52.29	52.36	52.43	52.49	52.56	52.62
40 1/4	52.44	52.51	52.58	52.65	52.71	52.78	52.85	52.92	52.98	53.05	53.12	53.18	53.25	53.32	53.39
40	53.19	53.26	53.33	53.40	53.47	53.54	53.60	53.67	53.74	53.81	53.88	53.94	54.01	54.08	54.15
39 3/4	53.94	54.01	54.08	54.15	54.22	54.29	54.36	54.43	54.50	54.57	54.64	54.70	54.77	54.84	54.91
39 1/2	54.69	54.76	54.83	54.90	54.97	55.04	55.11	55.18	55.25	55.32	55.39	55.46	55.53	55.60	55.67
39 1/4	55.44	55.51	55.58	55.65	55.73	55.80	55.87	55.94	56.01	56.08	56.15	56.22	56.29	56.37	56.44
39	56.19	56.26	56.33	56.41	56.48	56.55	56.62	56.70	56.77	56.84	56.91	56.98	57.06	57.13	57.20
38 3/4	56.94	57.01	57.09	57.16	57.23	57.31	57.38	57.45	57.53	57.60	57.67	57.74	57.82	57.89	57.96
38 1/2	57.69	57.76	57.84	57.91	57.99	58.06	58.13	58.21	58.28	58.36	58.43	58.50	58.58	58.65	58.72
38 1/4	58.44	58.51	58.59	58.66	58.74	58.81	58.89	58.96	59.04	59.11	59.19	59.26	59.34	59.41	59.49
38	59.19	59.26	59.34	59.42	59.49	59.57	59.64	59.72	59.80	59.87	59.95	60.02	60.10	60.17	60.25
37 3/4	59.93	60.01	60.09	60.17	60.24	60.32	60.40	60.48	60.55	60.63	60.71	60.78	60.86	60.94	61.01
37 1/2	60.68	60.76	60.84	60.92	61.00	61.08	61.15	61.23	61.31	61.39	61.46	61.54	61.62	61.70	61.77
37 1/4	61.43	61.51	61.59	61.67	61.75	61.83	61.91	61.99	62.07	62.15	62.22	62.30	62.38	62.46	62.54
37	62.18	62.26	62.34	62.42	62.50	62.58	62.66	62.74	62.82	62.90	62.98	63.06	63.14	63.22	63.30
36 3/4	62.93	63.01	63.09	63.18	63.26	63.34	63.42	63.50	63.58	63.66	63.74	63.82	63.90	63.98	64.06
36 1/2	63.68	63.76	63.85	63.93	64.01	64.09	64.17	64.26	64.34	64.42	64.50	64.58	64.66	64.74	64.83
36 1/4	64.43	64.51	64.60	64.68	64.76	64.85	64.93	65.01	65.09	65.18	65.26	65.34	65.42	65.51	65.59
36	65.18	65.26	65.35	65.43	65.52	65.60	65.68	65.77	65.85	65.93	66.02	66.10	66.18	66.27	66.35
35 3/4	65.93	66.01	66.10	66.18	66.27	66.35	66.44	66.52	66.61	66.69	66.78	66.86	66.95	67.03	67.11
35 1/2	66.68	66.76	66.85	66.94	67.02	67.11	67.19	67.28	67.36	67.45	67.54	67.62	67.71	67.79	67.88
35 1/4	67.43	67.51	67.60	67.69	67.78	67.86	67.95	68.04	68.12	68.21	68.29	68.38	68.47	68.55	68.64
35	68.18	68.26	68.35	68.44	68.53	68.62	68.70	68.79	68.88	68.97	69.05	69.14	69.23	69.31	69.40
34 3/4	68.92	69.01	69.10	69.19	69.28	69.37	69.46	69.55	69.64	69.72	69.81	69.90	69.99	70.08	70.16
34 1/2	69.67	69.76	69.85	69.94	70.03	70.12	70.21	70.30	70.39	70.48	70.57	70.66	70.75	70.84	70.93
34 1/4	70.42	70.51	70.61	70.70	70.79	70.88	70.97	71.06	71.15	71.24	71.33	71.42	71.51	71.60	71.69
34	71.17	71.26	71.36	71.45	71.54	71.63	71.72	71.81	71.91	72.00	72.09	72.18	72.27	72.36	72.45
33 3/4	71.92	72.01	72.11	72.20	72.29	72.39	72.48	72.57	72.66	72.76	72.85	72.94	73.03	73.12	73.21
33 1/2	72.67	72.76	72.86	72.95	73.05	73.14	73.23	73.33	73.42	73.51	73.61	73.70	73.79	73.88	73.98

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20
45 1/2	37.42	37.46	37.51	37.56	37.60	37.65	37.70	37.74	37.79	37.83	37.88	37.93	37.97	38.02	38.06
45 1/4	38.18	38.23	38.28	38.32	38.37	38.42	38.46	38.51	38.56	38.61	38.65	38.70	38.75	38.79	38.84
45	38.94	38.99	39.04	39.09	39.14	39.19	39.23	39.28	39.33	39.38	39.43	39.47	39.52	39.57	39.62
44 3/4	39.71	39.76	39.81	39.86	39.90	39.95	40.00	40.05	40.10	40.15	40.20	40.25	40.30	40.35	40.39
44 1/2	40.47	40.52	40.57	40.62	40.67	40.72	40.77	40.82	40.87	40.92	40.97	41.02	41.07	41.12	41.17
44 1/4	41.23	41.29	41.34	41.39	41.44	41.49	41.54	41.59	41.64	41.69	41.75	41.80	41.85	41.90	41.95
44	42.00	42.05	42.10	42.15	42.21	42.26	42.31	42.36	42.42	42.47	42.52	42.57	42.62	42.67	42.72
43 3/4	42.76	42.82	42.87	42.92	42.97	43.03	43.08	43.13	43.19	43.24	43.29	43.34	43.40	43.45	43.50
43 1/2	43.53	43.58	43.63	43.69	43.74	43.80	43.85	43.90	43.96	44.01	44.06	44.12	44.17	44.23	44.28
43 1/4	44.29	44.34	44.40	44.45	44.51	44.56	44.62	44.67	44.73	44.78	44.84	44.89	44.95	45.00	45.06
43	45.05	45.11	45.16	45.22	45.28	45.33	45.39	45.44	45.50	45.56	45.61	45.67	45.72	45.78	45.83
42 3/4	45.82	45.87	45.93	45.99	46.04	46.10	46.16	46.21	46.27	46.33	46.38	46.44	46.50	46.55	46.61
42 1/2	46.58	46.64	46.70	46.75	46.81	46.87	46.93	46.98	47.04	47.10	47.16	47.21	47.27	47.33	47.39
42 1/4	47.34	47.40	47.46	47.52	47.58	47.64	47.70	47.75	47.81	47.87	47.93	47.99	48.05	48.10	48.16
42	48.11	48.17	48.23	48.29	48.35	48.41	48.47	48.53	48.58	48.64	48.70	48.76	48.82	48.88	48.94
41 3/4	48.87	48.93	48.99	49.05	49.11	49.17	49.23	49.30	49.36	49.42	49.48	49.54	49.60	49.66	49.72
41 1/2	49.63	49.70	49.76	49.82	49.88	49.94	50.00	50.07	50.13	50.19	50.25	50.31	50.37	50.43	50.49
41 1/4	50.40	50.46	50.52	50.59	50.65	50.71	50.77	50.84	50.90	50.96	51.02	51.08	51.15	51.21	51.27
41	51.16	51.23	51.29	51.35	51.42	51.48	51.54	51.61	51.67	51.73	51.80	51.86	51.92	51.98	52.05
40 3/4	51.92	51.99	52.05	52.12	52.18	52.25	52.31	52.38	52.44	52.50	52.57	52.63	52.70	52.76	52.82
40 1/2	52.69	52.75	52.82	52.89	52.95	53.02	53.08	53.15	53.21	53.28	53.34	53.41	53.47	53.54	53.60
40 1/4	53.45	53.52	53.59	53.65	53.72	53.78	53.85	53.92	53.98	54.05	54.11	54.18	54.25	54.31	54.38
40	54.22	54.28	54.35	54.42	54.49	54.55	54.62	54.69	54.75	54.82	54.89	54.95	55.02	55.09	55.15
39 3/4	54.98	55.05	55.12	55.18	55.25	55.32	55.39	55.46	55.53	55.59	55.66	55.73	55.80	55.86	55.93
39 1/2	55.74	55.81	55.88	55.95	56.02	56.09	56.16	56.23	56.30	56.37	56.43	56.50	56.57	56.64	56.71
39 1/4	56.51	56.58	56.65	56.72	56.79	56.86	56.93	57.00	57.07	57.14	57.21	57.28	57.35	57.42	57.48
39	57.27	57.34	57.41	57.48	57.56	57.63	57.70	57.77	57.84	57.91	57.98	58.05	58.12	58.19	58.26
38 3/4	58.03	58.11	58.18	58.25	58.32	58.39	58.47	58.54	58.61	58.68	58.75	58.82	58.90	58.97	59.04
38 1/2	58.80	58.87	58.94	59.02	59.09	59.16	59.24	59.31	59.38	59.45	59.53	59.60	59.67	59.74	59.81
38 1/4	59.56	59.64	59.71	59.78	59.86	59.93	60.00	60.08	60.15	60.23	60.30	60.37	60.45	60.52	60.59
38	60.32	60.40	60.47	60.55	60.62	60.70	60.77	60.85	60.92	61.00	61.07	61.15	61.22	61.29	61.37
37 3/4	61.09	61.16	61.24	61.32	61.39	61.47	61.54	61.62	61.69	61.77	61.85	61.92	62.00	62.07	62.15
37 1/2	61.85	61.93	62.01	62.08	62.16	62.24	62.31	62.39	62.47	62.54	62.62	62.69	62.77	62.85	62.92
37 1/4	62.62	62.69	62.77	62.85	62.93	63.00	63.08	63.16	63.24	63.31	63.39	63.47	63.55	63.62	63.70
37	63.38	63.46	63.54	63.62	63.69	63.77	63.85	63.93	64.01	64.09	64.16	64.24	64.32	64.40	64.48
36 3/4	64.14	64.22	64.30	64.38	64.46	64.54	64.62	64.70	64.78	64.86	64.94	65.02	65.10	65.17	65.25
36 1/2	64.91	64.99	65.07	65.15	65.23	65.31	65.39	65.47	65.55	65.63	65.71	65.79	65.87	65.95	66.03
36 1/4	65.67	65.75	65.83	65.92	66.00	66.08	66.16	66.24	66.32	66.40	66.48	66.56	66.65	66.73	66.81
36	66.43	66.52	66.60	66.68	66.76	66.85	66.93	67.01	67.09	67.17	67.26	67.34	67.42	67.50	67.58
35 3/4	67.20	67.28	67.36	67.45	67.53	67.61	67.70	67.78	67.86	67.95	68.03	68.11	68.20	68.28	68.36
35 1/2	67.96	68.05	68.13	68.21	68.30	68.38	68.47	68.55	68.64	68.72	68.80	68.89	68.97	69.05	69.14
35 1/4	68.72	68.81	68.90	68.98	69.07	69.15	69.24	69.32	69.41	69.49	69.58	69.66	69.74	69.83	69.91
35	69.49	69.57	69.66	69.75	69.83	69.92	70.01	70.09	70.18	70.26	70.35	70.43	70.52	70.61	70.69
34 3/4	70.25	70.34	70.43	70.51	70.60	70.69	70.78	70.86	70.95	71.04	71.12	71.21	71.29	71.38	71.47
34 1/2	71.02	71.10	71.19	71.28	71.37	71.46	71.54	71.63	71.72	71.81	71.90	71.98	72.07	72.16	72.24
34 1/4	71.78	71.87	71.96	72.05	72.14	72.22	72.31	72.40	72.49	72.58	72.67	72.76	72.84	72.93	73.02
34	72.54	72.63	72.72	72.81	72.90	72.99	73.08	73.17	73.26	73.35	73.44	73.53	73.62	73.71	73.80
33 3/4	73.31	73.40	73.49	73.58	73.67	73.76	73.85	73.94	74.03	74.12	74.21	74.30	74.39	74.48	74.57
33 1/2	74.07	74.16	74.25	74.35	74.44	74.53	74.62	74.71	74.80	74.90	74.99	75.08	75.17	75.26	75.35

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32	1.33	1.34	1.35
45 1/2	38.11	38.16	38.20	38.25	38.29	38.34	38.38	38.43	38.47	38.52	38.57	38.61	38.66	38.70	38.75
45 1/4	38.89	38.93	38.98	39.03	39.07	39.12	39.17	39.21	39.26	39.31	39.35	39.40	39.44	39.49	39.54
45	39.67	39.71	39.76	39.81	39.86	39.90	39.95	40.00	40.05	40.09	40.14	40.19	40.23	40.28	40.33
44 3/4	40.44	40.49	40.54	40.59	40.64	40.69	40.73	40.78	40.83	40.88	40.93	40.97	41.02	41.07	41.12
44 1/2	41.22	41.27	41.32	41.37	41.42	41.47	41.52	41.57	41.62	41.66	41.71	41.76	41.81	41.86	41.91
44 1/4	42.00	42.05	42.10	42.15	42.20	42.25	42.30	42.35	42.40	42.45	42.50	42.55	42.60	42.65	42.70
44	42.78	42.83	42.88	42.93	42.98	43.03	43.08	43.13	43.19	43.24	43.29	43.34	43.39	43.44	43.49
43 3/4	43.55	43.61	43.66	43.71	43.76	43.82	43.87	43.92	43.97	44.02	44.07	44.13	44.18	44.23	44.28
43 1/2	44.33	44.39	44.44	44.49	44.54	44.60	44.65	44.70	44.76	44.81	44.86	44.91	44.97	45.02	45.07
43 1/4	45.11	45.16	45.22	45.27	45.33	45.38	45.43	45.49	45.54	45.60	45.65	45.70	45.76	45.81	45.86
43	45.89	45.94	46.00	46.05	46.11	46.16	46.22	46.27	46.33	46.38	46.44	46.49	46.54	46.60	46.65
42 3/4	46.67	46.72	46.78	46.83	46.89	46.94	47.00	47.06	47.11	47.17	47.22	47.28	47.33	47.39	47.44
42 1/2	47.44	47.50	47.56	47.61	47.67	47.73	47.78	47.84	47.90	47.95	48.01	48.07	48.12	48.18	48.23
42 1/4	48.22	48.28	48.34	48.39	48.45	48.51	48.57	48.62	48.68	48.74	48.80	48.85	48.91	48.97	49.03
42	49.00	49.06	49.12	49.17	49.23	49.29	49.35	49.41	49.47	49.53	49.58	49.64	49.70	49.76	49.82
41 3/4	49.78	49.84	49.90	49.96	50.01	50.07	50.13	50.19	50.25	50.31	50.37	50.43	50.49	50.55	50.61
41 1/2	50.55	50.61	50.68	50.74	50.80	50.86	50.92	50.98	51.04	51.10	51.16	51.22	51.28	51.34	51.40
41 1/4	51.33	51.39	51.45	51.52	51.58	51.64	51.70	51.76	51.82	51.88	51.95	52.01	52.07	52.13	52.19
41	52.11	52.17	52.23	52.30	52.36	52.42	52.48	52.55	52.61	52.67	52.73	52.79	52.86	52.92	52.98
40 3/4	52.89	52.95	53.01	53.08	53.14	53.20	53.27	53.33	53.39	53.46	53.52	53.58	53.64	53.71	53.77
40 1/2	53.66	53.73	53.79	53.86	53.92	53.99	54.05	54.11	54.18	54.24	54.31	54.37	54.43	54.50	54.56
40 1/4	54.44	54.51	54.57	54.64	54.70	54.77	54.83	54.90	54.96	55.03	55.09	55.16	55.22	55.29	55.35
40	55.22	55.29	55.35	55.42	55.49	55.55	55.62	55.68	55.75	55.81	55.88	55.95	56.01	56.08	56.14
39 3/4	56.00	56.07	56.13	56.20	56.27	56.33	56.40	56.47	56.53	56.60	56.67	56.73	56.80	56.87	56.93
39 1/2	56.78	56.84	56.91	56.98	57.05	57.12	57.18	57.25	57.32	57.39	57.45	57.52	57.59	57.66	57.72
39 1/4	57.55	57.62	57.69	57.76	57.83	57.90	57.97	58.04	58.10	58.17	58.24	58.31	58.38	58.45	58.51
39	58.33	58.40	58.47	58.54	58.61	58.68	58.75	58.82	58.89	58.96	59.03	59.10	59.17	59.24	59.30
38 3/4	59.11	59.18	59.25	59.32	59.39	59.46	59.53	59.60	59.67	59.75	59.82	59.89	59.96	60.03	60.10
38 1/2	59.89	59.96	60.03	60.10	60.17	60.25	60.32	60.39	60.46	60.53	60.60	60.67	60.74	60.82	60.89
38 1/4	60.66	60.74	60.81	60.88	60.96	61.03	61.10	61.17	61.25	61.32	61.39	61.46	61.53	61.61	61.68
38	61.44	61.52	61.59	61.66	61.74	61.81	61.88	61.96	62.03	62.10	62.18	62.25	62.32	62.40	62.47
37 3/4	62.22	62.30	62.37	62.44	62.52	62.59	62.67	62.74	62.82	62.89	62.96	63.04	63.11	63.18	63.26
37 1/2	63.00	63.07	63.15	63.22	63.30	63.38	63.45	63.53	63.60	63.68	63.75	63.83	63.90	63.97	64.05
37 1/4	63.78	63.85	63.93	64.01	64.08	64.16	64.23	64.31	64.39	64.46	64.54	64.61	64.69	64.76	64.84
37	64.55	64.63	64.71	64.79	64.86	64.94	65.02	65.09	65.17	65.25	65.32	65.40	65.48	65.55	65.63
36 3/4	65.33	65.41	65.49	65.57	65.64	65.72	65.80	65.88	65.96	66.03	66.11	66.19	66.27	66.34	66.42
36 1/2	66.11	66.19	66.27	66.35	66.43	66.51	66.58	66.66	66.74	66.82	66.90	66.98	67.06	67.13	67.21
36 1/4	66.89	66.97	67.05	67.13	67.21	67.29	67.37	67.45	67.53	67.61	67.69	67.77	67.84	67.92	68.00
36	67.66	67.75	67.83	67.91	67.99	68.07	68.15	68.23	68.31	68.39	68.47	68.55	68.63	68.71	68.79
35 3/4	68.44	68.52	68.61	68.69	68.77	68.85	68.93	69.02	69.10	69.18	69.26	69.34	69.42	69.50	69.58
35 1/2	69.22	69.30	69.39	69.47	69.55	69.63	69.72	69.80	69.88	69.96	70.05	70.13	70.21	70.29	70.38
35 1/4	70.00	70.08	70.17	70.25	70.33	70.42	70.50	70.58	70.67	70.75	70.83	70.92	71.00	71.08	71.17
35	70.78	70.86	70.95	71.03	71.12	71.20	71.28	71.37	71.45	71.54	71.62	71.71	71.79	71.87	71.96
34 3/4	71.55	71.64	71.73	71.81	71.90	71.98	72.07	72.15	72.24	72.32	72.41	72.49	72.58	72.66	72.75
34 1/2	72.33	72.42	72.50	72.59	72.68	72.76	72.85	72.94	73.02	73.11	73.20	73.28	73.37	73.45	73.54
34 1/4	73.11	73.20	73.28	73.37	73.46	73.55	73.63	73.72	73.81	73.90	73.98	74.07	74.16	74.24	74.33
34	73.89	73.98	74.06	74.15	74.24	74.33	74.42	74.51	74.59	74.68	74.77	74.86	74.94	75.03	75.12
33 3/4	74.66	74.75	74.84	74.93	75.02	75.11	75.20	75.29	75.38	75.47	75.56	75.65	75.73	75.82	75.91
33 1/2	75.44	75.53	75.62	75.71	75.80	75.89	75.98	76.07	76.16	76.25	76.34	76.43	76.52	76.61	76.70

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.36	1.37	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.48	1.49	1.50
45 1/2	38.79	38.84	38.88	38.93	38.97	39.02	39.06	39.10	39.15	39.19	39.24	39.28	39.33	39.37	39.42
45 1/4	39.58	39.63	39.67	39.72	39.77	39.81	39.86	39.90	39.95	39.99	40.04	40.08	40.13	40.18	40.22
45	40.37	40.42	40.47	40.51	40.56	40.61	40.65	40.70	40.75	40.79	40.84	40.89	40.93	40.98	41.02
44 3/4	41.17	41.21	41.26	41.31	41.36	41.40	41.45	41.50	41.55	41.59	41.64	41.69	41.74	41.78	41.83
44 1/2	41.96	42.01	42.05	42.10	42.15	42.20	42.25	42.30	42.35	42.39	42.44	42.49	42.54	42.59	42.63
44 1/4	42.75	42.80	42.85	42.90	42.95	43.00	43.05	43.09	43.14	43.19	43.24	43.29	43.34	43.39	43.44
44	43.54	43.59	43.64	43.69	43.74	43.79	43.84	43.89	43.94	43.99	44.04	44.09	44.14	44.19	44.24
43 3/4	44.33	44.38	44.44	44.49	44.54	44.59	44.64	44.69	44.74	44.79	44.84	44.89	44.95	45.00	45.05
43 1/2	45.12	45.18	45.23	45.28	45.33	45.39	45.44	45.49	45.54	45.59	45.64	45.70	45.75	45.80	45.85
43 1/4	45.92	45.97	46.02	46.08	46.13	46.18	46.23	46.29	46.34	46.39	46.45	46.50	46.55	46.60	46.66
43	46.71	46.76	46.82	46.87	46.92	46.98	47.03	47.09	47.14	47.19	47.25	47.30	47.35	47.41	47.46
42 3/4	47.50	47.55	47.61	47.66	47.72	47.77	47.83	47.88	47.94	47.99	48.05	48.10	48.16	48.21	48.26
42 1/2	48.29	48.35	48.40	48.46	48.51	48.57	48.63	48.68	48.74	48.79	48.85	48.90	48.96	49.01	49.07
42 1/4	49.08	49.14	49.20	49.25	49.31	49.37	49.42	49.48	49.54	49.59	49.65	49.70	49.76	49.82	49.87
42	49.87	49.93	49.99	50.05	50.10	50.16	50.22	50.28	50.33	50.39	50.45	50.51	50.56	50.62	50.68
41 3/4	50.67	50.72	50.78	50.84	50.90	50.96	51.02	51.08	51.13	51.19	51.25	51.31	51.37	51.42	51.48
41 1/2	51.46	51.52	51.58	51.64	51.70	51.75	51.81	51.87	51.93	51.99	52.05	52.11	52.17	52.23	52.29
41 1/4	52.25	52.31	52.37	52.43	52.49	52.55	52.61	52.67	52.73	52.79	52.85	52.91	52.97	53.03	53.09
41	53.04	53.10	53.16	53.22	53.29	53.35	53.41	53.47	53.53	53.59	53.65	53.71	53.77	53.83	53.90
40 3/4	53.83	53.89	53.96	54.02	54.08	54.14	54.21	54.27	54.33	54.39	54.45	54.51	54.58	54.64	54.70
40 1/2	54.62	54.69	54.75	54.81	54.88	54.94	55.00	55.07	55.13	55.19	55.25	55.32	55.38	55.44	55.50
40 1/4	55.42	55.48	55.54	55.61	55.67	55.74	55.80	55.86	55.93	55.99	56.05	56.12	56.18	56.25	56.31
40	56.21	56.27	56.34	56.40	56.47	56.53	56.60	56.66	56.73	56.79	56.86	56.92	56.98	57.05	57.11
39 3/4	57.00	57.06	57.13	57.20	57.26	57.33	57.39	57.46	57.53	57.59	57.66	57.72	57.79	57.85	57.92
39 1/2	57.79	57.86	57.92	57.99	58.06	58.12	58.19	58.26	58.32	58.39	58.46	58.52	58.59	58.66	58.72
39 1/4	58.58	58.65	58.72	58.79	58.85	58.92	58.99	59.06	59.12	59.19	59.26	59.33	59.39	59.46	59.53
39	59.37	59.44	59.51	59.58	59.65	59.72	59.79	59.85	59.92	59.99	60.06	60.13	60.19	60.26	60.33
38 3/4	60.17	60.24	60.30	60.37	60.44	60.51	60.58	60.65	60.72	60.79	60.86	60.93	61.00	61.07	61.13
38 1/2	60.96	61.03	61.10	61.17	61.24	61.31	61.38	61.45	61.52	61.59	61.66	61.73	61.80	61.87	61.94
38 1/4	61.75	61.82	61.89	61.96	62.03	62.11	62.18	62.25	62.32	62.39	62.46	62.53	62.60	62.67	62.74
38	62.54	62.61	62.69	62.76	62.83	62.90	62.97	63.05	63.12	63.19	63.26	63.33	63.41	63.48	63.55
37 3/4	63.33	63.41	63.48	63.55	63.63	63.70	63.77	63.84	63.92	63.99	64.06	64.14	64.21	64.28	64.35
37 1/2	64.12	64.20	64.27	64.35	64.42	64.49	64.57	64.64	64.72	64.79	64.86	64.94	65.01	65.08	65.16
37 1/4	64.92	64.99	65.07	65.14	65.22	65.29	65.37	65.44	65.52	65.59	65.66	65.74	65.81	65.89	65.96
37	65.71	65.78	65.86	65.94	66.01	66.09	66.16	66.24	66.31	66.39	66.46	66.54	66.62	66.69	66.77
36 3/4	66.50	66.58	66.65	66.73	66.81	66.88	66.96	67.04	67.11	67.19	67.27	67.34	67.42	67.49	67.57
36 1/2	67.29	67.37	67.45	67.52	67.60	67.68	67.76	67.83	67.91	67.99	68.07	68.14	68.22	68.30	68.37
36 1/4	68.08	68.16	68.24	68.32	68.40	68.48	68.55	68.63	68.71	68.79	68.87	68.95	69.02	69.10	69.18
36	68.87	68.95	69.03	69.11	69.19	69.27	69.35	69.43	69.51	69.59	69.67	69.75	69.83	69.90	69.98
35 3/4	69.67	69.75	69.83	69.91	69.99	70.07	70.15	70.23	70.31	70.39	70.47	70.55	70.63	70.71	70.79
35 1/2	70.46	70.54	70.62	70.70	70.78	70.86	70.95	71.03	71.11	71.19	71.27	71.35	71.43	71.51	71.59
35 1/4	71.25	71.33	71.41	71.50	71.58	71.66	71.74	71.82	71.91	71.99	72.07	72.15	72.23	72.32	72.40
35	72.04	72.12	72.21	72.29	72.37	72.46	72.54	72.62	72.71	72.79	72.87	72.95	73.04	73.12	73.20
34 3/4	72.83	72.92	73.00	73.08	73.17	73.25	73.34	73.42	73.50	73.59	73.67	73.76	73.84	73.92	74.01
34 1/2	73.62	73.71	73.79	73.88	73.96	74.05	74.13	74.22	74.30	74.39	74.47	74.56	74.64	74.73	74.81
34 1/4	74.42	74.50	74.59	74.67	74.76	74.85	74.93	75.02	75.10	75.19	75.27	75.36	75.44	75.53	75.61
34	75.21	75.29	75.38	75.47	75.56	75.64	75.73	75.82	75.90	75.99	76.07	76.16	76.25	76.33	76.42
33 3/4	76.00	76.09	76.17	76.26	76.35	76.44	76.53	76.61	76.70	76.79	76.88	76.96	77.05	77.14	77.22
33 1/2	76.79	76.88	76.97	77.06	77.15	77.23	77.32	77.41	77.50	77.59	77.68	77.76	77.85	77.94	78.03

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.51	1.52	1.53	1.54	1.55	1.56	1.57	1.58	1.59	1.60	1.61	1.62	1.63	1.64	1.65
45 1/2	39.46	39.50	39.55	39.59	39.64	39.68	39.72	39.77	39.81	39.86	39.90	39.94	39.99	40.03	40.07
45 1/4	40.27	40.31	40.36	40.40	40.45	40.49	40.54	40.58	40.62	40.67	40.71	40.76	40.80	40.85	40.89
45	41.07	41.12	41.16	41.21	41.25	41.30	41.35	41.39	41.44	41.48	41.53	41.57	41.62	41.67	41.71
44 3/4	41.88	41.92	41.97	42.02	42.06	42.11	42.16	42.20	42.25	42.30	42.34	42.39	42.44	42.48	42.53
44 1/2	42.68	42.73	42.78	42.82	42.87	42.92	42.97	43.02	43.06	43.11	43.16	43.20	43.25	43.30	43.35
44 1/4	43.49	43.54	43.58	43.63	43.68	43.73	43.78	43.83	43.87	43.92	43.97	44.02	44.07	44.12	44.16
44	44.29	44.34	44.39	44.44	44.49	44.54	44.59	44.64	44.69	44.74	44.79	44.83	44.88	44.93	44.98
43 3/4	45.10	45.15	45.20	45.25	45.30	45.35	45.40	45.45	45.50	45.55	45.60	45.65	45.70	45.75	45.80
43 1/2	45.90	45.95	46.01	46.06	46.11	46.16	46.21	46.26	46.31	46.36	46.41	46.47	46.52	46.57	46.62
43 1/4	46.71	46.76	46.81	46.86	46.92	46.97	47.02	47.07	47.12	47.18	47.23	47.28	47.33	47.38	47.44
43	47.51	47.57	47.62	47.67	47.73	47.78	47.83	47.88	47.94	47.99	48.04	48.10	48.15	48.20	48.25
42 3/4	48.32	48.37	48.43	48.48	48.53	48.59	48.64	48.70	48.75	48.80	48.86	48.91	48.96	49.02	49.07
42 1/2	49.12	49.18	49.23	49.29	49.34	49.40	49.45	49.51	49.56	49.62	49.67	49.73	49.78	49.83	49.89
42 1/4	49.93	49.99	50.04	50.10	50.15	50.21	50.26	50.32	50.37	50.43	50.49	50.54	50.60	50.65	50.71
42	50.73	50.79	50.85	50.90	50.96	51.02	51.07	51.13	51.19	51.24	51.30	51.36	51.41	51.47	51.52
41 3/4	51.54	51.60	51.66	51.71	51.77	51.83	51.89	51.94	52.00	52.06	52.11	52.17	52.23	52.29	52.34
41 1/2	52.35	52.40	52.46	52.52	52.58	52.64	52.70	52.75	52.81	52.87	52.93	52.99	53.04	53.10	53.16
41 1/4	53.15	53.21	53.27	53.33	53.39	53.45	53.51	53.57	53.62	53.68	53.74	53.80	53.86	53.92	53.98
41	53.96	54.02	54.08	54.14	54.20	54.26	54.32	54.38	54.44	54.50	54.56	54.62	54.68	54.74	54.80
40 3/4	54.76	54.82	54.88	54.94	55.01	55.07	55.13	55.19	55.25	55.31	55.37	55.43	55.49	55.55	55.61
40 1/2	55.57	55.63	55.69	55.75	55.81	55.88	55.94	56.00	56.06	56.12	56.19	56.25	56.31	56.37	56.43
40 1/4	56.37	56.43	56.50	56.56	56.62	56.69	56.75	56.81	56.87	56.94	57.00	57.06	57.12	57.19	57.25
40	57.18	57.24	57.31	57.37	57.43	57.50	57.56	57.62	57.69	57.75	57.81	57.88	57.94	58.00	58.07
39 3/4	57.98	58.05	58.11	58.18	58.24	58.31	58.37	58.44	58.50	58.56	58.63	58.69	58.76	58.82	58.89
39 1/2	58.79	58.85	58.92	58.98	59.05	59.12	59.18	59.25	59.31	59.38	59.44	59.51	59.57	59.64	59.70
39 1/4	59.59	59.66	59.73	59.79	59.86	59.93	59.99	60.06	60.12	60.19	60.26	60.32	60.39	60.46	60.52
39	60.40	60.47	60.53	60.60	60.67	60.74	60.80	60.87	60.94	61.00	61.07	61.14	61.21	61.27	61.34
38 3/4	61.20	61.27	61.34	61.41	61.48	61.55	61.61	61.68	61.75	61.82	61.89	61.95	62.02	62.09	62.16
38 1/2	62.01	62.08	62.15	62.22	62.29	62.36	62.42	62.49	62.56	62.63	62.70	62.77	62.84	62.91	62.97
38 1/4	62.81	62.88	62.95	63.03	63.10	63.17	63.24	63.31	63.37	63.44	63.51	63.58	63.65	63.72	63.79
38	63.62	63.69	63.76	63.83	63.90	63.98	64.05	64.12	64.19	64.26	64.33	64.40	64.47	64.54	64.61
37 3/4	64.42	64.50	64.57	64.64	64.71	64.78	64.86	64.93	65.00	65.07	65.14	65.21	65.29	65.36	65.43
37 1/2	65.23	65.30	65.38	65.45	65.52	65.59	65.67	65.74	65.81	65.88	65.96	66.03	66.10	66.17	66.25
37 1/4	66.04	66.11	66.18	66.26	66.33	66.40	66.48	66.55	66.62	66.70	66.77	66.84	66.92	66.99	67.06
37	66.84	66.92	66.99	67.07	67.14	67.21	67.29	67.36	67.44	67.51	67.59	67.66	67.73	67.81	67.88
36 3/4	67.65	67.72	67.80	67.87	67.95	68.02	68.10	68.17	68.25	68.33	68.40	68.48	68.55	68.62	68.70
36 1/2	68.45	68.53	68.60	68.68	68.76	68.83	68.91	68.99	69.06	69.14	69.21	69.29	69.37	69.44	69.52
36 1/4	69.26	69.33	69.41	69.49	69.57	69.64	69.72	69.80	69.87	69.95	70.03	70.11	70.18	70.26	70.34
36	70.06	70.14	70.22	70.30	70.38	70.45	70.53	70.61	70.69	70.77	70.84	70.92	71.00	71.08	71.15
35 3/4	70.87	70.95	71.03	71.11	71.18	71.26	71.34	71.42	71.50	71.58	71.66	71.74	71.81	71.89	71.97
35 1/2	71.67	71.75	71.83	71.91	71.99	72.07	72.15	72.23	72.31	72.39	72.47	72.55	72.63	72.71	72.79
35 1/4	72.48	72.56	72.64	72.72	72.80	72.88	72.96	73.04	73.12	73.21	73.29	73.37	73.45	73.53	73.61
35	73.28	73.37	73.45	73.53	73.61	73.69	73.77	73.86	73.94	74.02	74.10	74.18	74.26	74.34	74.42
34 3/4	74.09	74.17	74.25	74.34	74.42	74.50	74.59	74.67	74.75	74.83	74.91	75.00	75.08	75.16	75.24
34 1/2	74.89	74.98	75.06	75.15	75.23	75.31	75.40	75.48	75.56	75.65	75.73	75.81	75.89	75.98	76.06
34 1/4	75.70	75.78	75.87	75.95	76.04	76.12	76.21	76.29	76.37	76.46	76.54	76.63	76.71	76.79	76.88
34	76.50	76.59	76.68	76.76	76.85	76.93	77.02	77.10	77.19	77.27	77.36	77.44	77.53	77.61	77.70
33 3/4	77.31	77.40	77.48	77.57	77.66	77.74	77.83	77.91	78.00	78.09	78.17	78.26	78.34	78.43	78.51
33 1/2	78.11	78.20	78.29	78.38	78.46	78.55	78.64	78.73	78.81	78.90	78.99	79.07	79.16	79.25	79.33

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.66	1.67	1.68	1.69	1.70	1.71	1.72	1.73	1.74	1.75	1.76	1.77	1.78	1.79	1.80
45 1/2	40.12	40.16	40.21	40.25	40.29	40.34	40.38	40.42	40.46	40.51	40.55	40.59	40.64	40.68	40.72
45 1/4	40.94	40.98	41.03	41.07	41.11	41.16	41.20	41.25	41.29	41.33	41.38	41.42	41.47	41.51	41.55
45	41.76	41.80	41.85	41.89	41.94	41.98	42.03	42.07	42.12	42.16	42.21	42.25	42.30	42.34	42.39
44 3/4	42.57	42.62	42.67	42.71	42.76	42.80	42.85	42.90	42.94	42.99	43.03	43.08	43.13	43.17	43.22
44 1/2	43.39	43.44	43.49	43.53	43.58	43.63	43.67	43.72	43.77	43.81	43.86	43.91	43.95	44.00	44.05
44 1/4	44.21	44.26	44.31	44.36	44.40	44.45	44.50	44.55	44.59	44.64	44.69	44.74	44.78	44.83	44.88
44	45.03	45.08	45.13	45.18	45.23	45.27	45.32	45.37	45.42	45.47	45.52	45.56	45.61	45.66	45.71
43 3/4	45.85	45.90	45.95	46.00	46.05	46.10	46.15	46.20	46.25	46.29	46.34	46.39	46.44	46.49	46.54
43 1/2	46.67	46.72	46.77	46.82	46.87	46.92	46.97	47.02	47.07	47.12	47.17	47.22	47.27	47.32	47.37
43 1/4	47.49	47.54	47.59	47.64	47.69	47.74	47.79	47.85	47.90	47.95	48.00	48.05	48.10	48.15	48.20
43	48.31	48.36	48.41	48.46	48.51	48.57	48.62	48.67	48.72	48.77	48.83	48.88	48.93	48.98	49.03
42 3/4	49.12	49.18	49.23	49.28	49.34	49.39	49.44	49.50	49.55	49.60	49.65	49.71	49.76	49.81	49.86
42 1/2	49.94	50.00	50.05	50.11	50.16	50.21	50.27	50.32	50.37	50.43	50.48	50.54	50.59	50.64	50.70
42 1/4	50.76	50.82	50.87	50.93	50.98	51.04	51.09	51.15	51.20	51.25	51.31	51.36	51.42	51.47	51.53
42	51.58	51.64	51.69	51.75	51.80	51.86	51.92	51.97	52.03	52.08	52.14	52.19	52.25	52.30	52.36
41 3/4	52.40	52.46	52.51	52.57	52.63	52.68	52.74	52.80	52.85	52.91	52.96	53.02	53.08	53.13	53.19
41 1/2	53.22	53.28	53.33	53.39	53.45	53.51	53.56	53.62	53.68	53.74	53.79	53.85	53.91	53.96	54.02
41 1/4	54.04	54.10	54.15	54.21	54.27	54.33	54.39	54.45	54.50	54.56	54.62	54.68	54.74	54.79	54.85
41	54.86	54.92	54.97	55.03	55.09	55.15	55.21	55.27	55.33	55.39	55.45	55.51	55.56	55.62	55.68
40 3/4	55.67	55.73	55.79	55.86	55.92	55.98	56.04	56.10	56.16	56.22	56.27	56.33	56.39	56.45	56.51
40 1/2	56.49	56.55	56.62	56.68	56.74	56.80	56.86	56.92	56.98	57.04	57.10	57.16	57.22	57.28	57.34
40 1/4	57.31	57.37	57.44	57.50	57.56	57.62	57.68	57.75	57.81	57.87	57.93	57.99	58.05	58.11	58.18
40	58.13	58.19	58.26	58.32	58.38	58.44	58.51	58.57	58.63	58.70	58.76	58.82	58.88	58.94	59.01
39 3/4	58.95	59.01	59.08	59.14	59.20	59.27	59.33	59.40	59.46	59.52	59.59	59.65	59.71	59.77	59.84
39 1/2	59.77	59.83	59.90	59.96	60.03	60.09	60.16	60.22	60.28	60.35	60.41	60.48	60.54	60.60	60.67
39 1/4	60.59	60.65	60.72	60.78	60.85	60.91	60.98	61.04	61.11	61.18	61.24	61.31	61.37	61.44	61.50
39	61.41	61.47	61.54	61.60	61.67	61.74	61.80	61.87	61.94	62.00	62.07	62.13	62.20	62.27	62.33
38 3/4	62.22	62.29	62.36	62.43	62.49	62.56	62.63	62.69	62.76	62.83	62.90	62.96	63.03	63.10	63.16
38 1/2	63.04	63.11	63.18	63.25	63.32	63.38	63.45	63.52	63.59	63.66	63.72	63.79	63.86	63.93	63.99
38 1/4	63.86	63.93	64.00	64.07	64.14	64.21	64.28	64.34	64.41	64.48	64.55	64.62	64.69	64.76	64.82
38	64.68	64.75	64.82	64.89	64.96	65.03	65.10	65.17	65.24	65.31	65.38	65.45	65.52	65.59	65.66
37 3/4	65.50	65.57	65.64	65.71	65.78	65.85	65.92	65.99	66.07	66.14	66.21	66.28	66.35	66.42	66.49
37 1/2	66.32	66.39	66.46	66.53	66.60	66.68	66.75	66.82	66.89	66.96	67.03	67.10	67.18	67.25	67.32
37 1/4	67.14	67.21	67.28	67.35	67.43	67.50	67.57	67.64	67.72	67.79	67.86	67.93	68.00	68.08	68.15
37	67.96	68.03	68.10	68.18	68.25	68.32	68.40	68.47	68.54	68.62	68.69	68.76	68.83	68.91	68.98
36 3/4	68.77	68.85	68.92	69.00	69.07	69.15	69.22	69.29	69.37	69.44	69.52	69.59	69.66	69.74	69.81
36 1/2	69.59	69.67	69.74	69.82	69.89	69.97	70.04	70.12	70.19	70.27	70.34	70.42	70.49	70.57	70.64
36 1/4	70.41	70.49	70.56	70.64	70.72	70.79	70.87	70.94	71.02	71.10	71.17	71.25	71.32	71.40	71.47
36	71.23	71.31	71.38	71.46	71.54	71.62	71.69	71.77	71.85	71.92	72.00	72.08	72.15	72.23	72.30
35 3/4	72.05	72.13	72.21	72.28	72.36	72.44	72.52	72.59	72.67	72.75	72.83	72.90	72.98	73.06	73.13
35 1/2	72.87	72.95	73.03	73.10	73.18	73.26	73.34	73.42	73.50	73.58	73.65	73.73	73.81	73.89	73.97
35 1/4	73.69	73.77	73.85	73.93	74.01	74.09	74.16	74.24	74.32	74.40	74.48	74.56	74.64	74.72	74.80
35	74.51	74.59	74.67	74.75	74.83	74.91	74.99	75.07	75.15	75.23	75.31	75.39	75.47	75.55	75.63
34 3/4	75.32	75.41	75.49	75.57	75.65	75.73	75.81	75.89	75.97	76.06	76.14	76.22	76.30	76.38	76.46
34 1/2	76.14	76.23	76.31	76.39	76.47	76.55	76.64	76.72	76.80	76.88	76.96	77.05	77.13	77.21	77.29
34 1/4	76.96	77.04	77.13	77.21	77.29	77.38	77.46	77.54	77.63	77.71	77.79	77.87	77.96	78.04	78.12
34	77.78	77.86	77.95	78.03	78.12	78.20	78.28	78.37	78.45	78.54	78.62	78.70	78.79	78.87	78.95
33 3/4	78.60	78.68	78.77	78.85	78.94	79.02	79.11	79.19	79.28	79.36	79.45	79.53	79.62	79.70	79.78
33 1/2	79.42	79.50	79.59	79.68	79.76	79.85	79.93	80.02	80.10	80.19	80.27	80.36	80.44	80.53	80.61

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.81	1.82	1.83	1.84	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93	1.94	1.95
45 1/2	40.77	40.81	40.85	40.89	40.94	40.98	41.02	41.06	41.11	41.15	41.19	41.23	41.28	41.32	41.36
45 1/4	41.60	41.64	41.68	41.73	41.77	41.82	41.86	41.90	41.95	41.99	42.03	42.08	42.12	42.16	42.20
45	42.43	42.47	42.52	42.56	42.61	42.65	42.70	42.74	42.78	42.83	42.87	42.92	42.96	43.01	43.05
44 3/4	43.26	43.31	43.35	43.40	43.44	43.49	43.53	43.58	43.62	43.67	43.71	43.76	43.80	43.85	43.89
44 1/2	44.09	44.14	44.19	44.23	44.28	44.32	44.37	44.42	44.46	44.51	44.55	44.60	44.65	44.69	44.74
44 1/4	44.93	44.97	45.02	45.07	45.11	45.16	45.21	45.25	45.30	45.35	45.39	45.44	45.49	45.53	45.58
44	45.76	45.81	45.85	45.90	45.95	46.00	46.04	46.09	46.14	46.19	46.24	46.28	46.33	46.38	46.43
43 3/4	46.59	46.64	46.69	46.74	46.78	46.83	46.88	46.93	46.98	47.03	47.08	47.12	47.17	47.22	47.27
43 1/2	47.42	47.47	47.52	47.57	47.62	47.67	47.72	47.77	47.82	47.87	47.92	47.97	48.02	48.06	48.11
43 1/4	48.25	48.30	48.35	48.41	48.46	48.51	48.56	48.61	48.66	48.71	48.76	48.81	48.86	48.91	48.96
43	49.09	49.14	49.19	49.24	49.29	49.34	49.39	49.44	49.50	49.55	49.60	49.65	49.70	49.75	49.80
42 3/4	49.92	49.97	50.02	50.07	50.13	50.18	50.23	50.28	50.33	50.39	50.44	50.49	50.54	50.59	50.65
42 1/2	50.75	50.80	50.86	50.91	50.96	51.01	51.07	51.12	51.17	51.23	51.28	51.33	51.38	51.44	51.49
42 1/4	51.58	51.64	51.69	51.74	51.80	51.85	51.91	51.96	52.01	52.07	52.12	52.17	52.23	52.28	52.33
42	52.41	52.47	52.52	52.58	52.63	52.69	52.74	52.80	52.85	52.91	52.96	53.02	53.07	53.12	53.18
41 3/4	53.24	53.30	53.36	53.41	53.47	53.52	53.58	53.64	53.69	53.75	53.80	53.86	53.91	53.97	54.02
41 1/2	54.08	54.13	54.19	54.25	54.30	54.36	54.42	54.47	54.53	54.59	54.64	54.70	54.75	54.81	54.87
41 1/4	54.91	54.97	55.02	55.08	55.14	55.20	55.25	55.31	55.37	55.43	55.48	55.54	55.60	55.65	55.71
41	55.74	55.80	55.86	55.92	55.97	56.03	56.09	56.15	56.21	56.27	56.32	56.38	56.44	56.50	56.55
40 3/4	56.57	56.63	56.69	56.75	56.81	56.87	56.93	56.99	57.05	57.11	57.16	57.22	57.28	57.34	57.40
40 1/2	57.40	57.47	57.53	57.59	57.65	57.71	57.77	57.83	57.89	57.94	58.00	58.06	58.12	58.18	58.24
40 1/4	58.24	58.30	58.36	58.42	58.48	58.54	58.60	58.66	58.72	58.78	58.85	58.91	58.97	59.03	59.09
40	59.07	59.13	59.19	59.25	59.32	59.38	59.44	59.50	59.56	59.62	59.69	59.75	59.81	59.87	59.93
39 3/4	59.90	59.96	60.03	60.09	60.15	60.21	60.28	60.34	60.40	60.46	60.53	60.59	60.65	60.71	60.78
39 1/2	60.73	60.80	60.86	60.92	60.99	61.05	61.11	61.18	61.24	61.30	61.37	61.43	61.49	61.56	61.62
39 1/4	61.56	61.63	61.69	61.76	61.82	61.89	61.95	62.02	62.08	62.14	62.21	62.27	62.34	62.40	62.46
39	62.40	62.46	62.53	62.59	62.66	62.72	62.79	62.85	62.92	62.98	63.05	63.11	63.18	63.24	63.31
38 3/4	63.23	63.29	63.36	63.43	63.49	63.56	63.63	63.69	63.76	63.82	63.89	63.95	64.02	64.09	64.15
38 1/2	64.06	64.13	64.19	64.26	64.33	64.40	64.46	64.53	64.60	64.66	64.73	64.80	64.86	64.93	65.00
38 1/4	64.89	64.96	65.03	65.10	65.16	65.23	65.30	65.37	65.44	65.50	65.57	65.64	65.71	65.77	65.84
38	65.72	65.79	65.86	65.93	66.00	66.07	66.14	66.21	66.27	66.34	66.41	66.48	66.55	66.62	66.68
37 3/4	66.56	66.63	66.70	66.77	66.84	66.90	66.97	67.04	67.11	67.18	67.25	67.32	67.39	67.46	67.53
37 1/2	67.39	67.46	67.53	67.60	67.67	67.74	67.81	67.88	67.95	68.02	68.09	68.16	68.23	68.30	68.37
37 1/4	68.22	68.29	68.36	68.43	68.51	68.58	68.65	68.72	68.79	68.86	68.93	69.00	69.07	69.15	69.22
37	69.05	69.12	69.20	69.27	69.34	69.41	69.49	69.56	69.63	69.70	69.77	69.85	69.92	69.99	70.06
36 3/4	69.88	69.96	70.03	70.10	70.18	70.25	70.32	70.40	70.47	70.54	70.61	70.69	70.76	70.83	70.90
36 1/2	70.72	70.79	70.86	70.94	71.01	71.09	71.16	71.23	71.31	71.38	71.45	71.53	71.60	71.68	71.75
36 1/4	71.55	71.62	71.70	71.77	71.85	71.92	72.00	72.07	72.15	72.22	72.30	72.37	72.44	72.52	72.59
36	72.38	72.46	72.53	72.61	72.68	72.76	72.83	72.91	72.99	73.06	73.14	73.21	73.29	73.36	73.44
35 3/4	73.21	73.29	73.37	73.44	73.52	73.60	73.67	73.75	73.82	73.90	73.98	74.05	74.13	74.20	74.28
35 1/2	74.04	74.12	74.20	74.28	74.35	74.43	74.51	74.59	74.66	74.74	74.82	74.89	74.97	75.05	75.12
35 1/4	74.88	74.95	75.03	75.11	75.19	75.27	75.35	75.42	75.50	75.58	75.66	75.74	75.81	75.89	75.97
35	75.71	75.79	75.87	75.95	76.03	76.10	76.18	76.26	76.34	76.42	76.50	76.58	76.66	76.73	76.81
34 3/4	76.54	76.62	76.70	76.78	76.86	76.94	77.02	77.10	77.18	77.26	77.34	77.42	77.50	77.58	77.66
34 1/2	77.37	77.45	77.53	77.62	77.70	77.78	77.86	77.94	78.02	78.10	78.18	78.26	78.34	78.42	78.50
34 1/4	78.20	78.29	78.37	78.45	78.53	78.61	78.69	78.78	78.86	78.94	79.02	79.10	79.18	79.26	79.35
34	79.04	79.12	79.20	79.28	79.37	79.45	79.53	79.61	79.70	79.78	79.86	79.94	80.03	80.11	80.19
33 3/4	79.87	79.95	80.04	80.12	80.20	80.29	80.37	80.45	80.54	80.62	80.70	80.79	80.87	80.95	81.03
33 1/2	80.70	80.78	80.87	80.95	81.04	81.12	81.21	81.29	81.37	81.46	81.54	81.63	81.71	81.79	81.88

STAFF GAGE HEIGHT (feet)

GATE (inches)	1.96	1.97	1.98	1.99	2.00	2.01	2.02	2.03	2.04	2.05	2.06	2.07	2.08	2.09	2.10
45 1/2	41.40	41.45	41.49	41.53	41.57	41.61	41.66	41.70	41.74	41.78	41.82	41.86	41.91	41.95	41.99
45 1/4	42.25	42.29	42.33	42.38	42.42	42.46	42.51	42.55	42.59	42.63	42.68	42.72	42.76	42.80	42.85
45	43.09	43.14	43.18	43.22	43.27	43.31	43.36	43.40	43.44	43.49	43.53	43.57	43.62	43.66	43.70
44 3/4	43.94	43.98	44.03	44.07	44.12	44.16	44.21	44.25	44.29	44.34	44.38	44.43	44.47	44.52	44.56
44 1/2	44.78	44.83	44.87	44.92	44.96	45.01	45.06	45.10	45.15	45.19	45.24	45.28	45.33	45.37	45.42
44 1/4	45.63	45.67	45.72	45.77	45.81	45.86	45.91	45.95	46.00	46.04	46.09	46.14	46.18	46.23	46.27
44	46.47	46.52	46.57	46.61	46.66	46.71	46.76	46.80	46.85	46.90	46.94	46.99	47.04	47.08	47.13
43 3/4	47.32	47.37	47.41	47.46	47.51	47.56	47.61	47.65	47.70	47.75	47.80	47.84	47.89	47.94	47.99
43 1/2	48.16	48.21	48.26	48.31	48.36	48.41	48.46	48.50	48.55	48.60	48.65	48.70	48.75	48.80	48.84
43 1/4	49.01	49.06	49.11	49.16	49.21	49.26	49.31	49.36	49.41	49.45	49.50	49.55	49.60	49.65	49.70
43	49.85	49.90	49.95	50.00	50.06	50.11	50.16	50.21	50.26	50.31	50.36	50.41	50.46	50.51	50.56
42 3/4	50.70	50.75	50.80	50.85	50.90	50.96	51.01	51.06	51.11	51.16	51.21	51.26	51.31	51.36	51.42
42 1/2	51.54	51.60	51.65	51.70	51.75	51.80	51.86	51.91	51.96	52.01	52.06	52.12	52.17	52.22	52.27
42 1/4	52.39	52.44	52.49	52.55	52.60	52.65	52.71	52.76	52.81	52.87	52.92	52.97	53.02	53.08	53.13
42	53.23	53.29	53.34	53.39	53.45	53.50	53.56	53.61	53.66	53.72	53.77	53.83	53.88	53.93	53.99
41 3/4	54.08	54.13	54.19	54.24	54.30	54.35	54.41	54.46	54.52	54.57	54.63	54.68	54.73	54.79	54.84
41 1/2	54.92	54.98	55.03	55.09	55.15	55.20	55.26	55.31	55.37	55.42	55.48	55.53	55.59	55.64	55.70
41 1/4	55.77	55.82	55.88	55.94	55.99	56.05	56.11	56.16	56.22	56.28	56.33	56.39	56.44	56.50	56.56
41	56.61	56.67	56.73	56.78	56.84	56.90	56.96	57.01	57.07	57.13	57.19	57.24	57.30	57.36	57.41
40 3/4	57.46	57.52	57.57	57.63	57.69	57.75	57.81	57.87	57.92	57.98	58.04	58.10	58.16	58.21	58.27
40 1/2	58.30	58.36	58.42	58.48	58.54	58.60	58.66	58.72	58.78	58.83	58.89	58.95	59.01	59.07	59.13
40 1/4	59.15	59.21	59.27	59.33	59.39	59.45	59.51	59.57	59.63	59.69	59.75	59.81	59.87	59.93	59.98
40	59.99	60.05	60.11	60.18	60.24	60.30	60.36	60.42	60.48	60.54	60.60	60.66	60.72	60.78	60.84
39 3/4	60.84	60.90	60.96	61.02	61.08	61.15	61.21	61.27	61.33	61.39	61.45	61.51	61.58	61.64	61.70
39 1/2	61.68	61.74	61.81	61.87	61.93	62.00	62.06	62.12	62.18	62.24	62.31	62.37	62.43	62.49	62.56
39 1/4	62.53	62.59	62.65	62.72	62.78	62.84	62.91	62.97	63.03	63.10	63.16	63.22	63.29	63.35	63.41
39	63.37	63.44	63.50	63.57	63.63	63.69	63.76	63.82	63.89	63.95	64.01	64.08	64.14	64.21	64.27
38 3/4	64.22	64.28	64.35	64.41	64.48	64.54	64.61	64.67	64.74	64.80	64.87	64.93	65.00	65.06	65.13
38 1/2	65.06	65.13	65.19	65.26	65.33	65.39	65.46	65.52	65.59	65.66	65.72	65.79	65.85	65.92	65.98
38 1/4	65.91	65.97	66.04	66.11	66.17	66.24	66.31	66.37	66.44	66.51	66.57	66.64	66.71	66.77	66.84
38	66.75	66.82	66.89	66.96	67.02	67.09	67.16	67.23	67.29	67.36	67.43	67.50	67.56	67.63	67.70
37 3/4	67.60	67.67	67.73	67.80	67.87	67.94	68.01	68.08	68.15	68.21	68.28	68.35	68.42	68.49	68.55
37 1/2	68.44	68.51	68.58	68.65	68.72	68.79	68.86	68.93	69.00	69.07	69.14	69.20	69.27	69.34	69.41
37 1/4	69.29	69.36	69.43	69.50	69.57	69.64	69.71	69.78	69.85	69.92	69.99	70.06	70.13	70.20	70.27
37	70.13	70.20	70.27	70.35	70.42	70.49	70.56	70.63	70.70	70.77	70.84	70.91	70.98	71.05	71.12
36 3/4	70.98	71.05	71.12	71.19	71.27	71.34	71.41	71.48	71.55	71.62	71.70	71.77	71.84	71.91	71.98
36 1/2	71.82	71.89	71.97	72.04	72.11	72.19	72.26	72.33	72.40	72.48	72.55	72.62	72.69	72.77	72.84
36 1/4	72.67	72.74	72.81	72.89	72.96	73.04	73.11	73.18	73.26	73.33	73.40	73.48	73.55	73.62	73.70
36	73.51	73.59	73.66	73.74	73.81	73.88	73.96	74.03	74.11	74.18	74.26	74.33	74.40	74.48	74.55
35 3/4	74.36	74.43	74.51	74.58	74.66	74.73	74.81	74.88	74.96	75.03	75.11	75.18	75.26	75.33	75.41
35 1/2	75.20	75.28	75.35	75.43	75.51	75.58	75.66	75.74	75.81	75.89	75.96	76.04	76.11	76.19	76.27
35 1/4	76.05	76.12	76.20	76.28	76.36	76.43	76.51	76.59	76.66	76.74	76.82	76.89	76.97	77.05	77.12
35	76.89	76.97	77.05	77.13	77.20	77.28	77.36	77.44	77.52	77.59	77.67	77.75	77.83	77.90	77.98
34 3/4	77.74	77.82	77.89	77.97	78.05	78.13	78.21	78.29	78.37	78.45	78.52	78.60	78.68	78.76	78.84
34 1/2	78.58	78.66	78.74	78.82	78.90	78.98	79.06	79.14	79.22	79.30	79.38	79.46	79.54	79.61	79.69
34 1/4	79.43	79.51	79.59	79.67	79.75	79.83	79.91	79.99	80.07	80.15	80.23	80.31	80.39	80.47	80.55
34	80.27	80.35	80.43	80.52	80.60	80.68	80.76	80.84	80.92	81.00	81.08	81.17	81.25	81.33	81.41
33 3/4	81.12	81.20	81.28	81.36	81.45	81.53	81.61	81.69	81.77	81.86	81.94	82.02	82.10	82.18	82.26
33 1/2	81.96	82.04	82.13	82.21	82.29	82.38	82.46	82.54	82.63	82.71	82.79	82.87	82.96	83.04	83.12

STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

310 East Abriendo, Suite B
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Corrected Copy

September 2, 1998



Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

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

RE: Notice of Delivery to the Offset Account in John Martin Reservoir

Dear Mr. Pope:

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 a delivery of water to the Offset Account. This letter provides the monthly reporting of deliveries to the Offset Account from the Lower Arkansas Water Management Association (LAWMA) shares of the Highland Irrigation Company using the procedures described in my letter of August 10, 1998 which provided the initial notice of the delivery of water from this replacement source for the current year. This report provides the information for the month of August, 1998.

Enclosure 1 contains the accounting spreadsheet for the month of August, 1998. The format of this spreadsheet is provided and described in my letter of August 25, 1997. Enclosure 2 contains the accounting sheet for the Offset Account for August which reflects the delivery of the quantities reported in Enclosure 1 to the appropriate subaccounts of the Offset Account.

The following table summarizes the delivery of water into the Offset Account during the reporting period. As stated in my August 25, 1997 letter, the return flow water is being stored in the Offset Account for delivery to conservation storage in John Martin Reservoir during the months of December (1998) and January (1999).

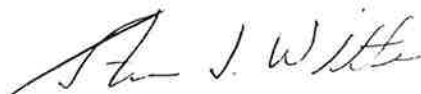
MONTH	C. U. Water (ac-ft)	Return Flow (ac-ft)
August	1285.6	57.79

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

David L. Pope
September 2, 1997

Page 2

Sincerely,

A handwritten signature in black ink that reads "Steven J. Witte". The signature is written in a cursive style with a large, sweeping initial "S".

Steven J. Witte
Division Engineer
Colorado Division of Water Resources

2 Enclosures

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Accounting Spreadsheet
Deliveries from Highland Canal to Offset Account
Month-August,1998

Day	Mode (1 or 2)	Diversion at 5 ft Flume (cfs)	Wasteway #3 Flow Rate (cfs)	Transit Loss to JMR (%)	Arrival Rate at JMR (cfs)	Arrival Quantity at JMR (ac-ft)	Amount to CU Water Account (ac-ft)	Amount to Return Flow Acct (ac-ft)
1	2	34.00	30.60	0.022341	29.92	59.35	40.95	1.84
2	2	53.00	47.70	0.022126	46.64	92.51	63.83	2.87
3	2	57.50	51.80	0.035748	49.95	99.08	68.36	3.07
4	2	45.00	40.50	0.035748	39.05	77.46	53.44	2.40
5	2	10.00	9.00	0.040812	8.63	17.12	11.81	0.53
6	2	20.00	18.00	0.023812	17.57	34.85	24.05	1.08
7	2	60.00	54.00	0.029200	52.42	103.98	71.74	3.22
8	2	60.00	54.00	0.036198	52.05	103.24	71.24	3.20
9	2	63.75	57.40	0.041583	55.01	109.11	75.29	3.38
10	2	52.50	47.20	0.047297	44.95	89.16	61.52	2.76
11	2	42.40	38.20	0.046278	36.43	72.26	49.86	2.24
12	2	43.20	38.90	0.049090	36.99	73.37	50.62	2.27
13	1	53.60	46.40	0.049090	44.12	87.51	60.38	2.71
14	2	62.00	55.80	0.039162	53.59	106.30	73.34	3.30
15	2	58.40	52.60	0.045224	50.22	99.61	68.73	3.09
16	2	46.10	41.49	0.050365	39.40	78.15	53.92	2.42
17	2	31.80	28.60	0.052827	27.09	53.73	37.08	1.67
18	2	23.00	20.70	0.053335	19.60	38.88	26.82	1.21
19	1	18.40	15.86	0.050662	15.06	29.87	20.61	0.93
20	1	18.30	13.67	0.056620	12.90	25.59	17.66	0.79
21	1	24.70	20.10	0.056088	18.97	37.63	25.96	1.17
22	1	24.40	18.36	0.056088	17.33	34.37	23.72	1.10
23	2	26.25	23.62	0.062198	22.15	43.93	30.31	1.36
24	2	26.70	24.03	0.062198	22.39	44.41	30.64	1.38
25	2	19.25	17.32	0.062198	16.24	32.21	22.23	1.00
26	2	18.80	16.92	0.055159	15.99	31.72	21.88	0.98
27	2	22.80	20.52	0.055159	19.39	38.46	26.54	1.19
28	1	36.60	25.24	0.056571	23.81	47.23	32.59	1.46
29	1	36.20	25.26	0.052815	23.93	47.47	32.75	1.47
30	1	23.20	16.60	0.061884	15.57	30.88	21.31	0.96
31	1	23.15	12.89	0.069056	12.00	23.80	16.42	0.74
Note: diversions at flume and wasteway are 24 hr prior to date shown								

Enclosure 1

JG 1998:	OFFSET ACCOUNT				:	OFFSET ACCOUNT				:	RETURN FLOW				PG 1
	CONSUMABLE WATER					CONSUMABLE WATER					RETURN FLOW				
	INFLOW	RELEASE	EVAP	OWN		INFLOW	RELEASE	EVAP	OWN		INFLOW	RELEASE	EVAP	OWN	
42.79	0.00	0.00	0.00	1810.70	40.00	0.00	0.00	1789.50	1.84	0.00	0.00	21.20		
21.33	0.00	0.00	0.00	1852.17	0.00	0.00	0.00	1829.18	0.07	0.00	0.00	21.02			
21.51	0.00	0.00	0.00	1917.75	0.00	0.00	0.00	1895.33	0.87	0.00	0.00	21.77			
22.25	0.00	0.00	0.00	1967.42	0.00	0.00	0.00	1898.58	0.40	0.00	0.00	21.81			
22.25	0.00	0.00	0.00	2004.22	0.00	0.00	0.00	2010.10	0.00	0.00	0.00	21.51			
22.79	0.00	0.00	0.00	2027.77	0.00	0.00	0.00	2044.44	0.08	0.00	0.00	21.77			
22.79	0.00	0.00	0.00	2077.99	0.00	0.00	0.00	2115.55	0.00	0.00	0.00	21.81			
22.44	0.00	0.00	0.00	2151.77	0.00	0.00	0.00	2188.05	0.00	0.00	0.00	22.25			
22.44	0.00	0.00	0.00	2224.22	0.00	0.00	0.00	2244.44	0.00	0.00	0.00	22.79			
22.44	0.00	0.00	0.00	2274.44	0.00	0.00	0.00	2333.33	0.00	0.00	0.00	22.44			
22.44	0.00	0.00	0.00	2333.33	0.00	0.00	0.00	2444.44	0.00	0.00	0.00	22.79			
22.44	0.00	0.00	0.00	2444.44	0.00	0.00	0.00	2555.55	0.00	0.00	0.00	22.79			
22.44	0.00	0.00	0.00	2555.55	0.00	0.00	0.00	2666.66	0.00	0.00	0.00	22.79			
22.79	0.00	0.00	0.00	2666.66	0.00	0.00	0.00	2777.77	0.00	0.00	0.00	22.79			
22.79	0.00	0.00	0.00	2777.77	0.00	0.00	0.00	2888.88	0.00	0.00	0.00	22.79			
TOT	1343.39	0.00	54.10		1285.60	0.00	52.92		57.79	0.00	1.18				

JG 1998:	COLORADO UPSTREAM				:	COLORADO DOWNSTREAM				:	KANSAS				PG 1
	CONSUMABLE WATER					CONSUMABLE WATER					KANSAS				
	INFLOW	RELEASE	EVAP	OWN		INFLOW	RELEASE	EVAP	OWN		INFLOW	RELEASE	EVAP	OWN	
0.00	0.00	0.00	0.00	0.00	40.00	0.00	0.00	0.00	1303.49	0.00	0.00	0.00		
0.00	0.00	0.00	0.00	0.00	68.00	0.00	0.00	0.00	1343.33	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00	1473.33	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	11.77	0.00	0.00	0.00	1533.33	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	71.77	0.00	0.00	0.00	1555.55	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	49.00	0.00	0.00	0.00	1631.77	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	75.00	0.00	0.00	0.00	1701.77	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1837.77	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	1886.00	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	33.00	0.00	0.00	0.00	1995.55	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	2000.00	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	2118.88	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	2244.44	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	33.00	0.00	0.00	0.00	2333.33	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	2444.44	0.00	0.00	0.00			
0.00	0.00	0.00	0.00	0.00	16.42	0.00	0.00	0.00	2555.55	0.00	0.00	0.00			
TOT	0.00	0.00	0.00		1285.60	0.00	42.87		0.00	0.00	0.00				

CONSUMABLE WATER

AUG 1998:	KANSAS STORAGE CHARGE				TOTAL				OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1	0.00	0.00	0.35	486.01	40.95	0.00	1.28	1789.50	
2	0.00	0.00	0.35	485.31	63.83	0.00	1.11	1829.17	
3	0.00	0.00	0.35	485.55	63.83	0.00	1.11	1891.87	
4	0.00	0.00	0.35	484.44	55.68	0.00	1.11	1955.11	
5	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2010.00	
6	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2071.11	
7	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2138.87	
8	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2213.87	
9	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2295.55	
10	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2383.87	
11	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2478.87	
12	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2580.00	
13	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2687.87	
14	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2801.87	
15	0.00	0.00	0.35	484.44	55.68	0.00	1.11	2922.50	
16	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3050.00	
17	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3184.50	
18	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3325.50	
19	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3473.50	
20	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3628.00	
21	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3789.50	
22	0.00	0.00	0.35	484.44	55.68	0.00	1.11	3957.50	
23	0.00	0.00	0.35	484.44	55.68	0.00	1.11	4132.00	
24	0.00	0.00	0.35	484.44	55.68	0.00	1.11	4313.50	
25	0.00	0.00	0.35	484.44	55.68	0.00	1.11	4501.50	
26	0.00	0.00	0.35	484.44	55.68	0.00	1.11	4696.50	
27	0.00	0.00	0.35	484.44	55.68	0.00	1.11	4900.00	
28	0.00	0.00	0.35	484.44	55.68	0.00	1.11	5111.50	
29	0.00	0.00	0.35	484.44	55.68	0.00	1.11	5331.00	
30	0.00	0.00	0.35	484.44	55.68	0.00	1.11	5558.50	
31	0.00	0.00	0.35	484.44	55.68	0.00	1.11	5794.00	
TOT	0.00	0.00	10.05	1285.60	0.00	52.92			

RETURN FLOW

AUG 1998:	INSTA				STATE LINE				TOTAL			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
2	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
3	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
4	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
5	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
6	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
7	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
8	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
9	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
10	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
11	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
12	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
13	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
14	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
15	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
16	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
17	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
18	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
19	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
20	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
21	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
22	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
23	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
24	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
25	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
26	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
27	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
28	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
29	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
30	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
31	0.00	0.00	0.02	21.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	21.20
T	57.79	0.00	1.18	0.00	0.00	0.00	0.00	0.00	57.79	0.00	1.18	0.00

AUG 1998:	UPSTREAM				INSTATE DOWNSTREAM				TOTAL			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	0.00	0.00	0.00	21	0.00	0.00	0.00	0.00	1	0.00	0.00	21
2	0.00	0.00	0.00	23	0.00	0.00	0.00	0.00	84	0.00	0.00	23
3	0.00	0.00	0.00	25	0.00	0.00	0.00	0.00	07	0.00	0.00	25
4	0.00	0.00	0.00	28	0.00	0.00	0.00	0.00	28	0.00	0.00	28
5	0.00	0.00	0.00	31	0.00	0.00	0.00	0.00	40	0.00	0.00	31
6	0.00	0.00	0.00	32	0.00	0.00	0.00	0.00	08	0.00	0.00	32
7	0.00	0.00	0.00	33	0.00	0.00	0.00	0.00	08	0.00	0.00	33
8	0.00	0.00	0.00	36	0.00	0.00	0.00	0.00	20	0.00	0.00	36
9	0.00	0.00	0.00	38	0.00	0.00	0.00	0.00	08	0.00	0.00	38
10	0.00	0.00	0.00	42	0.00	0.00	0.00	0.00	26	0.00	0.00	42
11	0.00	0.00	0.00	44	0.00	0.00	0.00	0.00	24	0.00	0.00	44
12	0.00	0.00	0.00	47	0.00	0.00	0.00	0.00	71	0.00	0.00	47
13	0.00	0.00	0.00	50	0.00	0.00	0.00	0.00	00	0.00	0.00	50
14	0.00	0.00	0.00	52	0.00	0.00	0.00	0.00	71	0.00	0.00	52
15	0.00	0.00	0.00	55	0.00	0.00	0.00	0.00	00	0.00	0.00	55
16	0.00	0.00	0.00	58	0.00	0.00	0.00	0.00	42	0.00	0.00	58
17	0.00	0.00	0.00	61	0.00	0.00	0.00	0.00	77	0.00	0.00	61
18	0.00	0.00	0.00	62	0.00	0.00	0.00	0.00	33	0.00	0.00	62
19	0.00	0.00	0.00	64	0.00	0.00	0.00	0.00	11	0.00	0.00	64
20	0.00	0.00	0.00	65	0.00	0.00	0.00	0.00	00	0.00	0.00	65
21	0.00	0.00	0.00	67	0.00	0.00	0.00	0.00	79	0.00	0.00	67
22	0.00	0.00	0.00	69	0.00	0.00	0.00	0.00	00	0.00	0.00	69
23	0.00	0.00	0.00	70	0.00	0.00	0.00	0.00	00	0.00	0.00	70
24	0.00	0.00	0.00	72	0.00	0.00	0.00	0.00	98	0.00	0.00	72
25	0.00	0.00	0.00	73	0.00	0.00	0.00	0.00	00	0.00	0.00	73
26	0.00	0.00	0.00	74	0.00	0.00	0.00	0.00	16	0.00	0.00	74
27	0.00	0.00	0.00	76	0.00	0.00	0.00	0.00	47	0.00	0.00	76
28	0.00	0.00	0.00	77	0.00	0.00	0.00	0.00	26	0.00	0.00	77
29	0.00	0.00	0.00	77	0.00	0.00	0.00	0.00	74	0.00	0.00	77
TOT	57.79	0.00	1.18		0.00	0.00	0.00		57.79	0.00	1.18	

AUG 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN

Date

STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

310 East Abriendo, Suite B
Pueblo, CO 81004
Phone (719) 542-3368
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October 15, 1998

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

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

RE: Notice of Delivery to the Offset Account in John Martin Reservoir

Dear Mr. Pope:

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 a delivery of water to the Offset Account. This letter provides the monthly reporting of deliveries to the Offset Account from the Lower Arkansas Water Management Association (LAWMA) shares of the Highland Irrigation Company using the procedures described in my letter of August 10, 1998 which provided the initial notice of the delivery of water from this replacement source for the current year. This report provides the information for the month of September, 1998.

Enclosure 1 contains the accounting spreadsheet for the month of September, 1998. The format of this spreadsheet is provided and described in my letter of August 25, 1997. Enclosure 2 contains the accounting sheet for the Offset Account for September which reflects the delivery of the quantities reported in Enclosure 1 to the appropriate subaccounts of the Offset Account.

The following table summarizes the delivery of water into the Offset Account during the reporting period. As stated in my August 25, 1997 letter, the return flow water is being stored in the Offset Account for delivery to conservation storage in John Martin Reservoir during the months of December (1998) and January (1999).

MONTH	C. U. Water (ac-ft)	Return Flow (ac-ft)
September	536.91	24.14

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

David L. Pope
October 15, 1998

Page 2

Sincerely,

A handwritten signature in cursive script, appearing to read "Steven J. Witte".

Steven J. Witte
Division Engineer
Colorado Division of Water Resources

2 Enclosures

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Accounting Spreadsheet
Deliveries from Highland Canal to Offset Account
Month-September 1998

Day	Mode (1 or 2)	Diversion at 5 ft Flume (cfs)	Wasteway #3 Flow Rate (cfs)	Transit Loss to JMR (%)	Arrival Rate at JMR (cfs)	Arrival Quantity at JMR (ac-ft)	Amount to CU Water Account (ac-ft)	Amount to Return Flow Acct (ac-ft)
1	2	28.60	25.70	0.059278	24.16	47.92	33.07	1.49
2	2	22.05	19.84	0.060303	18.64	36.97	25.51	1.15
3	2	30.30	27.27	0.063185	25.55	50.68	34.97	1.57
4	2	59.60	53.64	0.046660	51.14	101.14	69.99	3.14
5	2	42.90	35.11	0.046660	33.47	66.39	45.81	2.06
6	2	27.10	21.79	0.061595	20.45	40.56	27.99	1.26
7	2	21.80	17.32	0.067330	16.15	32.03	22.10	0.99
8	2	21.30	18.40	0.067330	17.16	34.04	23.49	1.06
9	2	20.55	18.50	0.067330	17.26	34.24	23.62	1.06
10	2	17.55	15.80	0.067330	14.74	29.24	20.17	0.91
11	2	18.75	16.88	0.072811	15.65	31.04	21.42	0.96
12	2	16.75	15.08	0.072811	13.98	27.73	19.13	0.86
13	2	17.65	15.88	0.072811	14.72	29.20	20.15	0.91
14	1&2	14.50	13.05	0.072811	12.10	24.00	16.56	0.74
15	1	11.50	4.46	0.079479	4.11	8.15	5.62	0.25
16	1	10.00	0.00	0.000000	0.00	0.00	0.00	0.00
17	1	8.40	0.00	0.000000	0.00	0.00	0.00	0.00
18	1&2	11.35	0.00	0.000000	0.00	0.00	0.00	0.00
19	2	13.30	3.49	0.076248	3.22	6.39	4.41	0.20
20	2	13.35	12.02	0.085691	10.99	21.80	15.04	0.68
21	2	13.80	12.42	0.085346	11.36	22.53	15.55	0.70
22	2	13.35	12.02	0.085691	10.99	21.80	15.04	0.68
23	2	10.95	9.86	0.085422	9.02	17.89	12.34	0.55
24	2	9.75	8.78	0.085422	8.03	15.93	10.99	0.49
25	2	9.90	8.91	0.085422	8.15	16.17	11.15	0.50
26	2	9.85	8.86	0.085422	8.10	16.07	11.09	0.50
27	2	8.20	7.38	0.085422	6.75	13.39	9.24	0.42
28	2	7.40	6.66	0.086342	6.08	12.06	8.32	0.37
29	2	6.65	5.99	0.086342	5.47	10.85	7.49	0.34
30	2	5.90	5.31	0.084586	4.86	9.64	6.65	0.30
31	xx	xx	xx	xx	xx	xx	xx	xx

Note: Diversions at flume and wasteway are 24 hr prior to date shown

Enclosure 1

SEP 1998:	OFFSET ACCOUNT				OFFSET ACCOUNT CONSUMABLE WATER				RETURN FLOW				PG 1
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1	34.56	0.00	0.20	3099.99	33.07	0.00	0.19	1022.18				77.81	
2	26.66	0.00	2.23	3134.35	25.51	0.00	2.17	3055.06	1.49	0.00	0.01	79.29	
3	36.54	0.00	2.45	3158.78	34.97	0.00	2.39	3078.40	1.15	0.00	0.06	80.38	
4	73.13	0.00	2.55	3192.87	69.99	0.00	2.48	3110.98	1.57	0.00	0.06	81.89	
5	47.87	0.00	2.61	3263.45	45.81	0.00	2.54	3178.49	3.14	0.00	0.07	84.96	
6	29.25	0.00	2.64	3308.71	27.99	0.00	2.57	3221.76	2.06	0.00	0.07	86.95	
7	23.09	0.00	2.59	3335.32	22.10	0.00	2.52	3247.18	1.26	0.00	0.07	88.14	
8	24.55	0.00	2.75	3355.82	23.49	0.00	2.52	3266.76	0.99	0.00	0.07	89.06	
9	24.68	0.00	4.15	3377.62	23.62	0.00	2.68	3266.76	1.06	0.00	0.07	90.05	
10	21.08	0.00	3.37	3398.15	20.17	0.00	4.04	3287.57	1.06	0.00	0.11	91.00	
11	22.38	0.00	2.87	3415.86	21.42	0.00	3.28	3307.15	0.91	0.00	0.09	91.82	
12	19.99	0.00	2.89	3435.37	19.13	0.00	2.79	3324.04	0.96	0.00	0.08	92.70	
13	21.06	0.00	2.90	3452.47	20.15	0.00	2.81	3342.67	0.86	0.00	0.08	93.48	
14	17.30	0.00	1.88	3470.63	16.56	0.00	2.82	3376.32	0.91	0.00	0.08	94.31	
15	5.87	0.00	1.36	3486.05	5.62	0.00	1.83	3391.05	0.74	0.00	0.05	95.00	
16	0.00	0.00	2.12	3490.56	0.00	0.00	1.32	3395.35	0.25	0.00	0.04	95.21	
17	0.00	0.00	1.74	3488.44	0.00	0.00	2.06	3393.29	0.00	0.00	0.06	95.15	
18	0.00	0.00	2.27	3486.70	0.00	0.00	1.69	3391.60	0.00	0.00	0.05	95.10	
19	4.61	0.00	2.28	3484.43	4.41	0.00	2.21	3389.39	0.00	0.00	0.06	95.04	
20	15.72	0.00	2.22	3486.76	15.04	0.00	2.22	3391.58	0.20	0.00	0.06	95.18	
21	16.25	0.00	1.53	3500.26	15.55	0.00	2.16	3404.46	0.68	0.00	0.06	95.80	
22	15.72	0.00	0.93	3514.98	15.04	0.00	1.49	3418.52	0.70	0.00	0.04	96.46	
23	12.89	0.00	1.17	3529.77	12.34	0.00	0.90	3432.66	0.68	0.00	0.03	97.11	
24	11.48	0.00	1.81	3541.49	10.99	0.00	1.14	3443.86	0.55	0.00	0.03	97.63	
25	11.65	0.00	2.68	3551.16	11.15	0.00	1.76	3453.09	0.49	0.00	0.05	98.07	
26	11.59	0.00	2.69	3560.13	11.09	0.00	2.61	3461.63	0.50	0.00	0.07	98.50	
27	9.66	0.00	2.62	3569.03	9.24	0.00	2.62	3470.10	0.50	0.00	0.07	98.93	
28	8.69	0.00	1.91	3576.07	8.32	0.00	2.55	3476.79	0.42	0.00	0.07	99.28	
29	7.83	0.00	2.48	3582.85	7.49	0.00	1.86	3483.25	0.37	0.00	0.05	99.60	
30	6.95	0.00	2.57	3588.20	6.65	0.00	2.41	3488.33	0.34	0.00	0.07	99.87	
TOT	561.05	0.00	68.46	3592.58	536.91	0.00	66.61	3492.48	24.14	0.00	1.85	100.10	

SEP 1998:	COLORADO UPSTREAM				CONSUMABLE WATER COLORADO DOWNSTREAM				KANSAS				PG 1
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	
1	0.00	0.00	0.00	0.00	33.07	0.00	0.16	2546.22				0.00	
2	0.00	0.00	0.00	0.00	25.51	0.00	1.83	2579.13	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	34.97	0.00	2.02	2602.81	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	69.99	0.00	2.10	2635.76	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	45.81	0.00	2.16	2703.65	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	27.99	0.00	2.19	2747.30	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	22.10	0.00	2.15	2773.10	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	23.49	0.00	2.29	2793.05	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	23.62	0.00	3.46	2814.25	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	20.17	0.00	2.81	2834.41	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	21.42	0.00	2.39	2851.77	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	19.13	0.00	2.41	2870.80	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	20.15	0.00	2.42	2887.52	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	16.56	0.00	1.57	2905.25	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	5.62	0.00	1.14	2920.24	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	0.00	1.77	2924.72	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.00	0.00	1.46	2922.95	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.00	0.00	1.90	2921.49	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	4.41	0.00	1.91	2919.59	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	15.04	0.00	1.86	2922.09	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	15.55	0.00	1.28	2935.27	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	15.04	0.00	0.78	2949.54	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	12.34	0.00	0.98	2963.80	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	10.99	0.00	1.52	2975.16	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	11.15	0.00	2.26	2984.63	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.00	11.09	0.00	2.27	2993.52	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.00	9.24	0.00	2.21	3002.34	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.00	8.32	0.00	1.61	3009.37	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	7.49	0.00	2.09	3016.08	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	6.65	0.00	2.17	3021.48	0.00	0.00	0.00	0.00	
TOT	0.00	0.00	0.00		536.91	0.00	57.17	3025.96	0.00	0.00	0.00		

Enclosure 2

CONSUMABLE WATER

SEP 1998:	KANSAS STORAGE CHARGE				TOTAL				OWN	INFLOW	RELEASE	EVAP	OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN					
1	0.00	0.00	0.03	475.96				3022.18					
2	0.00	0.00	0.34	475.93	33.07	0.00	0.19	3055.06					
3	0.00	0.00	0.37	475.59	25.51	0.00	2.17	3078.40					
4	0.00	0.00	0.38	474.84	34.97	0.00	2.39	3110.98					
5	0.00	0.00	0.38	474.46	69.99	0.00	2.48	3178.49					
6	0.00	0.00	0.38	474.08	45.81	0.00	2.54	3221.76					
7	0.00	0.00	0.37	473.71	27.99	0.00	2.57	3247.18					
8	0.00	0.00	0.39	473.32	22.10	0.00	2.52	3266.76					
9	0.00	0.00	0.58	472.74	23.49	0.00	2.68	3287.57					
10	0.00	0.00	0.47	472.27	23.62	0.00	4.04	3307.15					
11	0.00	0.00	0.40	471.87	20.17	0.00	3.28	3324.04					
12	0.00	0.00	0.40	471.47	21.42	0.00	2.79	3342.67					
13	0.00	0.00	0.40	471.07	19.13	0.00	2.81	3358.99					
14	0.00	0.00	0.26	470.81	20.15	0.00	2.82	3376.32					
15	0.00	0.00	0.18	470.63	16.56	0.00	1.83	3391.05					
16	0.00	0.00	0.29	470.34	5.62	0.00	1.32	3395.35					
17	0.00	0.00	0.23	470.11	0.00	0.00	2.06	3393.29					
18	0.00	0.00	0.31	469.80	0.00	0.00	1.69	3391.60					
19	0.00	0.00	0.31	469.49	0.00	0.00	2.21	3389.39					
20	0.00	0.00	0.30	469.19	4.41	0.00	2.22	3391.58					
21	0.00	0.00	0.21	468.98	15.04	0.00	2.16	3404.46					
22	0.00	0.00	0.12	468.86	15.55	0.00	1.49	3418.52					
23	0.00	0.00	0.16	468.70	15.04	0.00	0.90	3432.66					
24	0.00	0.00	0.24	468.46	12.34	0.00	1.14	3443.86					
25	0.00	0.00	0.35	468.11	10.99	0.00	1.76	3453.09					
26	0.00	0.00	0.35	467.76	11.15	0.00	2.61	3461.63					
27	0.00	0.00	0.34	467.42	11.09	0.00	2.62	3470.10					
28	0.00	0.00	0.25	467.17	9.24	0.00	2.55	3476.79					
29	0.00	0.00	0.32	466.85	8.32	0.00	1.86	3483.25					
30	0.00	0.00	0.33	466.52	7.49	0.00	2.41	3488.33					
TOT	0.00	0.00	9.44		536.91	0.00	66.61	3492.48					

RETURN FLOW

SEP 1998:	INSTATE				STATE LINE				TOTAL			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	1.49	0.00	0.01	77.81				0.00				77.81
2	1.15	0.00	0.06	79.29	0.00	0.00	0.00	0.00	1.49	0.00	0.01	79.29
3	1.57	0.00	0.06	80.38	0.00	0.00	0.00	0.00	1.15	0.00	0.06	80.38
4	3.14	0.00	0.07	81.89	0.00	0.00	0.00	0.00	1.57	0.00	0.06	81.89
5	2.06	0.00	0.07	84.96	0.00	0.00	0.00	0.00	3.14	0.00	0.07	84.96
6	1.26	0.00	0.07	86.95	0.00	0.00	0.00	0.00	2.06	0.00	0.07	86.95
7	0.99	0.00	0.07	88.14	0.00	0.00	0.00	0.00	1.26	0.00	0.07	88.14
8	1.06	0.00	0.07	89.06	0.00	0.00	0.00	0.00	0.99	0.00	0.07	89.06
9	1.06	0.00	0.11	90.05	0.00	0.00	0.00	0.00	1.06	0.00	0.07	90.05
10	0.91	0.00	0.09	91.00	0.00	0.00	0.00	0.00	1.06	0.00	0.11	91.00
11	0.96	0.00	0.08	91.82	0.00	0.00	0.00	0.00	0.91	0.00	0.09	91.82
12	0.86	0.00	0.08	92.70	0.00	0.00	0.00	0.00	0.96	0.00	0.08	92.70
13	0.91	0.00	0.08	93.48	0.00	0.00	0.00	0.00	0.86	0.00	0.08	93.48
14	0.74	0.00	0.05	94.31	0.00	0.00	0.00	0.00	0.91	0.00	0.08	94.31
15	0.25	0.00	0.04	95.00	0.00	0.00	0.00	0.00	0.74	0.00	0.05	95.00
16	0.00	0.00	0.06	95.21	0.00	0.00	0.00	0.00	0.25	0.00	0.04	95.21
17	0.00	0.00	0.05	95.15	0.00	0.00	0.00	0.00	0.00	0.00	0.06	95.15
18	0.00	0.00	0.06	95.10	0.00	0.00	0.00	0.00	0.00	0.00	0.05	95.10
19	0.20	0.00	0.06	95.04	0.00	0.00	0.00	0.00	0.00	0.00	0.06	95.04
20	0.68	0.00	0.06	95.18	0.00	0.00	0.00	0.00	0.20	0.00	0.06	95.18
21	0.70	0.00	0.04	95.80	0.00	0.00	0.00	0.00	0.68	0.00	0.06	95.80
22	0.68	0.00	0.03	96.46	0.00	0.00	0.00	0.00	0.70	0.00	0.04	96.46
23	0.55	0.00	0.03	97.11	0.00	0.00	0.00	0.00	0.68	0.00	0.03	97.11
24	0.49	0.00	0.05	97.63	0.00	0.00	0.00	0.00	0.55	0.00	0.03	97.63
25	0.50	0.00	0.07	98.07	0.00	0.00	0.00	0.00	0.49	0.00	0.05	98.07
26	0.50	0.00	0.07	98.50	0.00	0.00	0.00	0.00	0.50	0.00	0.07	98.50
27	0.42	0.00	0.07	98.93	0.00	0.00	0.00	0.00	0.50	0.00	0.07	98.93
28	0.37	0.00	0.05	99.28	0.00	0.00	0.00	0.00	0.42	0.00	0.07	99.28
29	0.34	0.00	0.07	99.60	0.00	0.00	0.00	0.00	0.37	0.00	0.05	99.60
30	0.30	0.00	0.07	99.87	0.00	0.00	0.00	0.00	0.34	0.00	0.07	99.87
TOT	24.14	0.00	1.85	100.10	0.00	0.00	0.00	0.00	24.14	0.00	1.85	100.10

Enclosure 2 (Continued)

INSTATE

SEP 1998:	UPSTREAM				DOWNSTREAM				TOTAL			
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	1.49	0.00	0.01	77.81	0.00	0.00	0.00	0.00	1.49	0.00	0.01	77.81
2	1.15	0.00	0.06	79.29	0.00	0.00	0.00	0.00	1.15	0.00	0.06	79.29
3	1.57	0.00	0.06	80.38	0.00	0.00	0.00	0.00	1.57	0.00	0.06	80.38
4	3.14	0.00	0.07	81.89	0.00	0.00	0.00	0.00	3.14	0.00	0.07	81.89
5	2.06	0.00	0.07	84.96	0.00	0.00	0.00	0.00	2.06	0.00	0.07	84.96
6	1.26	0.00	0.07	86.95	0.00	0.00	0.00	0.00	1.26	0.00	0.07	86.95
7	0.99	0.00	0.07	88.14	0.00	0.00	0.00	0.00	0.99	0.00	0.07	88.14
8	1.06	0.00	0.07	89.06	0.00	0.00	0.00	0.00	1.06	0.00	0.07	89.06
9	1.06	0.00	0.11	90.05	0.00	0.00	0.00	0.00	1.06	0.00	0.11	90.05
10	0.91	0.00	0.09	91.82	0.00	0.00	0.00	0.00	0.91	0.00	0.09	91.82
11	0.96	0.00	0.08	92.70	0.00	0.00	0.00	0.00	0.96	0.00	0.08	92.70
12	0.86	0.00	0.08	93.48	0.00	0.00	0.00	0.00	0.86	0.00	0.08	93.48
13	0.91	0.00	0.08	94.31	0.00	0.00	0.00	0.00	0.91	0.00	0.08	94.31
14	0.74	0.00	0.05	95.00	0.00	0.00	0.00	0.00	0.74	0.00	0.05	95.00
15	0.25	0.00	0.04	95.21	0.00	0.00	0.00	0.00	0.25	0.00	0.04	95.21
16	0.00	0.00	0.06	95.15	0.00	0.00	0.00	0.00	0.00	0.00	0.06	95.15
17	0.00	0.00	0.05	95.10	0.00	0.00	0.00	0.00	0.00	0.00	0.05	95.10
18	0.00	0.00	0.06	95.04	0.00	0.00	0.00	0.00	0.00	0.00	0.06	95.04
19	0.20	0.00	0.06	95.18	0.00	0.00	0.00	0.00	0.20	0.00	0.06	95.18
20	0.68	0.00	0.06	95.80	0.00	0.00	0.00	0.00	0.68	0.00	0.06	95.80
21	0.70	0.00	0.04	96.46	0.00	0.00	0.00	0.00	0.70	0.00	0.04	96.46
22	0.68	0.00	0.03	97.11	0.00	0.00	0.00	0.00	0.68	0.00	0.03	97.11
23	0.55	0.00	0.03	97.63	0.00	0.00	0.00	0.00	0.55	0.00	0.03	97.63
24	0.49	0.00	0.05	98.07	0.00	0.00	0.00	0.00	0.49	0.00	0.05	98.07
25	0.50	0.00	0.07	98.50	0.00	0.00	0.00	0.00	0.50	0.00	0.07	98.50
26	0.50	0.00	0.07	98.93	0.00	0.00	0.00	0.00	0.50	0.00	0.07	98.93
27	0.42	0.00	0.07	99.28	0.00	0.00	0.00	0.00	0.42	0.00	0.07	99.28
28	0.37	0.00	0.05	99.60	0.00	0.00	0.00	0.00	0.37	0.00	0.05	99.60
29	0.34	0.00	0.07	99.87	0.00	0.00	0.00	0.00	0.34	0.00	0.07	99.87
30	0.30	0.00	0.07	100.10	0.00	0.00	0.00	0.00	0.30	0.00	0.07	100.10
TOT :	24.14	0.00	1.85		0.00	0.00	0.00		24.14	0.00	1.85	

SEP 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
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17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
TOT :												

Enclosure 2 (Continued)

STATE OF COLORADO

WATER DIVISION 2
OFFICE OF THE STATE ENGINEER310 East Abriendo, Suite B
Pueblo, CO 81004
Phone (719) 542-3368
FAX (719) 544-0800

November 12, 1998

Roy Romer
GovernorJames S. Lochhead
Executive DirectorHal D. Simpson
State EngineerSteven J. Witte, P.E.
Division EngineerDavid L. Pope
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283

RE: Notice of Delivery to the Offset Account in John Martin Reservoir

Dear Mr. Pope:

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 a delivery of water to the Offset Account. This letter provides the monthly reporting of deliveries to the Offset Account from the Lower Arkansas Water Management Association (LAWMA) shares of the Highland Irrigation Company using the procedures described in my letter of August 10, 1998 which provided the initial notice of the delivery of water from this replacement source for the current year. This report provides the information for the month of October, 1998.

Enclosure 1 contains the accounting spreadsheet for the month of October, 1998. The format of this spreadsheet is provided and described in my letter of August 25, 1997. Enclosure 2 contains the accounting sheet for the Offset Account for October which reflects the delivery of the quantities reported in Enclosure 1 to the appropriate subaccounts of the Offset Account.

The following table summarizes the delivery of water into the Offset Account during the reporting period. As stated in my August 25, 1997 letter, the return flow water is being stored in the Offset Account for delivery to conservation storage in John Martin Reservoir during the months of December (1998) and January (1999).

MONTH	C. U. Water (ac-ft)	Return Flow (ac-ft)
October	1251.71	56.24

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

David L. Pope
November 12, 1998

Page 2

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

2 Enclosures

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Accounting Spreadsheet
Deliveries from Highland Canal to Offset Account
Month-October 1998

Day	Mode (1 or 2)	Diversion at 5 ft Flume (cfs)	Wasteway #3 Flow Rate (cfs)	Transit Loss to JMR (%)	Arrival Rate at JMR (cfs)	Arrival Quantity at JMR (ac-ft)	Amount to CU Water Account (ac-ft)	Amount to Return Flow Acct (ac-ft)
1	2	5.25	4.72	0.084586	4.32	8.57	5.91	0.27
2	2	3.05	2.74	0.083770	2.51	4.98	3.44	0.15
3	2	33.00	29.70	0.020210	29.10	57.72	39.83	1.79
4	2	56.50	50.85	0.043838	48.62	96.44	66.54	2.99
5	2	53.60	48.24	0.044857	46.08	91.40	63.07	2.83
6	2	56.60	50.94	0.045864	48.60	96.40	66.51	2.99
7	2	60.80	54.72	0.049820	51.99	103.12	71.15	3.20
8	2	52.80	47.52	0.049820	45.15	89.56	61.79	2.78
9	2	61.95	55.76	0.054392	52.73	104.59	72.17	3.24
10	2	56.80	51.12	0.054392	48.34	95.88	66.16	2.97
11	2	55.15	49.64	0.054392	46.94	93.11	64.24	2.89
12	2	46.90	42.21	0.054392	39.91	79.16	54.62	2.45
13	2	37.90	34.11	0.060649	32.04	63.55	43.85	1.97
14	2	33.35	30.02	0.060649	28.20	55.93	41.09	1.85
15	2	32.95	29.66	0.060649	27.71	54.96	37.92	1.70
16	2	28.15	25.34	0.067574	23.63	46.87	32.34	1.45
17	2	28.25	26.32	0.067574	24.54	48.68	33.59	1.51
18	2	27.40	24.66	0.068224	22.98	45.58	31.45	1.41
19	2	25.70	23.13	0.069794	21.52	42.68	29.45	1.32
20	2	24.35	21.92	0.070397	20.38	40.42	27.89	1.25
21	2	23.65	21.28	0.070397	19.78	39.23	27.07	1.22
22	2	25.00	22.50	0.070397	20.92	41.49	28.63	1.29
23	2	28.10	25.29	0.069727	23.53	46.67	32.20	1.45
24	2	28.70	25.83	0.069727	24.03	47.66	32.89	1.48
25	2	26.40	23.76	0.070392	22.09	43.82	30.23	1.36
26	2	25.20	22.68	0.099757	21.10	41.85	28.88	1.30
27	2	24.85	22.36	0.069757	20.80	41.26	28.47	1.28
28	2	25.85	23.26	0.069757	21.64	42.92	29.62	1.33
29	2	26.20	23.58	0.065060	22.05	43.74	30.18	1.36
30	2	27.40	24.66	0.067137	23.00	45.62	31.48	1.41
31	2	33.95	30.56	0.066500	28.53	56.59	39.05	1.75
Note: Diversions at flume and wasteway are 24 hr prior to date shown								

Enclosure 1

CONSUMABLE WATER

KANSAS STORAGE CHARGE				TOTAL								
OCT 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				466.52				3492.48				
1	0.00	0.00	0.06	466.46	5.91	0.00	0.48	3497.91				
2	0.00	0.00	0.27	466.19	3.44	0.00	2.04	3499.31				
3	0.00	0.00	0.27	465.92	39.83	0.00	2.02	3537.12				
4	0.00	0.00	0.27	465.65	66.54	0.00	2.04	3601.62				
5	0.00	0.00	0.11	465.54	63.07	0.00	0.87	3663.82				
6	0.00	0.00	0.13	465.41	66.51	0.00	1.06	3729.27				
7	0.00	0.00	0.19	465.22	71.15	0.00	1.49	3798.93				
8	0.00	0.00	0.27	464.95	61.79	0.00	2.19	3858.53				
9	0.00	0.00	0.30	464.65	72.17	0.00	2.48	3928.22				
10	0.00	0.00	0.30	464.35	66.16	0.00	2.53	3991.85				
11	0.00	0.00	0.29	464.06	64.24	0.00	2.48	4053.61				
12	0.00	0.00	0.29	463.77	54.62	0.00	2.52	4105.71				
13	0.00	0.00	0.14	463.63	43.85	0.00	1.27	4148.29				
14	0.00	0.00	0.25	463.38	41.09	0.00	2.22	4187.16				
15	0.00	0.00	0.40	462.98	37.92	0.00	3.65	4221.43				
16	0.00	0.00	0.26	462.72	32.34	0.00	2.37	4251.40				
17	0.00	0.00	0.25	462.47	33.59	0.00	2.28	4282.71				
18	0.00	0.00	0.25	462.22	31.45	0.00	2.30	4311.86				
19	0.00	0.00	0.09	462.13	29.45	0.00	0.86	4340.45				
20	0.00	0.00	0.09	462.04	27.89	0.00	0.87	4367.47				
21	0.00	0.00	0.12	461.92	27.07	0.00	1.18	4393.36				
22	0.00	0.00	0.24	461.68	28.63	0.00	2.28	4419.71				
23	0.00	0.00	0.12	461.56	32.20	0.00	1.18	4450.73				
24	0.00	0.00	0.12	461.44	32.89	0.00	1.19	4482.43				
25	0.00	0.00	0.11	461.33	30.23	0.00	1.11	4511.55				
26	0.00	0.00	0.14	461.19	28.88	0.00	1.41	4539.02				
27	0.00	0.00	0.18	461.01	28.47	0.00	1.74	4565.75				
28	0.00	0.00	0.12	460.89	29.62	0.00	1.23	4594.14				
29	0.00	0.00	0.09	460.80	30.18	0.00	0.93	4623.39				
30	0.00	0.00	0.00	460.80	31.48	0.00	0.00	4654.87				
31	0.00	0.00	0.00	460.80	39.05	0.00	0.00	4693.92				
TOT	0.00	0.00	5.72		1251.71	0.00	50.27					

RETURN FLOW

INSTATE				STATE LINE				TOTAL				
OCT 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
				100.10				0.00				100.10
1	0.27	0.00	0.01	100.36	0.00	0.00	0.00	0.00	0.27	0.00	0.01	100.36
2	0.15	0.00	0.06	100.45	0.00	0.00	0.00	0.00	0.15	0.00	0.06	100.45
3	1.79	0.00	0.06	102.18	0.00	0.00	0.00	0.00	1.79	0.00	0.06	102.18
4	2.99	0.00	0.06	105.11	0.00	0.00	0.00	0.00	2.99	0.00	0.06	105.11
5	2.83	0.00	0.03	107.91	0.00	0.00	0.00	0.00	2.83	0.00	0.03	107.91
6	2.99	0.00	0.03	110.87	0.00	0.00	0.00	0.00	2.99	0.00	0.03	110.87
7	3.20	0.00	0.04	114.03	0.00	0.00	0.00	0.00	3.20	0.00	0.04	114.03
8	2.78	0.00	0.07	116.74	0.00	0.00	0.00	0.00	2.78	0.00	0.07	116.74
9	3.24	0.00	0.08	119.90	0.00	0.00	0.00	0.00	3.24	0.00	0.08	119.90
10	2.97	0.00	0.08	122.79	0.00	0.00	0.00	0.00	2.97	0.00	0.08	122.79
11	2.89	0.00	0.08	125.60	0.00	0.00	0.00	0.00	2.89	0.00	0.08	125.60
12	2.45	0.00	0.08	127.97	0.00	0.00	0.00	0.00	2.45	0.00	0.08	127.97
13	1.97	0.00	0.04	129.90	0.00	0.00	0.00	0.00	1.97	0.00	0.04	129.90
14	1.85	0.00	0.07	131.68	0.00	0.00	0.00	0.00	1.85	0.00	0.07	131.68
15	1.70	0.00	0.11	133.27	0.00	0.00	0.00	0.00	1.70	0.00	0.11	133.27
16	1.45	0.00	0.07	134.65	0.00	0.00	0.00	0.00	1.45	0.00	0.07	134.65
17	1.51	0.00	0.07	136.09	0.00	0.00	0.00	0.00	1.51	0.00	0.07	136.09
18	1.41	0.00	0.07	137.43	0.00	0.00	0.00	0.00	1.41	0.00	0.07	137.43
19	1.32	0.00	0.03	138.72	0.00	0.00	0.00	0.00	1.32	0.00	0.03	138.72
20	1.25	0.00	0.03	139.94	0.00	0.00	0.00	0.00	1.25	0.00	0.03	139.94
21	1.22	0.00	0.04	141.12	0.00	0.00	0.00	0.00	1.22	0.00	0.04	141.12
22	1.29	0.00	0.07	142.34	0.00	0.00	0.00	0.00	1.29	0.00	0.07	142.34
23	1.45	0.00	0.04	143.75	0.00	0.00	0.00	0.00	1.45	0.00	0.04	143.75
24	1.48	0.00	0.04	145.19	0.00	0.00	0.00	0.00	1.48	0.00	0.04	145.19
25	1.36	0.00	0.04	146.51	0.00	0.00	0.00	0.00	1.36	0.00	0.04	146.51
26	1.30	0.00	0.05	147.76	0.00	0.00	0.00	0.00	1.30	0.00	0.05	147.76
27	1.28	0.00	0.06	148.98	0.00	0.00	0.00	0.00	1.28	0.00	0.06	148.98
28	1.33	0.00	0.04	150.27	0.00	0.00	0.00	0.00	1.33	0.00	0.04	150.27
29	1.36	0.00	0.03	151.60	0.00	0.00	0.00	0.00	1.36	0.00	0.03	151.60
30	1.41	0.00	0.00	153.01	0.00	0.00	0.00	0.00	1.41	0.00	0.00	153.01
31	1.75	0.00	0.00	154.76	0.00	0.00	0.00	0.00	1.75	0.00	0.00	154.76
TOT	56.24	0.00	1.58		0.00	0.00	0.00		56.24	0.00	1.58	

Enclosure 2 (Continued)

INSTATE

OCT 1998:	UPSTREAM				DOWNSTREAM				TOTAL			OWN
	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	
1				100.10				0.00				100.10
2	0.27	0.00	0.01	100.36	0.00	0.00	0.00	0.00	0.27	0.00	0.01	100.36
3	0.15	0.00	0.06	100.45	0.00	0.00	0.00	0.00	0.15	0.00	0.06	100.45
4	1.79	0.00	0.06	102.18	0.00	0.00	0.00	0.00	1.79	0.00	0.06	102.18
5	2.99	0.00	0.06	105.11	0.00	0.00	0.00	0.00	2.99	0.00	0.06	105.11
6	2.83	0.00	0.03	107.91	0.00	0.00	0.00	0.00	2.83	0.00	0.03	107.91
7	2.99	0.00	0.03	110.87	0.00	0.00	0.00	0.00	2.99	0.00	0.03	110.87
8	3.20	0.00	0.04	114.03	0.00	0.00	0.00	0.00	3.20	0.00	0.04	114.03
9	2.78	0.00	0.07	116.74	0.00	0.00	0.00	0.00	2.78	0.00	0.07	116.74
10	3.24	0.00	0.08	119.90	0.00	0.00	0.00	0.00	3.24	0.00	0.08	119.90
11	2.97	0.00	0.08	122.79	0.00	0.00	0.00	0.00	2.97	0.00	0.08	122.79
12	2.89	0.00	0.08	125.60	0.00	0.00	0.00	0.00	2.89	0.00	0.08	125.60
13	2.45	0.00	0.08	127.97	0.00	0.00	0.00	0.00	2.45	0.00	0.08	127.97
14	1.97	0.00	0.04	129.90	0.00	0.00	0.00	0.00	1.97	0.00	0.04	129.90
15	1.85	0.00	0.07	131.68	0.00	0.00	0.00	0.00	1.85	0.00	0.07	131.68
16	1.70	0.00	0.11	133.27	0.00	0.00	0.00	0.00	1.70	0.00	0.11	133.27
17	1.45	0.00	0.07	134.65	0.00	0.00	0.00	0.00	1.45	0.00	0.07	134.65
18	1.51	0.00	0.07	136.09	0.00	0.00	0.00	0.00	1.51	0.00	0.07	136.09
19	1.41	0.00	0.07	137.43	0.00	0.00	0.00	0.00	1.41	0.00	0.07	137.43
20	1.32	0.00	0.03	138.72	0.00	0.00	0.00	0.00	1.32	0.00	0.03	138.72
21	1.25	0.00	0.03	139.94	0.00	0.00	0.00	0.00	1.25	0.00	0.03	139.94
22	1.22	0.00	0.04	141.12	0.00	0.00	0.00	0.00	1.22	0.00	0.04	141.12
23	1.29	0.00	0.07	142.34	0.00	0.00	0.00	0.00	1.29	0.00	0.07	142.34
24	1.45	0.00	0.04	143.75	0.00	0.00	0.00	0.00	1.45	0.00	0.04	143.75
25	1.48	0.00	0.04	145.19	0.00	0.00	0.00	0.00	1.48	0.00	0.04	145.19
26	1.36	0.00	0.04	146.51	0.00	0.00	0.00	0.00	1.36	0.00	0.04	146.51
27	1.30	0.00	0.05	147.76	0.00	0.00	0.00	0.00	1.30	0.00	0.05	147.76
28	1.28	0.00	0.06	148.98	0.00	0.00	0.00	0.00	1.28	0.00	0.06	148.98
29	1.33	0.00	0.04	150.27	0.00	0.00	0.00	0.00	1.33	0.00	0.04	150.27
30	1.36	0.00	0.03	151.60	0.00	0.00	0.00	0.00	1.36	0.00	0.03	151.60
31	1.41	0.00	0.00	153.01	0.00	0.00	0.00	0.00	1.41	0.00	0.00	153.01
TOT	1.75	0.00	0.00	154.76	0.00	0.00	0.00	0.00	1.75	0.00	0.00	154.76
TOT	56.24	0.00	1.58		0.00	0.00	0.00		56.24	0.00	1.58	

OCT 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
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25												
26												
27												
28												
29												
30												
31												
TOT												

Enclosure 2 (continued)

SECTION 4

STATE OF COLORADO

WATER DIVISION 2 OFFICE OF THE STATE ENGINEER

310 East Abriendo, Suite B
Pueblo, CO 81004
Phone (719) 542-3368
FAX (719) 544-0800

December 12, 1997



Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

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

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Report of Colorado Pumping and Offset Account Operations by Substitute Water Supply Plans for the Period April 1, 1997 to October 31, 1997

Dear Mr. Pope and Ms. Clay:

The purpose of this letter is to provide a report of the operations of three Substitute Water Supply Plans (SWSP) approved by the Colorado State Engineer which have been required to deliver a portion of their replacement water to the Offset Account created by the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping** dated March 17, 1997 ("Resolution"). This requirement is based on the fact that the depletions caused by the operations covered by these plans are estimated to produce depletions to usable Stateline flow during some months of the year. This letter reports the monthly estimated depletions to usable Stateline flow caused by the operations covered by each plan and accounts for the replacement of these estimated depletions using the credits obtained from the delivery of totally consumable water from the Offset Account to Kansas.

The following table shows the estimated depletions for each of the SWSPs which the Colorado State Engineer has required be replaced using water delivered to the Offset Account.

Month	Brad Cummings Irrigation	Carder, Inc Gravel Pit	Midwestern Farms Gravel Pit
April	14	1.69	0
May	41	2.15	3.756
June	62	2.51	3.945
July	72	1.95	4.083
August	93	1.68	4.393
September	112	1.47	4.948
October	108	1.23	6.147
TOTAL	502	12.68	27.272

Enclosure 1 through Enclosure 3 provide the accounting for each of the SWSPs summarized in the above table. The total depletions from the above table are 541.952 acre-feet. Using the usability factor for the irrigation season, the estimated depletions to usable stateline flow resulting from these depletions are 443.859 acre-feet. The replacement of 443.859 acre-feet in the required reaches of the Arkansas River would require a release of 447.4 acre-feet from the Offset Account. These computations are summarized in the table in Enclosure 4. Applying the remaining credit from previous deliveries of consumable water determined in my December 1, 1997 letter, a portion of the credit of 1154.75 acre-feet of consumable water which was released earlier this year was credited as replacement of these depletions. As a result, the remaining credit from previous releases of consumable water produced a remaining credit at the Stateline of 615.4 acre-feet.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

4 Enclosures

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Tom Pointon
James G. Rogers

Enclosure 1

Water Accounting Form
Brad Cummings - SEO ID Nos. 6705529 & 6705531
Granada, Colorado
Year: 1997

Month (1)	Well ID 6705529				Well ID 6705531			Well Head Depletion Rate (9)	Well Head Depletion (ac-ft) (10)	Stream Depletion (ac-ft) (11)
	Reading (Kwh) (2)	Usage (Kwh) (3)	PCC (Kwh / ac-ft) (4)	Total (ac-ft) (5)	Reading (ac-ft) (6)	Pumpage (ac-ft) (7)	Total Pumpage (ac-ft) (8)			
April		3,991	210	19.00			19.00	100%	19.00	14
May		50,470	210	240.33			240.33	100%	240.33	41
June		15,569	210	74.14	37,784		74.14	100%	74.14	82
July		60,875	345	176.45	65,124	27.40	203.85	100%	203.85	72
August		56,473	345	163.69	161,156	35.97	199.66	100%	199.66	93
September		76,110	345	220.61	111,040	9.88	230.49	100%	230.49	132
October		15,387	345	44.60	114,457	3.45	48.05	100%	48.05	106
November			345	0.00			0.00	100%	0.00	
December			345	0.00			0.00	100%	0.00	
January			345	0.00			0.00	100%	0.00	
February			345	0.00			0.00	100%	0.00	
March			345	0.00			0.00	100%	0.00	
Total				938.82			1,015.53		1,015.53	502

Replacement supply purchased from Colorado Springs and delivered to the Offset Account.

- Col 1: Present month.
- Col 2: The meter reading at the end of the present month.
- Col 3: The total amount of kilowatt hours for the month (Present - Previous month).
- Col 4: This column contains the power consumption coefficient to calculate monthly pumping.
- Col 5: Col 3 / Col 4
- Col 6: Flow meter reading at the end of the present month.
- Col 7: Present month's meter reading - previous month.
- Col 8: Col 5 + Col 7
- Col 9: Well head depletion rate.
- Col 10: Col 8 X Col 9
- Col 11: Calculated from State's accounting model.

Note: Monthly send copies to:

Dale Straw	Bill Howland	Don Higbee	Brad Cummings	Tom Jagers
CDWR	CDWR	LAWMA	24299 Rd 62	4260 Rd MM
PO Box 5728	1640 W. 6th	PO Box 1161	Moffat, CO 81143	Lamar, CO 81052
Pueblo, CO 81002	Las Animas, CO 81054	Lamar, CO 81052		

Water Accounting Form
 CARDER, INC
 J&S GRAVEL PIT
 Lamar, Colorado

Year: 1997

Row	Item	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual Total
1	Evap rate, ac-ft/ac	0.38	0.45	0.60	0.62	0.56	0.44	0.31	0.17	0.13	0.12	0.16	0.22	4.15
2	Pit area, ac	3	3	3	3	3	3	3	3	3	3	3	3	3
3	Evaporation, ac-ft	1.13	1.36	1.80	1.87	1.67	1.31	0.92	0.00	0.00	0.00	0.00	0.00	10.07
4	Aggregate sales, ton	19,325.05	25,422.95	32,418.96	3,524.44	3,205.87	5,477.52	3,816.52	4	4	4	4	4	107,846.11
5	Factor, % by weight	4	4	4	4	4	4	4	4	4	4	4	4	4
6	Moisture Loss in Material, ac-ft	0.57	0.84	0.95	0.26	0.11	0.19	0.25	0.00	0.00	0.00	0.00	0.00	3.18
7	Aggregate washed, ton	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
8	Factor, % by weight	2	2	2	2	2	2	2	2	2	2	2	2	2
9	Moisture Loss in Washing, ac-ft	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
10	Water for Dust Suppression, gal	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
11	Water for Dust Suppression, ac-ft	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
12	Moisture Loss in Material + Moisture Loss in Washing + Water for Dust Suppression, ac-ft	0.57	0.84	0.95	0.26	0.11	0.19	0.25	0.00	0.00	0.00	0.00	0.00	3.18
13	Consumptive Use, ac-ft	1.70	2.19	2.75	2.13	1.78	1.50	1.18	0.00	0.00	0.00	0.00	0.00	13.24
14	Depletion Factor, %	99.2%	98.2%	91.3%	91.5%	94.1%	97.5%	104.3%	113.1%	122.0%	123.7%	114.1%	107.3%	12.68
15	Depletion, ac-ft	1.69	2.15	2.51	1.95	1.68	1.47	1.23	0.00	0.00	0.00	0.00	0.00	12.68
16	Year to Date Depletion, ac-ft	1.69	3.84	6.36	8.31	9.99	11.45	12.68	12.68	12.68	12.68	12.68	12.68	12.68

Replacement Source: Purchased from Colorado Springs and delivered to the Offset Account.

- Row 3: Pond evaporation in acre-feet (Row 1) X (Row 2).
- Row 6: Moisture loss in material in acre-feet ((Row 4) X 2000 X ((Row 5)/100) / 62.4) / 43560
- Row 9: Moisture loss in washing aggregate in acre-feet ((Row 7) X 2000 X ((Row 8)/100) / 62.4) / 43560.
- Row 10: End of month meter readings for water pumped for dust suppression in gallons (Row 10) - (Previous Row 10)
- Row 11: Total gallons pumped for dust suppression in acre-feet (Row 10) / 325851.
- Row 12: Totals water consumed in operations (Row 6) + (Row 9) + (Row 11).
- Row 13: Total consumptive use (Row 3) + (Row 12).
- Row 15: Depletion based on Glover Depletion factors (Row 13) X (Row 14).
- Row 16: Year to date depletions (Row 15) + (Previous Row 16).

Note: Monthly send copies to:

Dale Straw	Dan Neuhold	Don Higbee	Ira Paulin
CDWR	Water Commissioner	LAWMA	Carder, Inc.
PO Box 6728	30240 Co Rd 12	PO Box 1161	PO Box 721
Pueblo, CO 81002	Lamar, CO 81052	Lamar, CO 81052	Lamar, CO 81052

Enclosure 3

Water Accounting Form
HOLLY ROCK GRAVEL PIT
 Holly, Colorado

Year: 1997

Row	Item	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Annual Total
1	Evap rate, ac-ft/ac	0.31	0.54	0.71	0.67	0.55	0.38	0.25	0.16	0.13	0.15	0.19	0.29	
2	Pit area, ac	91	3	81	3	83	9							
3	Evaporation, ac-ft	2.821	4.860	6.461	6.030	4.840	3.420	0.000	0.000	0.000	0.000	0.000	0.000	28.432
4	Sand & Gravel Sales, tons	54,659	62,133	29,925	24,663	24,554	11,636							
5	Factor, % by weight	4	4	4	4	4	4	4	4	4	4	4	4	217,667
6	Moisture Loss, ac-ft	1,903	1,829	0.881	0.726	0.726	0.342	0.000	0.000	0.000	0.000	0.000	0.000	6.407
7	Concrete Production, cy	500	500	500	500	0	0							2,000
8	Concrete Batching, ac-ft	0.055	0.055	0.055	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.220
9	Pump meter, gal	0	0	0	0	0	0							0
10	Total pumped, ac-ft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Moisture Loss + Concrete Batching + Pump, ac-ft	1.958	1.884	0.936	0.781	0.726	0.342	0.000	0.000	0.000	0.000	0.000	0.000	6.627
11	Consumptive Use, ac-ft	4.779	6.744	7.397	6.811	5.566	3.762	0.000	0.000	0.000	0.000	0.000	0.000	35.059
12	Depletion Factor, %	78.6%	58.5%	55.2%	64.5%	88.9%	163.4%	237.7%	259.8%	278.8%	205.2%	154.2%	89.5%	
13	Depletion, ac-ft	3.756	3.945	4.083	4.393	4.948	6.147	0.000	0.000	0.000	0.000	0.000	0.000	27.272
14	Year to Date	3.756	7.701	11.784	16.177	21.125	27.272	27.272	27.272	27.272	27.272	27.272	27.272	
15	Depletion, ac-ft													

Replacement Source: Purchased from Colorado Springs and delivered to the Offset Account.

- Row 3: Pond evaporation in acre-feet (Row 1) X (Row 2).
- Row 6: Moisture loss in material in acre-feet ((Row 4) X 2000 X ((Row 5)/100) / 62.4) / 43560
- Row 8: Water consumed in concrete batching in acre-feet ((Row 7) X 36 / 7.48) / 43560.
- Row 9: End of month meter readings for water pumped for dust suppression in gallons (Row 9) -(Previous Row 9).
- Row 10: Total gallons pumped for dust suppression in acre-feet (Row 9) / 325851.
- Row 11: Totals water consumed in operations (Row 6) + (Row 8) + (Row 10).
- Row 12: Total consumptive use (Row 3) + (Row 11).
- Row 14: Depletion based on Glover Depletion factors (Row 12) X (Row 13).
- Row 15: Year to date depletions (Row 14) + (Previous Row 15).

Note: Monthly send copies to:

Dale Straw	Don Higbee	Bill Howland	Don Higbee	Dwayne Turner
CDWR	LAWMA	CDWR	LAWMA	Holly Rock
PO Box 5728	PO Box 1161	1640 W. 6th	PO Box 1161	31340 US Highway 50
Pueblo, CO 81002	Lamar, CO 81052	Las Animas, CO 81054	Lamar, CO 81052	Holly, CO 81047

**SWSP STATELINE
REPLACEMENTS**

AUGMENTATION PLAN IMPLEMENTATION SPREADSHEET												
USER	CREDIT	R11	R12	R13	R14	R15	R16	R17	R18	R21	CREDIT	SUM
LAWMA SWSPs												
TOTAL DEPLETIONS	0	0	12.68	0	0	0	0	502	27.272	0		
100% OF STATELINE DEPL	0	0	12.68	0	0	0	0	502	27.272	0		541.952
81.9% OF STATELINE DEPL REPLACEMENTS	0	0	10.3849	0	0	0	0	411.138	22.3358	0		443.859
OFFSET ACCOUNT WATER	447.4											447.4
BALANCE FORWARDED	-447.4	-446.81	-435.84	-435.27	-434.7	-434.13	-22.426	-0.0612	-0.0611	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0

STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

P.O. Box 5728
Pueblo, CO 81002
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January 22, 1998

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

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

RE: Monthly Report of Colorado Pumping and Offset Account Operations for November, 1997

Dear Mr. Pope and Ms. Clay:

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** dated March 17, 1997 ("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 November, 1997.

Table 1 shows the amount of pumping during the month of November, 1997 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 is 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was a call by a Colorado surface water right in those three reaches on none of the 30 days during November. Also note that in Reaches 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was a call by a Colorado surface water right in those three reaches on none of the 30 days during November. 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. Note that 663.3 acre-feet of fully consumable water was required from the Offset Account to replace a portion of the depletions to usable Stateline flow which were estimated to occur during November, 1997. Also, a revised accounting of the replacements for estimated depletions to usable Stateline flows which were made during the month of October, 1997 is attached as Table 4. The only changes from the previously provided table for replacements made during October, 1997 are the use of 138.6 acre-feet of Fry-Ark return flows used to replace depletions in Reaches 11 through 14 caused by qualifying wells and the subsequent reduction in the use of Offset Account water from 1084.5 acre-feet to 945.6 acre-feet. Under the provisions of paragraph 2 of the **Stipulation Re Offset Account in John Martin Reservoir** dated March 17, 1997 ("Stipulation"), a portion of the credit of 2239.25 acre-feet of consumable water which was released earlier this year, as directed by the Kansas Chief Engineer, was credited as replacement of these depletions. At the end of November, 1997, the remaining credit from the previous releases of consumable water produced a credit at the Stateine of 159.2 acre-feet.


As of November 30, 1997, 5327.87 acre-feet of water was being stored in the Offset Account, 3519.87 acre-feet of fully consumable water and 1808.00 acre feet of return flow water.

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

Mr. David L. Pope and Ms. Mary Louise Clay
January 22, 1998

Page 3

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

4 Tables

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
November, 1997

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	34	13
2	Booth Orchard	7	5
3	Excelsior	27	18
4	Collier	0	0
5	Colorado	7	4
6	Rocky Ford Highline	26	8
7	Oxford	3	1
8	Otero	0	0
9	Catlin	8	7
10	Fort Lyon Up Stream	29	9
11	Rocky Ford	0	0
12	Holbrook	21	6
13	Las Animas Consolidated	1	1
14	Baldwin-Stubbs	0	0
15	Fort Bent	2	1
16	Keese	69	21
17	Amity	60	29
18	Lamar/Manvel	20	8
19	Hyde	11	5
20	Fort Lyon Down Stream	6	2
21	XY Graham	27	27
22	Buffalo	11	8
23	Sisson	0	0
24	Stateline Sole Source	89	67
600	LAWMA APOD	0	0
601	LAWMA APOD	0	0
602	LAWMA APOD	0	0
	Totals	460	240

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
November, 1997

	15	16	17	18	19	20	21	22	23	24	Total
USER NUMBER	1	21	1	8	5	2	0	8	0	67	113

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
November, 1997

	11	12	13	14	15	16	17	18	21	Sum
REACH NUMBER	24	95	144	141	93	104	246	1236	49	
Remaining Depletion	8.4	33.2	50.3	49.2	32.5	36.3	85.9	431.4	17.1	744.3
Depletion to Usable SL Flow Replacements										
FRY-ARK Return Flows	8	30.4	26.9	20.9						86.2
LAWMA-CO Beef Credit										
LAWMA-Ft Bent Ditch Shrs										
LAWMA-Stubbs Direct Flow										
LAWMA-XY Direct Flow										
LAWMA-Manvel Direct Flow										
Offset Account Water	663.3									663.3
Total Replacements	671.3	30.4	26.9	20.9						749.5

TABLE 4
Revised
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
October, 1997

	REACH NUMBER											Sum
	11	12	13	14	15	16	17	18	21	21	Sum	
Remaining Depletion	10.06	64.63	70.43	174	107	116	304	1575	36			
Depletion to Usable SL Flow	8.2	52.9	57.7	142.5	87.6	95.0	249.0	1289.9	29.5		2012.3	
Replacements												
FRY-ARK Return Flows	7.9	46	28.2	56.5							138.6	
LAWMA-CO Beef Credit				15							15	
LAWMA-Ft Bent Ditch Shrs				142.7							142.7	
LAWMA-Stubbs Direct Flow								56			56	
LAWMA-XY Direct Flow					655.3						655.3	
LAWMA-Manvel Direct Flow					70						70	
Offset Account Water	945.6										945.6	
Total Replacements	953.5	46	28.2	214.2	725.3			56			2023.2	

Revised

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STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

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February 25, 1998

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Topeka, KS 66612-1283

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for December, 1997

Dear Mr. Pope and Ms. Clay:

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** dated March 17, 1997 ("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 December, 1997.

Table 1 shows the amount of pumping during the month of December, 1997 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 is in excess of the pre-Compact entitlements.

Since the out of priority depletions caused by pumping above John Martin Reservoir were fully replaced, and that accounting has been provided to Kansas, and since no depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado needed to be 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 all reaches below John Martin Reservoir replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was no call by a Colorado surface water right in those reaches on any of the 31 days during December. 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. Since the measured Stateline flow during December, 1997 was 36550 acre-feet, no replacement water was made available to Kansas under the provisions of paragraph 5.B. of the Resolution. At the end of December, 1997, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

As of December 31, 1997, 5316.12 acre-feet of water was being stored in the Offset Account, 3512.16 acre-feet of fully consumable water and 1803.96 acre feet of return flow water.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

3 Tables

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
December, 1997

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	11	.6
2	Booth Orchard	0	0
3	Excelsior	4	3
4	Collier	0	0
5	Colorado	4	3
6	Rocky Ford Highline	0	0
7	Oxford	0	0
8	Otero	0	0
9	Catlin	10	10
10	Fort Lyon Up Stream	1	0
11	Rocky Ford	0	0
12	Holbrook	0	0
13	Las Animas Consolidated	0	0
14	Baldwin-Stubbs	0	0
15	Fort Bent	5	1
16	Keese	0	0
17	Amity	64	32
18	Lamar/Manvel	0	0
19	Hyde	14	7
20	Fort Lyon Down Stream	4	1
21	XY Graham	0	0
22	Buffalo	0	0
23	Sisson	0	0
24	Stateline Sole Source	0	0
600	LAWMA APOD	0	0
601	LAWMA APOD	0	0
602	LAWMA APOD	0	0
	Totals	117	63

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STATE OF COLORADO

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March 4, 1998

Roy Romer
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James S. Lochhead
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State Engineer

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David L. Pope
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Topeka, KS 66612-1283

Ms. Mary Louise Clay
Recording Secretary
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As of January 31, 1998, no water was being stored in the Offset Account since the entire contents of the account was spilled from January 14 through January 17. The accounting spreadsheet at Enclosure 1 summarizes the activity of the Offset Account during January, 1998.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

1 Enclosure

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
January, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	3	2
2	Booth Orchard	9	5
3	Excelsior	0	0
4	Collier	0	0
5	Colorado	2	1
6	Rocky Ford Highline	0	0
7	Oxford	16	5
8	Otero	0	0
9	Catlin	8	8
10	Fort Lyon Up Stream	122	42
11	Rocky Ford	0	0
12	Holbrook	4	1
13	Las Animas Consolidated	0	0
14	Baldwin-Stubbs	0	0
15	Fort Bent	4	1
16	Keese	0	0
17	Amity	66	33
18	Lamar/Manvel	1	0
19	Hyde	2	1
20	Fort Lyon Down Stream	3	1
21	XY Graham	0	0
22	Buffalo	0	0
23	Sisson	0	0
24	Stateline Sole Source	8	6
600	LAWMA APOD	0	0
601	LAWMA APOD	0	0
602	LAWMA APOD	0	0
	Totals	248	106

RECEIVED

FEB 20 1998

DIVISION ENGINEER
PUEBLO, COLORADO
OFFSET ACCOUNT

OFFSET ACCOUNT
CONSUMABLE WATER

RETURN FLOW
PG 1

JAN 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
2	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
3	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
4	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
5	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
6	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
7	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
8	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
9	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
10	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
11	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
12	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
13	0.00	0.00	0.00	5316.12	0.00	0.00	0.00	3512.16	0.00	0.00	0.00	1803.96
14	0.00	1044.94	0.00	4271.18	0.00	1044.94	0.00	3512.16	0.00	0.00	0.00	1803.96
15	0.00	2011.43	0.00	2259.75	0.00	2011.43	0.00	2467.22	0.00	0.00	0.00	1803.96
16	0.00	2107.25	0.00	152.50	0.00	455.79	0.00	455.79	0.00	0.00	0.00	1803.96
17	0.00	152.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1651.46	0.00	152.50
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	152.50	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	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	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	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	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	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	0.00
TOT :	0.00	5316.12	0.00		0.00	3512.16	0.00		0.00	1803.96	0.00	

CONSUMABLE WATER
COLORADO DOWNSTREAM

KANSAS
PG 1

JAN 1998:	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN	INFLOW	RELEASE	EVAP	OWN
1	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	957.10	0.00	0.00	0.00	2555.06	0.00	0.00	0.00	0.00
15	0.00	501.31	0.00	455.79	0.00	1044.94	0.00	1510.12	0.00	0.00	0.00	0.00
16	0.00	455.79	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.00
TOT :	0.00	957.10	0.00		0.00	2555.06	0.00		0.00	0.00	0.00	

CONSUMABLE WATER

JAN 1998:	KANSAS STORAGE CHARGE				TOTAL				INFLW	RELEASE	EVAP	OWN
	INFLW	RELEASE	EVAP	OWN	INFLW	RELEASE	EVAP	OWN				
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3512.16				
15	0.00	0.00	0.00	0.00	0.00	1044.94	0.00	3512.16				
16	0.00	0.00	0.00	0.00	0.00	2011.43	0.00	2467.22				
17	0.00	0.00	0.00	0.00	0.00	455.79	0.00	455.79				
18	0.00	0.00	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	0.00	0.00				
20	0.00	0.00	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	0.00	0.00				
22	0.00	0.00	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	0.00	0.00				
24	0.00	0.00	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	0.00	0.00				
26	0.00	0.00	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	0.00	0.00				
28	0.00	0.00	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	0.00	0.00				
30	0.00	0.00	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				
TOT	0.00	0.00	0.00	0.00	0.00	3512.16	0.00					

RETURN FLOW

JAN 1998:	INSTATE				STATE LINE				TOTAL			
	INFLW	RELEASE	EVAP	OWN	INFLW	RELEASE	EVAP	OWN	INFLW	RELEASE	EVAP	OWN
1	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
2	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
3	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
4	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
5	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
6	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
7	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
8	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
9	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
10	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
11	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
12	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
13	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
14	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
15	0.00	0.00	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
16	0.00	1651.46	0.00	1803.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1803.96
17	0.00	152.50	0.00	152.50	0.00	0.00	0.00	0.00	0.00	1651.46	0.00	152.50
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	152.50	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	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	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	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	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	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	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	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	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	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	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	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	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	0.00
TOT	0.00	1803.96	0.00		0.00	0.00	0.00		0.00	1803.96	0.00	

STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

310 East Abriendo, Suite B
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April 17, 1998

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

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

RE: Monthly Report of Colorado Pumping and Offset Account Operations for February, 1998

Dear Mr. Pope and Ms. Clay:

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** dated March 17, 1997 ("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 February, 1998.

Table 1 shows the amount of pumping during the month of February, 1998 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 out of priority depletions caused by pumping above John Martin Reservoir were fully replaced, and that accounting has been provided to Kansas, and since no depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado needed to be 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 all reaches below John Martin Reservoir replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was no call by a Colorado surface water right in those reaches on any of the 28 days during February. 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. Since the measured Stateline flow during February, 1998 was 31370 acre-feet, no replacement water was made available to Kansas under the provisions of paragraph 5.B. of the Resolution. At the end of February, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

As of February 28, 1998, no water was being stored in the Offset Account since the entire contents of the account was spilled from January 14 through January 17, 1998.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
February, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	33	16
2	Booth Orchard	3	2
3	Excelsior	21	16
4	Collier	0	0
5	Colorado	22	11
6	Rocky Ford Highline	5	2
7	Oxford	0	0
8	Otero	1	1
9	Catlin	28	13
10	Fort Lyon Up Stream	15	5
11	Rocky Ford	0	0
12	Holbrook	1	0
13	Las Animas Consolidated	0	0
14	Baldwin-Stubbs	0	0
15	Fort Bent	3	1
16	Keese	0	0
17	Amity	66	33
18	Lamar/Manvel	1	0
19	Hyde	2	1
20	Fort Lyon Down Stream	2	0
21	XY Graham	0	0
22	Buffalo	0	0
23	Sisson	0	0
24	Stateline Sole Source	0	0
600	LAWMA APOD	0	0
601	LAWMA APOD	0	0
602	LAWMA APOD	0	0
	Totals	203	101

Lee

STATE OF COLORADO

**WATER DIVISION 2
OFFICE OF THE STATE ENGINEER**

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April 22, 1998

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

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for March, 1998

Dear Mr. Pope and Ms. Clay:

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** dated March 17, 1997 ("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 March, 1998.

Table 1 shows the amount of pumping during the month of March, 1998 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 out of priority depletions caused by pumping above John Martin Reservoir were fully replaced, and that accounting has been provided to Kansas, and since no depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado needed to be 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-

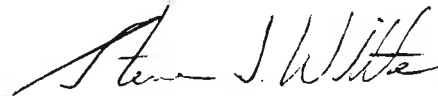
Compact entitlements for those river reaches where no replacements or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 all reaches below John Martin Reservoir replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was no call by a Colorado surface water right in those reaches on any of the 31 days during March. 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. Since the measured Stateline flow during March, 1998 was 42619 acre-feet, no replacement water was made available to Kansas under the provisions of paragraph 5.B. of the Resolution. At the end of March, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

As of March 31, 1998, no water was being stored in the Offset Account since the entire contents of the account was spilled from January 14 through January 17, 1998.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
March, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	232	90
2	Booth Orchard	30	22
3	Excelsior	24	16
4	Collier	0	0
5	Colorado	104	54
6	Rocky Ford Highline	18	8
7	Oxford	6	3
8	Otero	17	5
9	Catlin	34	22
10	Fort Lyon Up Stream	20	7
11	Rocky Ford	10	5
12	Holbrook	14	4
13	Las Animas Consolidated	0	0
14	Baldwin-Stubbs	11	6
15	Fort Bent	2	1
16	Keese	0	0
17	Amity	68	34
18	Lamar/Manvel	1	0
19	Hyde	2	1
20	Fort Lyon Down Stream	0	0
21	XY Graham	2	1
22	Buffalo	0	0
23	Sisson	0	0
24	Stateline Sole Source	153	85
600	LAWMA APOD	0	0
601	LAWMA APOD	0	0
602	LAWMA APOD	0	0
	Totals	748	364

STATE OF COLORADO

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June 12, 1998

Roy Romer
GovernorJames S. Lochhead
Executive DirectorHal D. Simpson
State EngineerSteven J. Witte, P.E.
Division EngineerDavid L. Pope
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for April, 1998

Dear Mr. Pope and Ms. Clay:

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 April, 1998.

Table 1 shows the amount of pumping during the month of April, 1998 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 out of priority depletions caused by pumping above John Martin Reservoir were fully replaced, and that accounting has been provided to Kansas, and since no depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado needed to be 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-

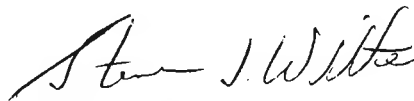
Compact entitlements for those river reaches where no replacements or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 all reaches below John Martin Reservoir replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was no call by a Colorado surface water right in those reaches on any of the 30 days during April. 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. Since the measured Stateline flow during April, 1998 was 59584 acre-feet, 9.9% of the estimated depletions in each reach was replaced in the reach where the depletions occurred. At the end of April, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

As of April 30, 1998, no water was being stored in the Offset Account since the entire contents of the account was spilled from January 14 through January 17, 1998. The 500 acre-feet to be used for the storage charge was being stored in Meredith Reservoir for delivery to the Offset Account on a date to be determined under the provisions of the letter 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

1 Enclosure

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
April, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	129	56
2	Booth Orchard	12	6
3	Excelsior	65	47
4	Collier	0	0
5	Colorado	126	63
6	Rocky Ford Highline	41	15
7	Oxford	41	20
8	Otero	27	8
9	Catlin	428	227
10	Fort Lyon Up Stream	156	52
11	Rocky Ford	79	29
12	Holbrook	35	10
13	Las Animas Consolidated	0	0
14	Baldwin-Stubbs	221	111
15	Fort Bent	4	2
16	Keese	181	54
17	Amity	619	315
18	Lamar/Manvel	72	33
19	Hyde	69	21
20	Fort Lyon Down Stream	110	43
21	XY Graham	88	44
22	Buffalo	3	1
23	Sisson	0	0
24	Stateline Sole Source	340	184
600	LAWMA APOD	601	192
601	LAWMA APOD	0	0
602	LAWMA APOD	4	3
	Totals	3451	1536

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
April, 1998

	USER NUMBER											Total
	15	16	17	18	19	20	21	22	23	24		
1	54	278	33	21	39	21	1	0	184	632		

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
April, 1998

	REACH NUMBER											Sum
	11	12	13	14	15	16	17	18	21	21	21	Sum
Remaining Depletion	13	48	79	84	48	59	123	483	35	972		
Depletion to Usable SL Flow	1.3	4.8	7.8	8.3	4.8	5.8	12.2	47.8	3.5	96.3		
Replacements												
FRY-ARK Return Flows												
LA WMA-CO Beef Credit				78.1								78.1
LA WMA-Ft Bent Ditch Shrs												0
LA WMA-Stubbs Direct Flow								18.4				18.4
LA WMA-XY Direct Flow												0
LA WMA-Manvel Direct Flow												0
Offset Account Water												0
Total Replacements	0	0	0	78.1	0	0	0	18.4	0	0	0	96.5

STATE OF KANSAS

To: Steve White
From: [unclear]
Page 1 of 3
5/24/98

BILL GRAVES, GOVERNOR
Alice A. Devine, Secretary of Agriculture
901 S. Kansas Avenue
Topeka, Kansas 66612-1280
(913) 296 3558
FAX: (913) 296-8389

KANSAS DEPARTMENT OF AGRICULTURE

April 7, 1998

Hal Simpson, State Engineer
Division of Water Resources
Department of Natural Resources
1313 Sherman Street, Room 818
Denver, Colorado 80203

Dear Mr. Simpson:

Thank you for your letter dated April 1, 1998, regarding the storage of 500 acre-feet of fully consumable water in Lake Meredith for the subsequent delivery to the offset account in John Martin Reservoir after April 1, 1998, in accordance with the recent amendment of the Offset Account resolution.

I agree with the proposal and am returning for your records a signed copy of your letter dated April 1, 1998., setting forth the conditions of the proposal.

Thank you very much

Sincerely yours,



David L. Pope, P.E.
Chief Engineer - Director
Kansas Department of Agriculture
Division of Water Resources

DLP/am
Enclosure

- pc David W. Robbins/Dennis M. Montgomery
- John B. Draper
- Steve Miller
- Wendy C. Weiss
- David L. Harrison
- Don Higbee
- Don Pitts
- Lee Rolfs
- Mark Rude
- Dale Book

End 1

STATE OF COLORADO

OFFICE OF THE STATE ENGINEER

Division of Water Resources
Department of Natural Resources

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Denver, Colorado 80201
Phone (303) 866-3581
FAX (303) 866-3589



Roy Romer
Governor
James S. Lochhead
Executive Director
Hal D. Simpson
State Engineer

April 1, 1998

David L. Pope
Chief Engineer-Director
Division of Water Resources
Kansas State Board of Agriculture
109 S.W. 9th Street, Suite 202
Topeka, Kansas 66612-1283

WATER RESOURCES
RECEIVED
APR 01 1998
KS DEPT OF AGRICULTURE

RE: Delivery of 500 Acre-Feet to the Offset Account

Dear David:

In accordance with paragraph 9 of the Offset Account Resolution, as amended March 30, 1998 pursuant to action at the Special Arkansas River Compact Administration meeting on March 25, the Lower Arkansas Water Management Association ("LAWMA") has offered to deliver 500 acre-feet of fully consumable water stored in Lake Meredith to the Offset Account after April 1 on the following terms:


1. The water will be released from Lake Meredith and delivered to the Offset Account at a time after April 1 when the Division Engineer for Water Division 2 (Steve Witte) and the Water Commissioner for the Garden City Field Office (Mark Rude) agree that the risk that the 500 acre-feet will spill has passed, taking into consideration river flows upstream from John Martin Reservoir, snow pack in the Arkansas River Basin in Colorado, and reservoir content; provided that if the water has not been earlier released as provided above, the water shall be released from Lake Meredith and delivered to the Offset Account as soon after August 15, 1998 as space is available in John Martin Reservoir and the Reservoir is not spilling;
2. In addition to the 500 acre-feet of fully consumable water stored in Lake Meredith, LAWMA will provide sufficient water for transit losses to deliver the water to John Martin Reservoir.

David L. Pope
April 1, 1998

Page 2

This proposal for delivery of the 500 acre-feet after April 1 is acceptable to me. If you agree with this proposal, please confirm your agreement as soon as possible.

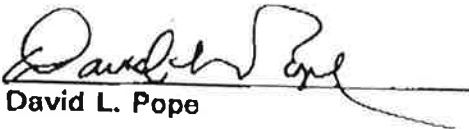
Very truly yours,


Hal D. Simpson
State Engineer

HDS/jmg

cc: David W. Robbins/Dennis M. Montgomery
John B. Draper
Steve Miller
Wendy C. Weiss
David L. Harrison
Don Higbee

Agreed to:


David L. Pope

April 7, 1998
Date

6849L.hds

STATE OF COLORADO

WATER DIVISION 2
OFFICE OF THE STATE ENGINEER310 East Abriendo, Suite B
Pueblo, CO 81004
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FAX (719) 544-0800

June 30, 1998

Roy Romer
GovernorJames S. Lochhead
Executive DirectorHal D. Simpson
State EngineerSteven J. Witte, P.E.
Division EngineerDavid L. Pope
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for May, 1998

Dear Mr. Pope and Ms. Clay:

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, 1998.

Table 1 shows the amount of pumping during the month of May, 1998 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was a call by a Colorado surface water right in those three reaches on none of the 31 days during 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. At the end of May, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

As of May 31, 1998, no water was being stored in the Offset Account since the entire contents of the account was spilled from January 14 through January 17, 1998. The 500 acre-feet to be used for the storage charge was being stored in Meredith Reservoir for delivery to the Offset Account on a date to be determined by me and Mark Rude.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Daries C. Lile
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
May, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL.
1	Bessemer	713	299
2	Booth Orchard	164	95
3	Excelsior	501	322
4	Collier	35	10
5	Colorado	575	262
6	Rocky Ford Highline	193	64
7	Oxford	145	59
8	Otero	82	27
9	Catlin	695	311
10	Fort Lyon Up Stream	1135	409
11	Rocky Ford	154	53
12	Holbrook	127	39
13	Las Animas Consolidated	43	14
14	Baldwin-Stubbs	1232	616
15	Fort Bent	88	32
16	Keese	789	237
17	Amity	2017	854
18	Lamar/Manvel	617	238
19	Hyde	536	161
20	Fort Lyon Down Stream	769	355
21	XY Graham	321	176
22	Buffalo	688	231
23	Sisson	0	0
24	Stateline Sole Source	2318	1489
600	LAWMA APOD	1528	489
601	LAWMA APOD	0	0
602	LAWMA APOD	10	8
	Totals	15475	6850

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
May, 1998

USER NUMBER										
15	16	17	18	19	20	21	22	23	24	Total
20	237	813	237	161	340	52	190	0	1467	3517

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
May, 1998

	REACH NUMBER						Sum
	14	15	16	17	18	21	
Remaining Depletion	117	56	61	152	671	26	1083
Depletion to Usable SL Flow	95.8	45.9	50.0	124.5	549.5	21.3	887.0
Replacements							
LAWMA-CO Beef Credit	183.5						183.5
LAWMA-Ft Bent Ditch Shrs	56.8						56.8
LAWMA-Stubbs Direct Flow					49.2		49.2
LAWMA-XY Direct Flow		298.9					298.9
LAWMA-Manvel Direct Flow		301.3					301.3
Total Replacements	240.3	600.2			49.2		889.7

STATE OF COLORADO

WATER DIVISION 2
OFFICE OF THE STATE ENGINEER

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FAX (719) 544-0800



August 3, 1998

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

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for June, 1998

Dear Mr. Pope and Ms. Clay:

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 June, 1998.

Table 1 shows the amount of pumping during the month of June, 1998 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 33.3% of the stream depletions caused by pumping affecting those reaches. This percentage reflects the fact that there was a call by a Colorado surface water right in those three reaches on 10 of the 30 days during June. 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. At the end of June, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

A delivery of water to the Offset Account was started during the month of June, 1998. This delivery was described in my letter to the Kansas Chief Engineer dated June 30, 1998 and netted 1353.76 acre-feet of fully consumable water into the Offset Account when completed on July 2, 1998. The first 500 acre-feet of this delivery was placed in the Kansas Storage Charge subaccount of the Offset Account. The remaining 853.76 acre-feet was placed in the Colorado Consumable Water subaccount. As of June 30, 1998, there were 701.69 acre-feet being stored in the offset account.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton

Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
June, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	1550	661
2	Booth Orchard	246	173
3	Excelsior	572	384
4	Collier	99	30
5	Colorado	764	330
6	Rocky Ford Highline	407	156
7	Oxford	167	68
8	Otero	134	47
9	Catlin	933	425
10	Fort Lyon Up Stream	1640	568
11	Rocky Ford	137	47
12	Holbrook	107	36
13	Las Animas Consolidated	34	11
14	Baldwin-Stubbs	1203	646
15	Fort Bent	120	45
16	Keese	418	126
17	Amity	2139	967
18	Lamar/Manvel	512	230
19	Hyde	454	136
20	Fort Lyon Down Stream	1415	633
21	XY Graham	344	227
22	Buffalo	782	259
23	Sisson	0	0
24	Stateline Sole Source	2800	1813
600	LAWMA APOD	1552	497
601	LAWMA APOD	0	0
602	LAWMA APOD	39	29
	Totals	18568	8544

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
June, 1998

USER NUMBER										
15	16	17	18	19	20	21	22	23	24	Total
12	126	940	220	136	587	283	234	0	1782	4320

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
June, 1998

REACH NUMBER							
	14	15	16	17	18	21	Sum
Remaining Depletion	110.7	48.0	48.7	217.0	1014.0	18.0	
Depletion to Usable SL Flow	90.7	39.3	39.9	177.7	830.5	14.7	1192.8
Replacements							
LAWMA-CO Beef Credit	67.5						67.5
LAWMA-Ft Bent Ditch Shrs	41.4						41.4
LAWMA-Stubbs Direct Flow					135.2		135.2
LAWMA-XY Direct Flow		651.9					651.9
LAWMA-Manvel Direct Flow		300.2					300.2
Total Replacements	108.9	952.1			135.2		1196.2

STATE OF COLORADO

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September 2, 1998

Roy Romer
GovernorJames S. Lochhead
Executive DirectorHal D. Simpson
State EngineerSteven J. Witte, P.E.
Division EngineerDavid L. Pope
Kansas Chief Engineer
Kansas Board of Agriculture
901 S. Kansas Avenue, 2nd Floor
Topeka, KS 66612-1283Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for July, 1998

Dear Mr. Pope and Ms. Clay:

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 July, 1998.

Table 1 shows the amount of pumping during the month of July, 1998 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 90% of the stream depletions caused by pumping affecting those reaches. Also note that in Reaches 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 23% of the stream depletions caused by pumping affecting those reaches. These percentages reflect the fact that there was a call by a Colorado surface water right in those reaches on 28 and 7 days respectively out of the 31 days during July. 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. At the end of July, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

A delivery of water to the Offset Account was started during the month of July, 1998 by LAWMA using consumptive use credits from their ownership in the Highland Canal. This delivery was described in my letter to the Kansas Chief Engineer dated August 10, 1998 and netted 477.61 acre-feet of fully consumable water and 21.43 acre-feet of return flow water into the Offset Account by the end of July, 1998. As of July 31, 1998, there were 1810.7 acre-feet being stored in the offset account.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton
Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
July, 1998

USER NO.	DITCH NAME	AF PUMPED WELLHEAD DEPL	
1	Bessemer	2490	1059
2	Booth Orchard	332	227
3	Excelsior	883	578
4	Collier	148	44
5	Colorado	1296	571
6	Rocky Ford Highline	1101	337
7	Oxford	563	192
8	Otero	345	113
9	Catlin	1820	725
10	Fort Lyon Up Stream	1697	572
11	Rocky Ford	306	102
12	Holbrook	397	125
13	Las Animas Consolidated	218	67
14	Baldwin-Stubbs	1485	795
15	Fort Bent	243	82
16	Keese	352	106
17	Amity	2230	956
18	Lamar/Manvel	1205	460
19	Hyde	356	107
20	Fort Lyon Down Stream	1206	499
21	XY Graham	314	245
22	Buffalo	873	305
23	Sisson	0	0
24	Stateline Sole Source	2846	1868
600	LAWMA APOD	1519	486
601	LAWMA APOD	0	0
602	LAWMA APOD	0	0
	Totals	24225	10621

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
July, 1998

	USER NUMBER										
	15	16	17	18	19	20	21	22	23	24	Total
44	106	946	460	107	448	68	305	0	1846	4330	

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
July, 1998

	REACH NUMBER											Sum
	11	12	13	14	15	16	17	18	21	21	21	Sum
Remaining Depletion	2.3	15.5	19.1	144.8	67.0	66.2	263	1266	19	1862.9		
Depletion to Usable SL Flow	1.9	12.7	15.6	118.6	54.9	54.2	215.4	1036.8	15.6	1525.7		
Replacements												
FRY-ARK Return Flows										0		
LAWMA-CO Beef Credit				636.7						636.7		
LAWMA-Ft Bent Ditch Shrs										0		
LAWMA-Stubbs Direct Flow								67.6		67.6		
LAWMA-XY Direct Flow					555.6					555.6		
LAWMA-Manvel Direct Flow				271						271		
Offset Account Water										0		
Total Replacements	0	0	0	636.7	826.6	0	0	67.6	0	1530.9		

STATE OF COLORADO

WATER DIVISION 2 OFFICE OF THE STATE ENGINEER

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October 14, 1998



Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

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

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for August, 1998

Dear Mr. Pope and Ms. Clay:

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 August, 1998.

Table 1 shows the amount of pumping during the month of August, 1998 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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 68% of the stream depletions caused by pumping affecting those reaches. Also note that in Reaches 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 23% of the stream depletions caused by pumping affecting those reaches. These percentages reflect the fact that there was a call by a Colorado surface water right in those reaches on 21 and 7 days respectively out of the 31 days during August. 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. At the end of August, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was the 159.2 acre-feet reported after the replacement operations conducted for November, 1997.

A delivery of water to the Offset Account was continued during the month of August, 1998 by LAWMA using consumptive use credits from their ownership in the Highland Canal. This delivery was described in my letter to the Kansas Chief Engineer dated September 2, 1998 and netted 1285.6 acre-feet of fully consumable water and 57.79 acre-feet of return flow water into the Offset Account by the end of August, 1998. As of August 31, 1998, there were 3099.99 acre-feet being stored in the offset account.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton

Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
August, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	1626	661
2	Booth Orchard	133	95
3	Excelsior	328	216
4	Collier	36	11
5	Colorado	559	237
6	Rocky Ford Highline	518	169
7	Oxford	394	126
8	Otero	217	75
9	Catlin	807	343
10	Fort Lyon Up Stream	758	259
11	Rocky Ford	128	42
12	Holbrook	198	61
13	Las Animas Consolidated	31	14
14	Baldwin-Stubbs	468	260
15	Fort Bent	176	57
16	Keese	184	55
17	Amity	880	384
18	Lamar/Manvel	553	219
19	Hyde	16	5
20	Fort Lyon Down Stream	611	286
21	XY Graham	398	281
22	Buffalo	475	152
23	Sisson	13	9
24	Stateline Sole Source	1637	1035
600	LAWMA APOD	1054	337
601	LAWMA APOD	0	0
602	LAWMA APOD	1	1
	Totals	12199	5390

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
August, 1998

	15	16	17	18	19	20	21	22	23	24	Total
	5	55	352	219	5	281	62	152	0	1013	2144

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
August, 1998

	11	12	13	14	15	16	17	18	21	Sum
Remaining Depletion	7.68	41.28	59.2	136.29	76.23	68.53	253	1300	26	1968.21
Depletion to Usable SL Flow	6.29	33.81	48.48	111.62	62.43	56.13	207.21	1064.7	21.29	1611.96
Replacements										
FRY-ARK Return Flows										
LAWMA-CO Beef Credit				251.39						251.39
LAWMA-Ft Bent Ditch Shrs				129.8						129.8
LAWMA-Stubbs Direct Flow						67.6				67.6
LAWMA-XY Direct Flow					1186					1186
LAWMA-Manvel Direct Flow					394.8					394.8
Offset Account Water										
Total Replacements	0	0	0	381.19	1580.8	0	0	67.6	0	2029.59

STATE OF COLORADO

WATER DIVISION 2
OFFICE OF THE STATE ENGINEER

310 East Abriendo, Suite B
Pueblo, CO 81004
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November 12, 1998

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

Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for September, 1998

Dear Mr. Pope and Ms. Clay:

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 September, 1998.

Table 1 shows the amount of pumping during the month of September, 1998 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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

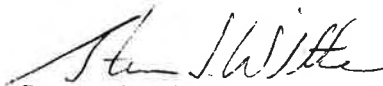
river reaches where no replacements or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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. Also note that in Reaches 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 37% of the stream depletions caused by pumping affecting those reaches. These percentages reflect the fact that there was a call by a Colorado surface water right in those reaches on 30 and 11 days respectively out of the 30 days during September. 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. At the end of September, 1998, the remaining credit from the previous releases of consumable water from the Offset Account was reduced to zero after revision of the replacement operations conducted for November, 1997 as part of the preparation of the Arkansas River Replacement Plan Year End Report for LAWMA for the 1997-1998 plan year.

A delivery of water to the Offset Account was continued during the month of September, 1998 by LAWMA using consumptive use credits from their ownership in the Highland Canal. This delivery was described in my letter to the Kansas Chief Engineer dated October 15, 1998 and netted 536.91 acre-feet of fully consumable water and 24.14 acre-feet of return flow water into the Offset Account by the end of September, 1998. As of September 30, 1998, there were 3592.58 acre-feet being stored in the offset account.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton

Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
September, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	1504	635
2	Booth Orchard	231	159
3	Excelsior	482	309
4	Collier	72	22
5	Colorado	344	169
6	Rocky Ford Highline	247	79
7	Oxford	139	55
8	Otero	115	38
9	Catlin	672	322
10	Fort Lyon Up Stream	871	284
11	Rocky Ford	155	52
12	Holbrook	434	138
13	Las Animas Consolidated	108	43
14	Baldwin-Stubbs	1135	604
15	Fort Bent	189	69
16	Keese	522	157
17	Amity	1686	806
18	Lamar/Manvel	291	122
19	Hyde	127	38
20	Fort Lyon Down Stream	912	368
21	XY Graham	643	405
22	Buffalo	569	195
23	Sisson	19	14
24	Stateline Sole Source	2643	1800
600	LAWMA APOD	1235	395
601	LAWMA APOD	0	0
602	LAWMA APOD	40	30
	Totals	15385	7308

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
September, 1998

	15	16	17	18	19	20	21	22	23	24	Total
	24	157	746	121	38	352	357	195	0	1788	3778

USER NUMBER

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
September, 1998

	11	12	13	14	15	16	17	18	21	Sum
Remaining Depletion	0	0	0	103.32	63	60.48	271	1329	31	1857.8
Depletion to Usable SL Flow	0	0	0	84.62	51.60	49.53	221.95	1088.4	25.39	1521.49
Replacements										
FRY-ARK Return Flows				45.99						45.99
LAWMA-CO Beef Credit				241.8						241.8
LAWMA-Ft Bent Ditch Shrs				118.6						118.6
LAWMA-Stubbs Direct Flow								67.6		67.6
LAWMA-XY Direct Flow					653.5					653.5
LAWMA-Manvel Direct Flow					400					400
Offset Account Water										0
Total Replacements	0	0	0	406.39	1053.5	0	0	67.6	0	1527.49

REACH NUMBER

STATE OF COLORADO

WATER DIVISION 2 OFFICE OF THE STATE ENGINEER

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November 24, 1998



Roy Romer
Governor

James S. Lochhead
Executive Director

Hal D. Simpson
State Engineer

Steven J. Witte, P.E.
Division Engineer

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

Ms. Mary Louise Clay
Recording Secretary
Arkansas River Compact Administration
307 South Fifth Street
Lamar, CO 81052

RE: Monthly Report of Colorado Pumping and Offset Account Operations for October, 1998

Dear Mr. Pope and Ms. Clay:

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 October, 1998.

Table 1 shows the amount of pumping during the month of October, 1998 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, and the depletions caused by pumping below John Martin Reservoir which affect senior surface water rights in Colorado 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 or only partial replacements were made to replace out-of-priority depletions to senior surface water rights in Colorado.

Table 3 shows the remaining stream depletions caused by irrigation pumping in excess of the pre-Compact entitlements which were not replaced by making replacements 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. Also note that in Reaches 14, 15, and 16, replacements to senior surface water rights in Colorado replaced 0% of the stream depletions caused by pumping affecting those reaches. These percentages reflect the fact that there was a call by a Colorado surface water right in those reaches on 31 and 0 days respectively out of the 31 days during October. 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 was continued during the month of October, 1998 by LAWMA using consumptive use credits from their ownership in the Highland Canal. This delivery was described in my letter to the Kansas Chief Engineer dated November 12, 1998 and netted 1251.71 acre-feet of fully consumable water and 56.24 acre-feet of return flow water into the Offset Account by the end of October, 1998. As of October 31, 1998, there were 4848.68 acre-feet being stored in the offset account.

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

Sincerely,



Steven J. Witte
Division Engineer
Colorado Division of Water Resources

cc: Mark Rude
John Draper
Dale Book
Hal Simpson
Dennis Montgomery
Bill Howland

Larry E. Trujillo, Sr.
Robert Buerkle
Eugene Overton

Thomas R. Pointon
James G. Rogers

TABLE 1
Pumping By Rule 3 Irrigation Wells
October, 1998

USER NO.	DITCH NAME	AF PUMPED	WELLHEAD DEPL
1	Bessemer	641	270
2	Booth Orchard	53	41
3	Excelsior	234	156
4	Collier	37	11
5	Colorado	304	130
6	Rocky Ford Highline	296	89
7	Oxford	87	37
8	Otero	39	14
9	Catlin	181	68
10	Fort Lyon Up Stream	399	159
11	Rocky Ford	63	21
12	Holbrook	137	42
13	Las Animas Consolidated	40	16
14	Baldwin-Stubbs	97	48
15	Fort Bent	16	7
16	Keese	244	73
17	Amity	458	172
18	Lamar/Manvel	97	50
19	Hyde	5	1
20	Fort Lyon Down Stream	347	178
21	XY Graham	259	129
22	Buffalo	248	93
23	Sisson	0	0
24	Stateline Sole Source	1124	731
600	LAWMA APOD	982	314
601	LAWMA APOD	0	0
602	LAWMA APOD	32	24
	Totals	6420	2874

TABLE 2
Wellhead Depletions From Irrigation Wells Below John Martin Reservoir (Acre-Feet)
(Reduced By Pre-Compact Entitlements)
October, 1998

	USER NUMBER										
	15	16	17	18	19	20	21	22	23	24	Total
4	73	137	137	50	1	177	129	93	0	704	1368

TABLE 3
Remaining Depletions To Usable Stateline Flow (Acre-Feet)
October, 1998

	REACH NUMBER											Sum
	11	12	13	14	15	16	17	18	21	21	21	Sum
Remaining Depletion	0	0	0	157	95	103	278	1315	36			1984
Depletion to Usable SL Flow	0	0	0	128.58	77.80	84.36	227.68	1077.0	29.48			1624.9
Replacements												
FRY-ARK Return Flows				58.1								58.1
LA WMA-CO Beef Credit				40.3								40.3
LA WMA-Ft Bent Ditch Shrs				93.6								93.6
LA WMA-Stubbs Direct Flow								67.6				67.6
LA WMA-XY Direct Flow					1070.1							1070.1
LA WMA-Manvel Direct Flow					300							300
Offset Account Water												0
Total Replacements	0	0	0	192	1370.1	0	0	67.6	0	0	0	1629.7

