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SUPREME COURT, U.S.

No. 65, Original

In the Supreme Court of the United States

STATE OF TEXAS, PLAINTIFF

v.

STATE OF NEW MEXICO

*ON REVIEW OF THE RIVER MASTER'S 2019 FINAL
DETERMINATION*

**APPENDIX TO UNOPPOSED CONDITIONAL
MOTION FOR REVIEW OF RIVER
MASTER'S 2019 FINAL DETERMINATION**

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PECOS RIVER COMPACT

Report of the River Master

Water Year 2018

Accounting Year 2019

Preliminary Report

Neil S. Grigg

River Master of the Pecos River

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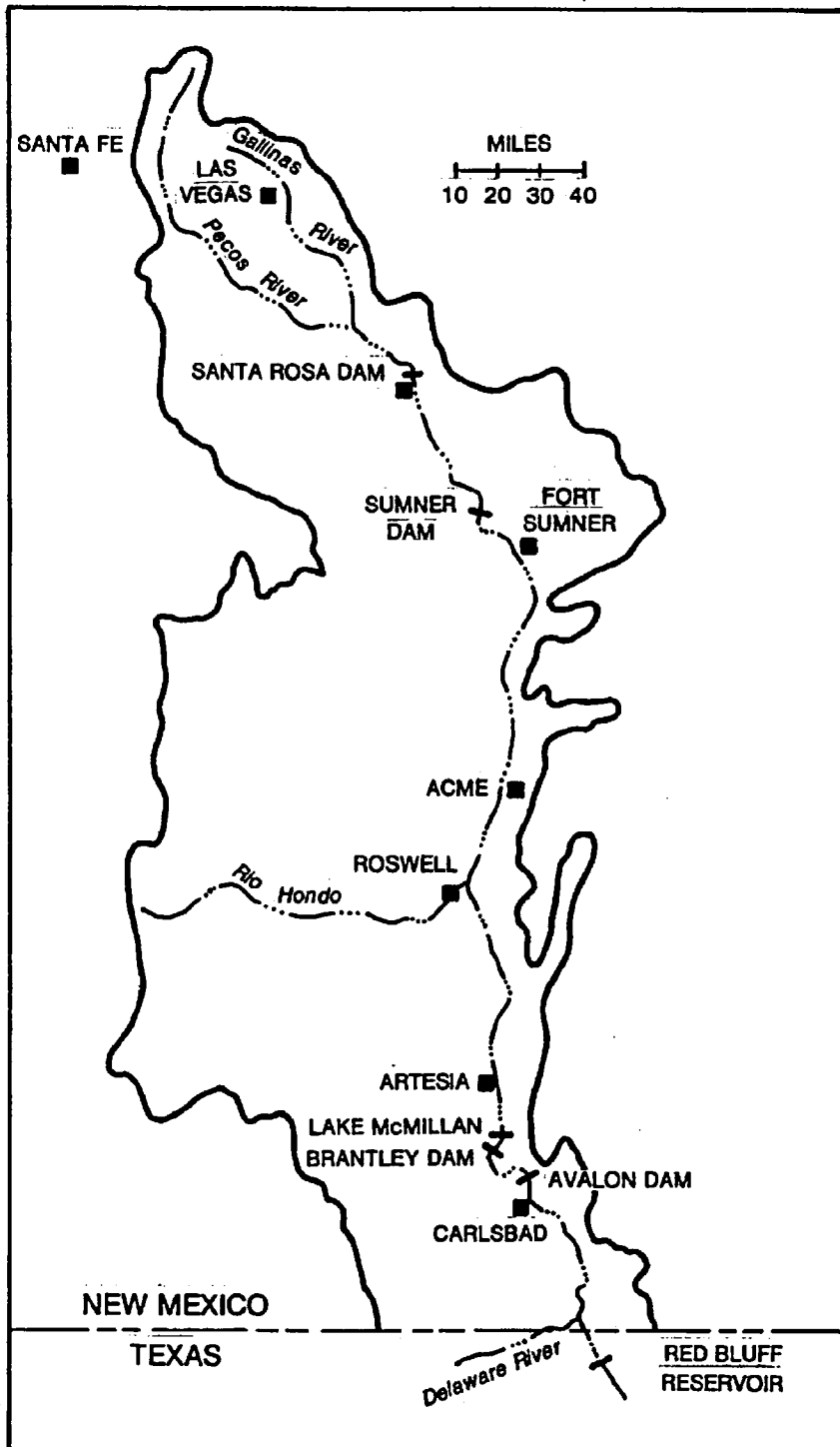
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Map of Pecos River Basin Showing Accounting Reaches

PECOS RIVER COMPACT
Supreme Court of the United States
No. 65, Original
Amended Decree

Preliminary Report of the River Master
Water Year 2018 - Accounting Year 2019
May 7, 2019

Purpose of the Report. In its Amended Decree issued March 28, 1988 the Supreme Court of the United States appointed a River Master of the Pecos River and directed him to "... Deliver to the parties a Preliminary Report setting forth the tentative results of the calculations required by Section III.B.1 of this Decree by May 15 of the accounting year..." and to consider "... any written objections to the Preliminary Report submitted by the parties prior to June 15 of the accounting year..." and to deliver "... to the parties a Final Report setting forth the final results of the calculations required by Section III.B.1 of this Decree by July 1 of the accounting year." This is the required Preliminary Report with the determination of:

- a. The Article III(a) obligation;
- b. Any shortfall or overage, which calculation shall disregard deliveries of water pursuant to an Approved Plan;
- c. The net shortfall, if any, after subtracting any overages accumulated in previous years, beginning with water year 1987.

Result of Calculations and Statement of Shortfall or Overage. The results of the calculations in this Preliminary Report show that New Mexico's delivery in Water Year 2017 was an overage of 5,700 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 176,500 acre-feet.

/s/ Neil S. Grigg

Neil S. Grigg
River Master of the Pecos River

Pecos River Compact		
Accumulated Shortfall or Overage		
May 7, 2019		
Water Year	Annual Overage or Shortfall, AF	Accumulated Overage or Shortfall, AF
1987	15,400	15,400
1988	23,600	39,000
1989	2,700	41,700
1990	-14,100	27,600
1991	-16,500	11,100
1992	10,900	22,000
1993	6,600	28,600
1994	5,900	34,500
1995	-14,100	20,400
1996	-6,700	13,700
1997	6,100	19,800
1998	1,700	21,500
1999	1,400	22,900
2000	-12,300	10,600
2001	-700	9,900
2002	-3,000	6,900
2003	2,000	8,900
2004	8,300	17,200
2005	24,000	41,200
2006	26,100	67,300
2007	25,200	92,500
2008	6,000	98,500
2009	1,600	100,100
2010	-500	99,600
2011	500	100,100
2012	1,900	102,000
2013	-6,300	95,700
2014	700	96,400
2015	27,300	123,700
2016	27,200	150,900
2017	19,900	170,800
2018	5,700	176,500

Table 1. General Calculation of Annual Departures in TAF (B.1)			
Water Year	2018		
5/5/2019			
	WY 2016	WY 2017	WY 2018
B.1.a. Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	128.6	89.7	97.7
(b) Flood Inflow Alamogordo - Artesia (Table 2)	-2.6	33.0	5.3
(c) Flood Inflow Artesia - Carlsbad (Table 3)	15.3	13.1	8.0
(d) Flood Inflow Carlsbad - State Line (Table 4)	9.5	6.2	5.2
Total (annual flood inflow)	150.8	142.0	116.2
(2) Index Inflow (3-year avg)			136.3
B.1.b. 1947 Condition Delivery Obligation (Index Outflow)			53.5
B.1.c. Average Historical (Gaged) Outflow			
(1) Annual historical outflow			
(a) Gaged Flow Pecos River at Red Bluff NM	75.4	46.9	42.6
(b) Gaged Flow Delaware River nr Red Bluff NM	6.2	3.3	1.8
(c) Metered diversions Permit 3254 into C-2713	0.2	0.4	0.4
Total Annual Historical Outflow	81.8	50.6	44.8
(2) Average Historical Outflow (3-yr average)			59.1
B.1.d. Annual Departure			5.6
C. Adjustments to Computed Departure			
1. Adjustments for Depletions above Alam Dam			
a. Depletions Due to Irrigation (Table 5)	1.3	-1.0	0.6
b. Depl fr Operation of Santa Rosa Reservoir (Table 6)	-6.3	9.2	0.6
c. Transfer of Water Use to Upstream of AD	0	0	
Recomputed Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	123.6	97.9	98.9
(b) Flood Inflow Alamogordo - Artesia	-2.6	33.0	5.3
(c) Flood Inflow Artesia - Carlsbad	15.3	13.1	8.0
(d) Flood Inflow Carlsbad - State Line	9.5	6.2	5.2
Total (annual flood inflow)	145.8	150.2	117.4
Recomputed Index Inflow (3-year avg)			137.8
Recomputed 1947 Condition Del Outflow (Index Outflow)			54.3
Recomputed Annual Departures			4.8
Credits to New Mexico			
C.2 Depletions Due to McMillan Dike			1.0
C.3 Salvage Water Analysis			0
C.4 Unappropriated Flood Waters			0
C.5 Texas Water Stored in NM Reservoirs			0
C.6 Beneficial C.U. Delaware River Water			0
Final Calculated Departure, TAF			5.7

Table 3. Determination of Flood Inflows, Artesia to Carlsbad (B.4)													
Water Year													2018
5/4/2019													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fourmile Draw nr Lakew	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Seven Rivers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rocky Arroyo at Hwy Br	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Flood Inflow, Art-DS3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Pecos R at Dam Site 3	0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1
CB Sprgs New Water (from Table 7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Total Inflow, DS3 - CB	0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1
Evap Loss, Lake Avalon (from Table 10)	0.0	0.0	0.5	0.6	0.8	0.7	0.7	0.5	0.2	0.1	0.0	0.0	4.1
Storage Chg, Lake Avalon (from Table 11)	0.0	0.0	2.2	0.4	-0.5	0.3	0.2	-0.5	-0.4	-0.4	-1.3	0.0	0.0
Carls ID diversions	0.0	0.0	5.6	8.7	10.1	11.5	10.9	7.1	8.9	6.9	0.5	0.0	70.2
93% CID diver	0.0	0.0	5.2	8.1	9.4	10.7	10.1	6.6	8.3	6.4	0.5	0.0	65.3
Other depletions	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	1.4
Dark Canyon at Csbad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos b Dark Canyon	1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1
Pecos R at Carlsbad	1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1
Total Outflow	1.4	1.6	9.4	10.5	11.1	13.2	12.6	8.5	9.6	7.9	0.7	1.4	87.9
Flood Inflow, DS3-CB	1.4	1.1	-0.6	-2.2	1.4	-2.1	0.6	-1.8	3.2	4.8	0.7	1.4	7.8
Flood Inflow, Art-CB	1.4	1.1	-0.6	-2.2	1.4	-2.1	0.7	-1.8	3.2	4.8	0.7	1.4	8.0

Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)						
Water Year		2018				
5/5/2019						
		BCB - RB		Del R	DC	
		RM				
Jan		0.0		0.0	0.0	
Feb		0.0		0.0	0.0	
Mar		0.0		0.0	0.0	
Apr		0.0		0.0	0.0	
May		0.0		0.0	0.0	
Jun		0.1		0.0	0.0	
Jul		0.3		0.0	0.0	
Aug		0.3		0.0	0.0	
Sep		1.4		0.3	0.0	
Oct		2.2		0.4	0.0	
Nov		0.0		0.0	0.0	
Dec		0.1		0.0	0.0	
Total		4.5		0.7	0.0	
Summary of flood inflows, Carlsbad to State Line, TAF						
Red Bluff - Carlsbad + Dark C RM calcs)						4.5
Delaware River						0.7
Total Flood Inflow, Carlsbad to State Line						5.2

Table 5. Depletions Due to Irrigation Above Sumner Dam (C.1.a)										
	Water Year		APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL
	5/5/2019	2018								
Precip Las Vegas FAA AP		0.29	0.11	0.27	6.51	3.26	2.69	3.33	16.46	
Eff prec Las Veg FAA AP		0.28	0.11	0.26	4.1	2.78	2.36	2.83	12.72	
Precip Pecos Natl Monument		0	0.50	0.46	4.18	1.49	1.28	3.07	10.98	
Eff Precip Pecos RS		0	0.49	0.45	3.42	1.40	1.21	2.64	9.61	
Precip Santa Rosa		0.04	0.63	1.40	2.13	1.23	2.52	5.57	13.52	
Eff Precip Santa Ro		0.04	0.62	1.32	1.93	1.17	2.23	3.99	11.30	
Average eff precip, ft		0.01	0.03	0.06	0.26	0.15	0.16	0.26	0.93	
Consumptive use, ft		0.19	0.36	0.36	0.30	0.27	0.18	0.11	1.77	
Unit depletion rate (CU less eff precip), ft		0.18	0.33	0.30	0.04	0.12	0.02	0.00	0.99	
Acres (most recent inventory)		11529								
Streamflow depletion (actual use), AF		11398								
1947 depletion, AF		10804								
Difference (actual use - 1947 depletion), TAF		0.6								
Adjustment to Gaged Flow, Pecos River below Sumner Dam, TAF =							0.6			

Table 6. Depletions Due to Santa Rosa Reservoir Operations (C.1.b)

[illegible]

Table 7. Carlsbad Springs New Water [B.4.c.(2)]					
Water Year	2018				
5/4/2019					
		TAF	AF/day	cfs	Totals
Pecos R bel DC		17.1	46.8	23.6	23.6
Dark Canyon		0.0	0.0	0.0	0.0
Pecos R bel Lake Avalon		0.0	0.0	0.0	0.0
Depletion, cfs					2.0
CID lag seep, cfs (from Table 8)					7.1
Return flow, cfs					1.0
Lake Av lagged seep, cfs (from Table 9)					14.6
PR seepage, cfs					3.0
Carls new water, cfs					-0.09
Carls new wat, TAF					-0.1
Carls new wat monthly, TAF					0.0

Table 8. Carlsbad Main Canal Seepage Lagged [B.4.c.(2)(e)]													
Water Year	2018												
5/4/2019		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
													TOTAL
WY 2018													
CID, TAF	0	0	5.6	11.6	9.0	13.4	10.9	10.5	6.1	3.4	1.7	0.0	72.2
days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs	0	0	90.9	195.1	147.0	225.2	177.5	170.8	101.9	54.9	27.9	0.0	99.3
cfs, qtr avg			31.3			188.7			150.6			27.6	
WY 2017		1Q	2Q	3Q	4Q								
FLows, cfs				147.0	40.5								
SEVEN %				10.3	2.8								
WY 2018 lagged		1Q	2Q	3Q	4Q								
FLows, cfs		31.3	188.7	150.6	27.6								
SEVEN %		2.2	13.2	10.5	1.9								
LAG		3.8	7.8	10.0	6.7	Avg =	7.1	cfs					

Table 10. Evaporation Loss at Lake Avalon [B.4.d.(1)]

[illegible]

Table 12. Data Required for River Master Manual Calculations						
Water Year 2018						

Water Year 2016													
5/4/2019	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
STREAMFLOW GAGING RECORDS, TAF													
Pecos R b Sumner Dam	1.4	2.5	4.1	15.8	4.8	5.6	39.4	4.3	16.2	2.5	0.3	0.9	97.7
Fort Sumner Main C	0.0	1.6	4.3	4.8	5.1	6.0	4.9	3.3	3.6	1.5	0.0	0.0	35.3
Pecos R nr Artesia	5.1	4.5	3.2	7.8	5.7	1.7	23.8	2.8	14.6	8.7	4.9	4.1	86.7
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fourmile Draw nr Lakewood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Seven Rivers nr Lkwd	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rocky Arroyo at Hwy Br nr	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Pecos R at Dam Site 3	0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1
Pecos bel Avalon Dam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carlsbad Main Canal	0.0	0.0	5.6	11.6	9.0	13.4	10.9	10.5	6.1	3.4	1.7	0.0	72.2
Dark Canyon at Carlsbad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos below Dark Canyon	1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1
Pecos R at Red Bluff	3.8	2.9	2.5	3.0	2.3	2.3	3.1	3.4	4.5	6.0	4.8	4.0	42.6
Delaware R nr Red Bluff	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.1	0.1	1.8
GAGE HEIGHTS													
Avalon gage ht, end mo	60.0	60.0	74.7	75.2	74.6	75.0	75.2	74.6	74.0	73.4	60.0	60.0	
Avalon gage ht, avg	60.0	60.0	75.3	74.1	74.4	74.1	75.0	74.4	74.8	74.1	65.3	60.0	
Sumner Lake ga ht, end mo	63.1	63.4	62.9	57.4	56.5	54.7	54.1	54.2	51.9	53.6	55.8	57.6	
Sumner Lake gage ht, avg	62.7	63.4	63.2	61.6	56.9	55.7	54.7	54.3	52.3	52.4	54.8	56.7	
Lake S Rosa ga ht, end mo	47.9	47.8	47.6	47.1	47.0	46.5	36.8	37.1	34.3	34.9	34.8	34.8	
Lake S Rosa ga ht, avg	47.9	47.8	47.7	47.3	47.0	46.8	38.5	37.1	34.9	34.3	34.8	34.7	
PRECIPITATION, INCHES													
Brantley Lake	0.01	0.19	0.08	0.01	0.03	0.78	1.57	1.01	2.38	3.49	0.23	0.50	10.28
Las Vegas FAA AP	0.00	0.19	0.20	0.29	0.11	0.27	6.51	3.26	2.69	3.33	0.10	0.72	17.67
Pecos National Monument	0.62	2.05	0.71	0.00	0.50	0.46	4.18	1.49	1.28	3.07	5.55	0.71	20.62
Santa Rosa	0.05	0.11	0.21	0.04	0.63	1.40	2.13	1.23	2.52	5.57	0.47	1.84	16.20
Lake Santa Rosa	0.05	0.11	0.21	0.04	0.63	1.40	2.13	1.23	2.52	5.57	0.47	1.84	16.20
Sumner Lake	0.11	0.11	0.03	0.02	0.90	0.95	2.74	3.90	3.14	3.56	0.25	0.57	16.28
PAN EVAPORATION, INCHES													
Lake Santa Rosa	3.72	4.98	8.58	9.96	13.14	13.99	11.62	10.69	7.73	4.94	4.44	3.76	97.6
Lake Sumner	4.68	4.97	10.56	12.80	15.73	16.05	14.67	11.90	8.09	5.60	4.11	2.50	111.7
Brantley Lake	4.65	5.60	9.97	12.94	16.93	17.51	15.48	12.30	7.83	6.24	4.80	4.34	118.6
OTHER REPORTS													
Base Acme-Art, TAF (USGS)	2.5	2.3	2.1	1.5	1.3	0.6	0.1	0.4	0.6	1.5	2.0	2.1	17.1
Pump depl Ac-Artesia, TAF	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5
Pumping, C-2713, Malaga B													0.4
NM irrig inv, acres (3/9/2000)													11529
NM Transfer water use, TAF													
NM salvaged water, TAF													0.00
Texas, water stored NM, TAF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Texas, use Del water, TAF													

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APPENDIX

**FLOOD INFLOW
CARLSBAD TO RED BLUFF**

Hydrograph scalping to support Table 4

2018 Water year											Scalped Totals		
5/5/19		PR AT RED BLUFF			PR BELOW DC AT CBD						PRRB	PRBDC	FIF
Day	Yr Day	Q	Base	Diff	Q	Base	Diff						
JAN	1	1	63.2		21.5								
	2	2	59.2		22.3								
	3	3	61.9		21.8								
	4	4	65.2		22.1								
	5	5	64.2		21.5								
	6	6	64.4		21.5								
	7	7	64.8		21.6								
	8	8	65.4		20.5								
	9	9	65.2		21.3								
	10	10	59.8		22.2								
	11	11	60	60	20.9								
	12	12	67.2	60.1	21.1								
	13	13	69	60.2	20.4								
	14	14	63.3	60.3	20.6								
	15	15	61.8	60.4	22.1								
	16	16	60.6	60.6	18								
	17	17	57.9		20.3								
	18	18	60		21.5								
	19	19	62.6		22.1								
	20	20	64.4		22.3								
	21	21	65.4		21.9								
	22	22	63.5		21.5								
	23	23	60.9		21.3								
	24	24	58.8		21.1								
	25	25	57.7		21.5								
	26	26	58.4		22.8								
	27	27	60.2		21.4								
	28	28	62.7		22								
	29	29	64		21.5								
	30	30	62.7		22.4								
	31	31	61.5		23.3						20	0	20
FEB	1	32	61.7		22.3								
	2	33	59.6		22.4								
	3	34	53.7		24								
	4	35	54.8		23.4								
	5	36	51.5		24.2								
	6	37	52.7		24.6								
	7	38	54.1		24.5								
	8	39	59.4		24.8								
	9	40	56.9		25.6								
	10	41	56.1		25.8								
	11	42	55.3		26								
	12	43	52.5		25.9								
	13	44	48.9		26.3								
	14	45	49.4		26.6								
	15	46	49.6		27								
	16	47	53.5	53.5	27.1								
	17	48	55.4	52.9	27.9								
	18	49	55.7	52.1	27.7								
	19	50	57.9	51.4	28								
	20	51	56.1	50.6	27.7								
	21	52	52.2	49.9	27								
	22	53	49.1	49.1	27.4								
	23	54	46.9		28.2								
	24	55	46.1		28.4								
	25	56	43.9		28								
	26	57	45.2		27.4								
	27	58	48.5		29.5								
	28	59	46		30.5						21	0	21
MAR	1	60	42.6		29.4								
	2	61	39.9		30.6								
	3	62	43.5		31.6								
	4	63	41.7		29.1								
	5	64	41.3		24.8								
	6	65	40.4		21.9								
	7	66	39.1		21.2								
	8	67	39.6		22.7								
	9	68	39.1		23.4								

Hydrograph scalping to support Table 4

	10	69	45.2			23.6						
	11	70	44.7			22.1						
	12	71	42.9			21.1						
	13	72	44			21.9						
	14	73	45.3			21.9						
	15	74	44.7			23.4						
	16	75	44.9			21.8						
	17	76	44.5			21.9						
	18	77	38.9			22.4						
	19	78	34.1			20.3						
	20	79	34.7			21.1						
	21	80	39.1			21.7						
	22	81	39.1			21.9						
	23	82	48.5			22.2						
	24	83	40.2			22.6						
	25	84	29.2			21.7						
	26	85	32.9			22.2						
	27	86	41.1			23.3						
	28	87	37.4			21.5						
	29	88	33.6			22.1						
	30	89	32.4			22.1						
	31	90	35.7			23.1			0	0	0	
APR	1	91	52.5			23.2						
	2	92	50.5			23.4						
	3	93	45.8			22.1						
	4	94	53.9			20.7						
	5	95	49.5			23.9						
	6	96	39.8			25.1						
	7	97	47			22.3						
	8	98	54.4			24.9						
	9	99	54.9			23.9						
	10	100	64.2			21.5						
	11	101	63.9			20.8						
	12	102	62.8			21						
	13	103	52.4			20.4						
	14	104	49.9			18.5						
	15	105	53.4			20.1						
	16	106	51.9			20.7						
	17	107	46.9			20.4						
	18	108	48.6			19.4						
	19	109	44.3			19.2						
	20	110	40.8			20.4						
	21	111	41.5			20.1						
	22	112	48.6			19.7						
	23	113	53.7			20.4						
	24	114	55.7			22						
	25	115	50.4			18.2						
	26	116	45.7			21.6						
	27	117	44.8			18.6						
	28	118	48.4			20.8						
	29	119	53.4			20.8						
	30	120	44.6			21.4			0	0	0	
MAY	1	121	43.1			20.8						
	2	122	42.4			20.7						
	3	123	51.4			20						
	4	124	45			19.8						
	5	125	41.4			19.8						
	6	126	38.6			19.6						
	7	127	36.6			19.6						
	8	128	33.8			20.6						
	9	129	28.2			20.6						
	10	130	24.8			21.2						
	11	131	24.2			20.9						
	12	132	30.1			20.1						
	13	133	31.6			19.4						
	14	134	34.5			19.7						
	15	135	36.9			20						
	16	136	38.7			19.8						
	17	137	40.1			19.8						
	18	138	30			20.5						
	19	139	28.3			20.3						
	20	140	24.8			19.8						
	21	141	22	22	0.0	20.3						

Hydrograph scalping to support Table 4

	22	142	29.2	26.9	2.3		21.6						
	23	143	36.7	31.9	4.9		21.6						
	24	144	38.2	36.8	1.4		21.1						
	25	145	41.7	41.7	0.0		21.1						
	26	146	53.5				22.7						
	27	147	59.8				24.6						
	28	148	48.9				21.3						
	29	149	42.4				19.3						
	30	150	40				19.5						
	31	151	34.7				19.3		9	0	9		
JUN	1	152	28.3				19.7						
	2	153	26.1				18.8						
	3	154	32.1	32.1	0.0		21.4						
	4	155	33.9	37.0	-3.1		21.6						
	5	156	60.9	41.9	19.0		21.2						
	6	157	55.1	46.8	8.3		20.9						
	7	158	51.7	51.7	0.0		20.1						
	8	159	54.5				19.5						
	9	160	46.5				20.3						
	10	161	35.7				20.1						
	11	162	31.8				21.5						
	12	163	27.3				20.6						
	13	164	30.7				19.8						
	14	165	27.5				20						
	15	166	25.1				19.5						
	16	167	28.8	28.8	0.0		25.9						
	17	168	34.6	30.9	3.7		21.9						
	18	169	44.4	33.0	11.4		22.2						
	19	170	47.9	35.0	12.9		21.9						
	20	171	44.6	37.1	7.5		22.5						
	21	172	39.2	39.2	0.0		21.5						
	22	173	39.8				21.2						
	23	174	48.6				22.7						
	24	175	44.6				22.9						
	25	176	42.2				21.7						
	26	177	45				22.6						
	27	178	44				22.8						
	28	179	39.1				22.2						
	29	180	35.3				22.2						
	30	181	31.7				22.4		60	0	60		
JUL	1	182	35.5				21						
	2	183	42.3				20.6						
	3	184	65.1				22.4						
	4	185	67.7				23.3						
	5	186	67				21.6						
	6	187	68.3				20.4						
	7	188	55				20.9						
	8	189	52	52	0.0		21.6						
	9	190	59.8	48.9	10.9		24.3						
	10	191	57.9	45.8	12.1		23.7						
	11	192	50.8	42.7	8.1		23.3						
	12	193	39.5	39.6	-0.1		22.3	22.3	0.0				
	13	194	36.2	36.5	-0.3		36.7	23.4	13.3				
xxx	14	195	33.4	33.4	0.0		24.6	24.6	0.0				
	15	196	52.4	41.1	11.3		24.5						
	16	197	81.3	48.8	32.5		23.6						
	17	198	56.5	56.5	0.0		23.8						
	18	199	59.7				23.9						
	19	200	50				23.4						
	20	201	46.6				22.8						
	21	202	43.4				22.5						
	22	203	39.2				22.2						
	23	204	37.1				22.4						
	24	205	36.2				21.4						
	25	206	34.2				21.9						
	26	207	29.5	29.5	0.0		25.4						
	27	208	35.4	30.7	4.7		23.2						
	28	209	41.2	31.9	9.3		23.2						
	29	210	46.1	33.1	13.0		23						
	30	211	51.9	34.3	17.6		25	25	0.0				
	31	212	79.5	35.5	44.0		30.5	25	5.5				
AUG	1	213	94.7	36.7	58.0		24.9	24.9	0.0				
	2	214	89.1	37.9	51.2		25.7						

Hydrograph scalping to support Table 4

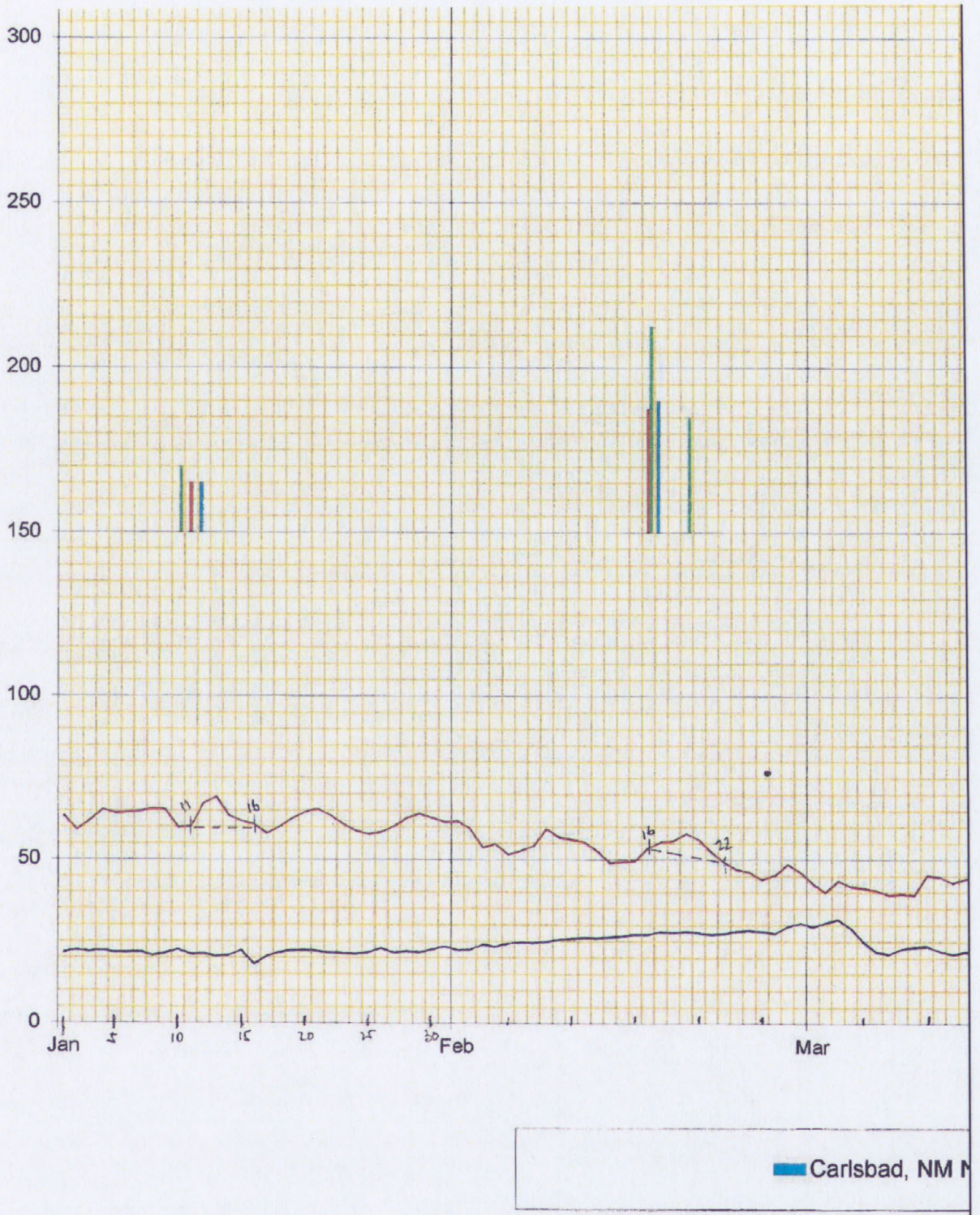
	3	215	72.4	39.1	33.3	25.8						
	4	216	61	40.3	20.7	25.4						
	5	217	41.5	41.5	0.0	25.5						
	6	218	39.9			25.9						
	7	219	37.4			26.2						
	8	220	37.3			26.2						
	9	221	41.6			25.9	25.9	0.0				
	10	222	101			33	26	7.0				
	11	223	62.5			26.1	26.1	0.0				
	12	224	55.4			25.7						
	13	225	54.6			26						
	14	226	50.7			26.3						
	15	227	46.4			25.8						
	16	228	41.1			25.9						
	17	229	45.7			25.8						
	18	230	50.4			25.9						
	19	231	51.1			26	26	0.0				
	20	232	49.9			32	26	6.0				
	21	233	59.8			26	26	0.0				
	22	234	71			25.9						
	23	235	56.3			26						
	24	236	54.7			26.6						
	25	237	50.5			27						
	26	238	46.1			26						
	27	239	49.2			38.3						
	28	240	51.1			25.9						
	29	241	52.8			25.7						
	30	242	62.1			24.8						
	31	243	57.2			24.7			163	13	150	
SEP	1	244	44.9	44.9	0.0	25						
	2	245	51.9	46.4	5.5	25.7						
	3	246	60.5	47.9	12.6	25.4						
	4	247	235	49.5	185.5	26.6	26.6	0.0				
	5	248	79.1	51.0	28.1	41	25.9	15.1				
	6	249	187	52.5	134.5	31.2	25.3	5.9				
	7	250	141	54.0	87.0	24.7	24.7	0.0				
	8	251	166	55.5	110.5	24.6						
	9	252	152	57.1	94.9	24.4						
	10	253	78.9	58.6	20.3	24.8						
	11	254	60.1	60.1	0.0	24.3						
	12	255	60.5			23.3						
	13	256	55.7			23.2						
	14	257	47.9			23.2						
	15	258	45.7			22.6						
	16	259	47.4			22.4						
	17	260	52.7			22.5						
	18	261	52.4			22.6						
	19	262	47.8			22.2	22.2	0.0				
	20	263	44.6			25.9	21.9	4.0				
	21	264	45.1	45.1	0.0	24.3	21.7	2.6				
	22	265	48.3	46.1	2.2	21.5	21.5	0.0				
	23	266	53.4	47.1	6.3	22.8						
	24	267	55.8	48.1	7.7	23						
	25	268	58.2	49.1	9.1	24						
****	26	269	50	50	0.0	26.7						
	27	270	52.3	50.9	1.4	23.6						
	28	271	56.5	51.8	4.7	24.5						
	29	272	69.6	52.6	17.0	24						
	30	273	65.7	53.5	12.2	25			740	28	712	
OCT	1	274	53.9	53.9	0.0	25.1						
	2	275	67.4			25						
	3	276	72.9			24.9						
	4	277	57.4			24.7						
	5	278	49.9			24.5	24.5	0.0				
	6	279	46	46	0.0	33.3	25.5	7.8				
	7	280	336	47.1	288.9	26.5	26.5	0.0				
	8	281	213	48.3	164.7	26.9						
	9	282	109	49.4	59.6	27.7						
	10	283	74.9	50.6	24.3	25.2	25.2	0.0				
	11	284	67	51.7	15.3	25.6	24.7	0.9				
	12	285	64.7	52.9	11.9	26.6	24.1	2.5				
	13	286	93.7	54.0	39.7	29.6	23.5	6.1				
	14	287	82.6	55.1	27.5	26.4	22.9	3.5				

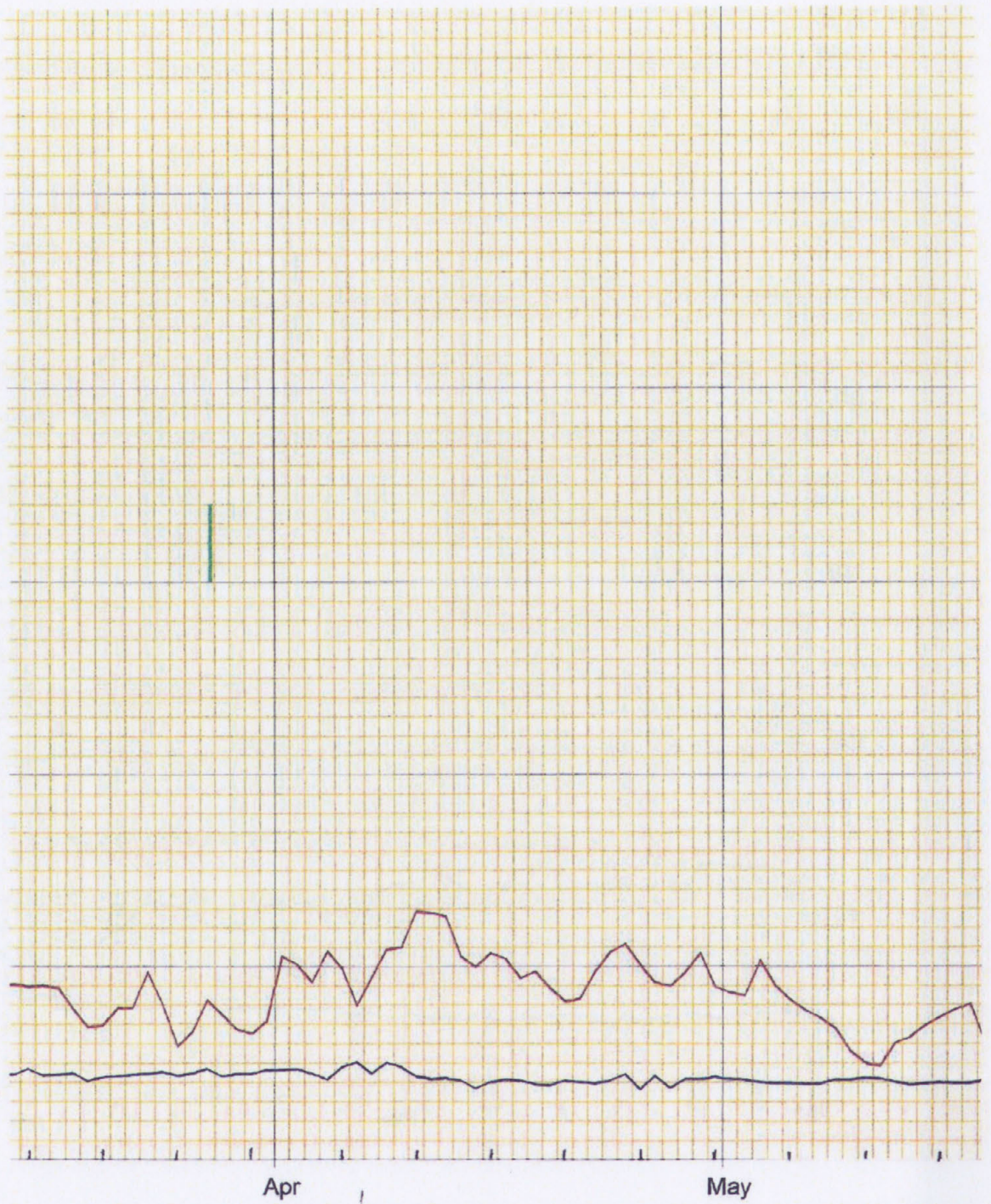
Hydrograph scalping to support Table 4

**	15	288	74	56.3	17.7	22.3	22.3	0.0	xxx			
	16	289	65.4	57.4	8.0	24.5	23.2	1.3				
	17	290	61.2	58.6	2.6	25.6	24.1	1.6				
	18	291	67	59.7	7.3	33.2	24.9	8.3				
	19	292	72.2	60.8	11.4	25.8	25.8	0.0				
	20	293	78.7	62.0	16.7	25.3						
	21	294	82.6	63.1	19.5	25.1						
	22	295	74.1	64.3	9.8	25.5	25.5	0.0				
	23	296	71.6	65.4	6.2	28.9	25.4	3.5				
	24	297	217	66.6	150.5	71	25.4	45.6				
	25	298	188	67.7	120.3	25.4	25.4	0.0				
	26	299	180	68.8	111.2	24.8						
	27	300	111	70.0	41.0	24.5						
	28	301	84.1	71.1	13.0	24.2						
	29	302	77.2	72.3	4.9	24.7						
	30	303	73.4	73.4	0.0	24.8	24.8	0.0				
	31	304	74.8			28.7	24.6	4.1		1172	85	1087
NOV	1	305	77.3			24.4	24.4	0.0				
	2	306	73.7			24.7						
	3	307	74.6			25.7						
	4	308	71			25.1						
	5	309	69.5			26.1						
	6	310	70.2			26.1						
	7	311	99.2			26						
	8	312	116			24.6						
	9	313	111			23.8						
	10	314	101			23.9						
	11	315	101			25.8						
	12	316	99.8			22.9						
	13	317	104			22.7						
	14	318	111			24						
	15	319	113			24.5						
	16	320	86.9			24.5						
	17	321	70.7			24.3						
	18	322	67.1			23.9						
	19	323	66.6			24.4						
	20	324	64.6			23.7						
	21	325	65.6			24						
	22	326	65.7			24.3						
	23	327	69.3			24.3						
	24	328	70.4			24.5						
	25	329	69.3			23.3						
	26	330	63			23.3						
	27	331	58			24.2						
	28	332	61.7			24.6						
	29	333	63.3			24.3						
	30	334	60.3			25.7				0	0	0
DEC	1	335	61.9			22.4						
	2	336	62.6			23.9						
	3	337	60.7			23.5						
	4	338	57			23.9						
	5	339	60.7			23.4						
	6	340	58.8			23.6						
	7	341	60.9	60.9	0.0	22.7						
	8	342	66.1	61.4	4.7	24.7						
	9	343	73.4	61.9	11.5	23.3						
	10	344	75.4	62.3	13.1	22.9						
	11	345	73	62.8	10.2	23.7						
	12	346	68.1	63.3	4.8	24.6						
	13	347	69.9	63.8	6.1	22						
	14	348	71.7	64.3	7.4	19.5						
	15	349	70.9	64.7	6.2	20.9						
	16	350	67.3	65.2	2.1	20.8						
	17	351	65.7	65.7	0.0	20.8						
	18	352	67.4			21.7						
	19	353	68.3			21.6						
	20	354	68.1			19.9						
	21	355	66.4			21.2						
	22	356	64.2			20.6						
	23	357	62.4			19.7						
	24	358	56			21.2						
	25	359	54.6			21.5						
	26	360	63.8			23						

Hydrograph scalping to support Table 4

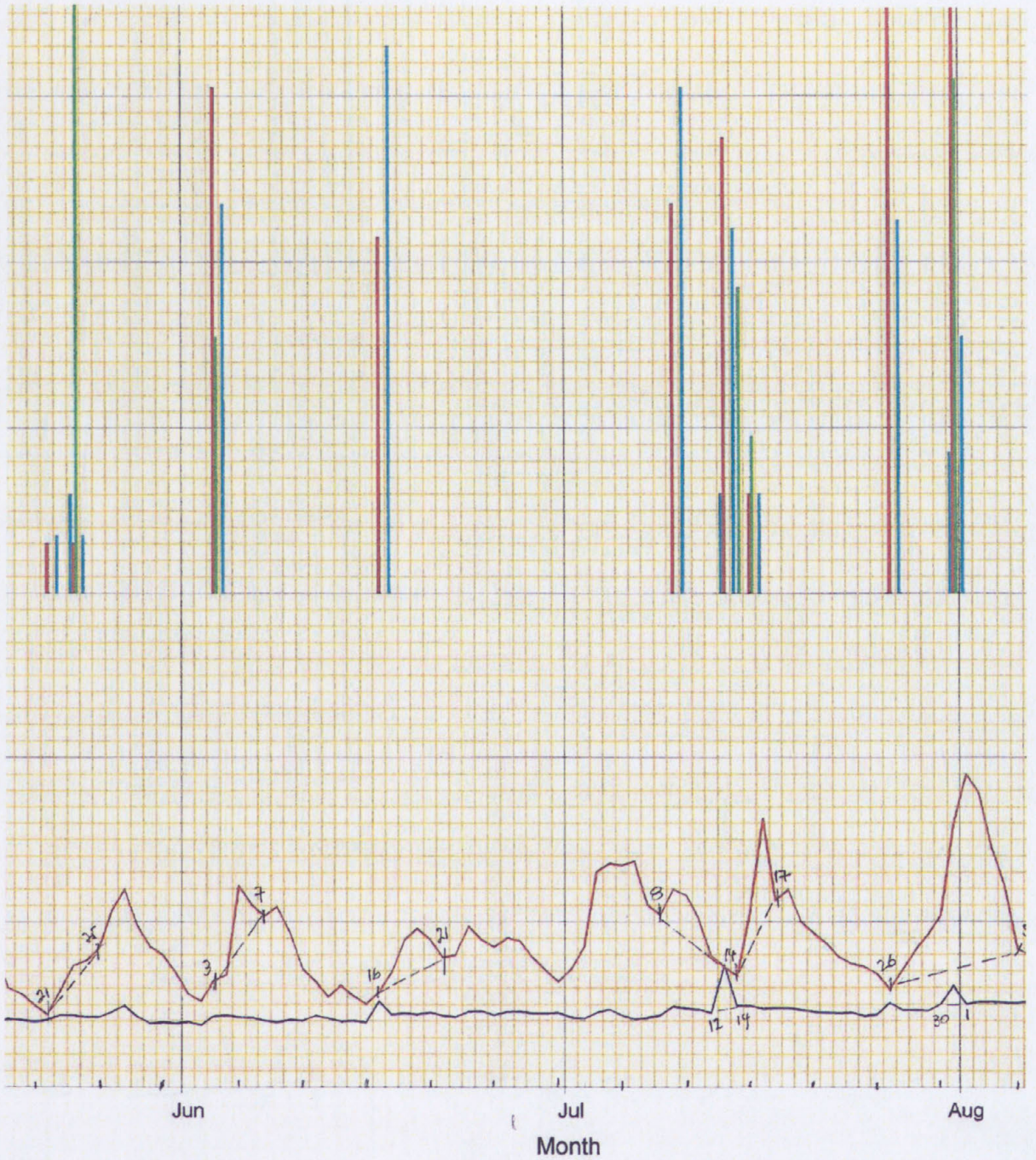
	27	361	67.5			19.8					
	28	362	67.1			20.7					
	29	363	67.3			20.5					
	30	364	62.7			21					
	31	365	62.5			20.9			66	0	66
Total, cfs-days			21501		2413	8608.7		145	2413	145	2268
Totals	RB	BDC	Diff, c-d	Diff TAF							
Jan	20.3	0.0	20.3	0.0							
Feb	20.6	0.0	20.6	0.0							
Mar	0.0	0.0	0.0	0.0							
Apr	0.0	0.0	0.0	0.0							
May	8.6	0.0	8.6	0.0							
Jun	59.7	0.0	59.7	0.1							
Jul	163.1	18.8	144.3	0.3							
Aug	163.2	13.0	150.2	0.3							
Sep	739.5	27.6	711.9	1.4							
Oct	1171.9	85.2	1086.8	2.2							
Nov	0.0	0.0	0.0	0.0							
Dec	66.1	0.0	66.1	0.1							
cfs-d	2412.9	144.6	2268.4	4.5							
TAF	4.8	0.3	4.5	4.5							





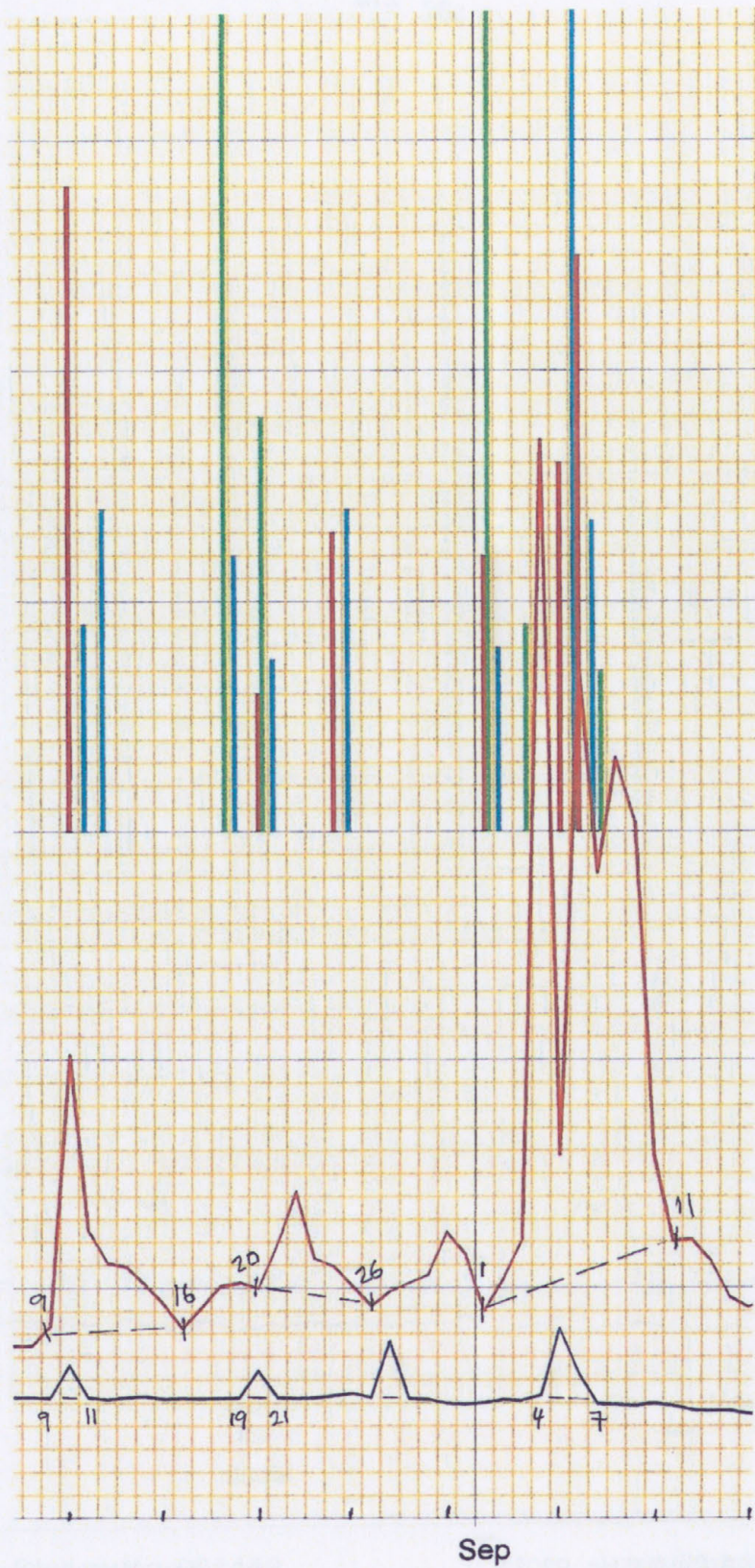
IOAA Station No. 291469

■ Carlsbad Cavern City Airp



ort, NM NOAA Station No. 93033

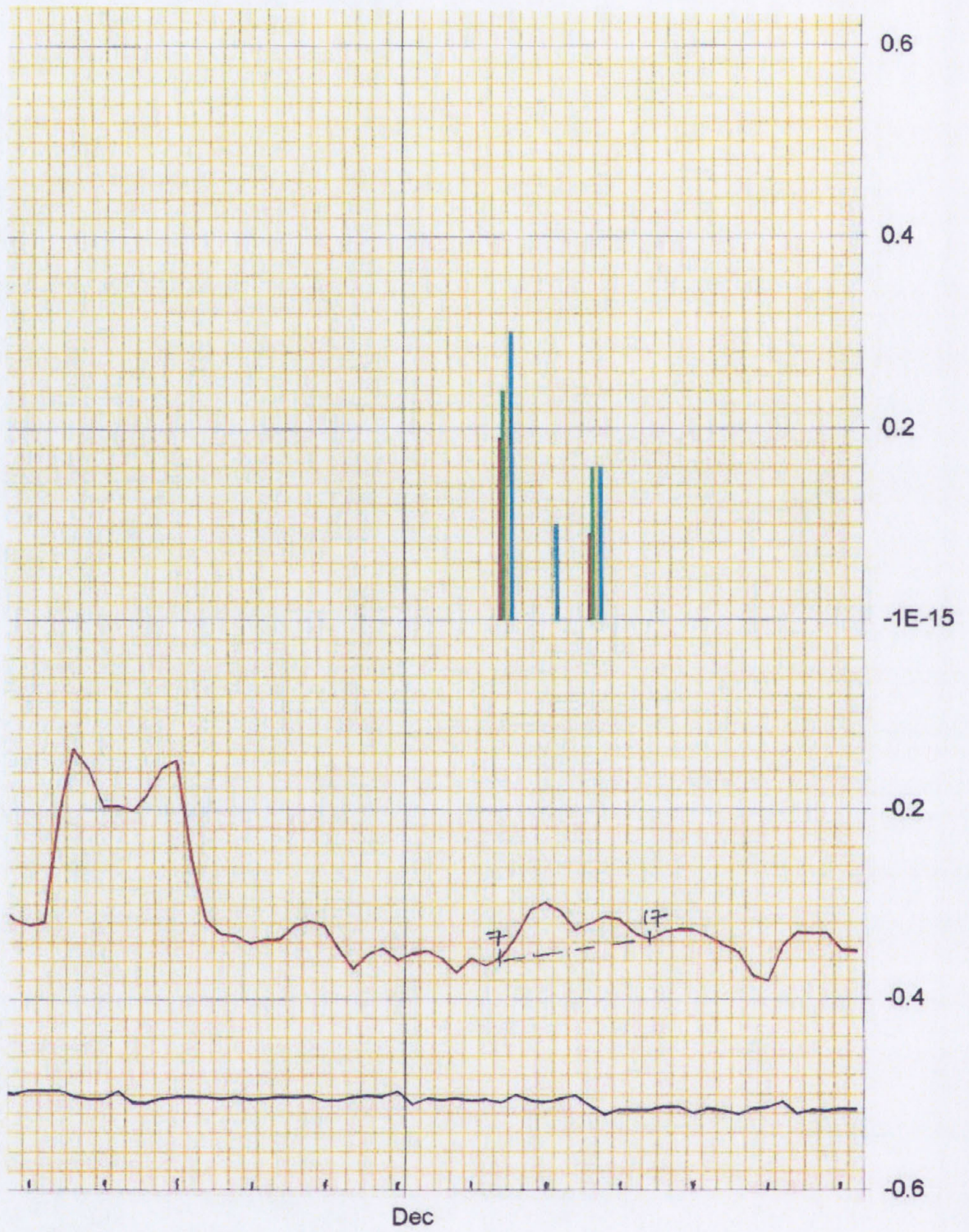
RAWS Station, Batdraw New Mexico



— Pecos River below I

—Pecos River at Rec

30a



Bluff

**NEW MEXICO'S OBJECTIONS
TO THE PRELIMINARY REPORT
OF THE RIVER MASTER OF THE PECOS RIVER
FOR THE WATER YEAR 2018**

New Mexico submits the following objections and comments to the Pecos River Master's (River Master) Preliminary Report for the Water Year 2018 (Preliminary Report).

I. Table 3. USGS Carlsbad Main Canal at Head Near Carlsbad, NM Gage Data

The Preliminary Report uses incorrect data for the USGS Carlsbad Main Canal gage for the months of April, May, June, August, September, October, and November. The incorrect values seem to have resulted from the use of 2017 data for the USGS Carlsbad Main Canal gage. New Mexico has conferred with Texas, and Texas has identified the same issue. The table below includes the data used by the River Master in Table 3 of the Preliminary Report and the USGS approved data for the months of April, May, June, August, September, October, and November.

Summary of Data 2018 USGS Carlsbad Main Canal at Head Near Carlsbad, NM Gage (08403500)		
Month	Data Used in WY 2018 Preliminary Report (thousand acre feet)	USGS Approved Data (thousand acre feet)
April	8.7	11.6
May	10.1	9.0
June	11.5	13.4
August	7.1	10.5
September	8.9	6.1
October	6.9	3.4
November	0.5	1.7

II. Accumulated Shortfall or Overage Table

New Mexico notes that the Accumulated Overage in the Preliminary Report contains a one-time credit of 16,600 acre-feet for Water Year 2017 attributable to New Mexico's storage of waters for Texas in Water Years 2014 and 2015. The one-time credit is currently the subject of a Motion for Review filed by Texas in the Supreme Court. New Mexico reserves all rights to receive the full credit to which it is entitled under the Compact related to its storage of waters at Texas's request.

Thank you for your consideration of New Mexico's comments.

Respectfully submitted on this 13th day of June, 2019:

/s/ Hannah Riseley-White

Hannah Riseley-White

Technical Representative for the State of New Mexico

**IN THE
SUPREME COURT OF THE UNITED STATES
OCTOBER TERM, 2018**

STATE OF TEXAS, Plaintiff,

v.

STATE OF NEW MEXICO, Defendant.

Before the River Master:

Neil S. Grigg

**TEXAS' RESPONSE TO THE
PECOS RIVER MASTER'S PRELIMINARY REPORT
FOR WATER YEAR 2018/ACCOUNTING YEAR 2019**

TO THE RIVER MASTER OF THE PECOS RIVER:

The State of Texas has reviewed the River Master's Preliminary Report for Water Year 2018. Texas' comments and objections are contained in Exhibit 1, titled "Texas' Comments/Objections," which is attached here and incorporated fully herein for all purposes. Texas respectfully requests that the River Master make the changes outlined in Exhibit 1.

Respectfully submitted on June 13, 2019.

/s/ J. Amber Ahmed

J. AMBER AHMED

Texas State Bar No. 24080756

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ATTORNEY FOR THE
STATE OF TEXAS

/s/ Scott Van Winkle

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Compact Hydrologist

Texas Commission on
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TECHNICAL REPRESENTATIVE
FOR THE STATE OF TEXAS

CERTIFICATE OF SERVICE

On June 13, 2019, a true and correct copy of Texas' Response to the Pecos River Master's Preliminary Report for Water Year 2018/Accounting Year 2019 was sent by email and Certified Mail, Return Receipt Requested to:

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/s/ J. Amber Ahmed
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EXHIBIT 1

TEXAS' COMMENTS/OBJECTIONS
Water Year 2018 - Accounting Year 2019

Texas' comments and objections to the River Master's Preliminary Report dated May 8, 2019, are described below. These calculations and comments do not take into consideration the open dispute over WY 2014 and WY 2015 accounting concerning reservoir losses and unappropriated flood flows. Texas continues to reserve all of its current and future rights to its objections and assertions in this open dispute.

1. Table 3. Determination of Flood Inflows, Artesia to Carlsbad [B.4], TAF for WY 2018:

CID diversion (Table 12):

The River Master's Preliminary Report's values for the Carlsbad Irrigation District (CID) diversions (Table 3) are inconsistent with the Carlsbad Main Canal values from Table 12, as shown in Exhibit A. The incorrect values for April, May, June, August, September, October, and November calculated from Table 3 resulted in a flood inflow, for Artesia-Carlsbad, of 8.0 TAF. The corrections for Table 3, for CID diversion, result in a total flood inflow from Artesia to Carlsbad of 9.8 TAF instead of 8.0 TAF. Table 3 is shown in Exhibit B.

2. Table 4. Summary Table for Computations, Carlsbad to State Line [B.5], TAF for WY 2018:

Scalped Flood Flows for Carlsbad to Red Bluff

The River Master's preliminary calculation for the Carlsbad to Red Bluff reach in August 2018 failed to include the scalped rises that were marked on the Pecos River at Red Bluff Hydrograph for August 9-16, 2018 and August 20-26, 2018 (Exhibit F). The flood inflow for these periods, scalped by Texas, is 0.413 TAF. Applying the correction, the total revised inflows from Carlsbad to Red Bluff would be 4.96 TAF, as shown in the revised Table 4 (Exhibit H), instead of 4.40 TAF as reported in the River Master's Preliminary Report.

In addition, the Appendix to the Preliminary River Master Report for WY 2018 - scalped rainfall events - were based upon three provided weather stations. The provided weather stations were clustered in the west-central portion of the Carlsbad to Red Bluff sub-basin, as represented in Exhibit C. In previous years, additional weather stations have been used that captured the region's distribution of precipitation and magnitude of rainfall events more accurately. By only scalping rainfall events using weather stations near one another, scalped inflow values do not include periods with regional rainfall per the RMM B.5.a.(1), as shown in Exhibits D and E, which provide locations and rainfall

data from additional weather stations in the area. For example, between June 26 to July 2, 2018, daily maximum observed rainfall for the area was 1.20 inches (in.) in the region, which is consistent with a rise on the hydrograph as shown in Exhibits E and G.

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This event, however, was not included in the preliminary scalping. Further, there were numerous additional periods where the area rainfall was greater than 0.05 in., and radar indicated that there was area-wide rainfall which may not have been picked up by gauges. According to the RMM B.5.a.(1), these periods should be considered for scalping. Therefore, we request that the scalping be reviewed using precipitation data from additional weather stations shown in Exhibits D and E. If all rainfall events that meet the minimum area rainfall criteria of 0.05 inches or greater were included, the estimated inflows from Carlsbad to Red Bluff would be 8.1 TAF based on Texas calculations.

3. Table 1. General Calculation of Annual Departures in TAF for WY 2018:

Implementing the corrections from Table 3 into a revised Table 1 (Exhibit I), and, applying the revised scalping from Carlsbad to Red Bluff, the total Annual Departures result in a revised total of 5.31 TAF.

In contrast, if all rainfall events were scalped that meet the minimum area rainfall criteria of 0.05 in. or greater, as represented by Texas calculations, the Annual Departures result in a total of 2.61 TAF.

Attachments: Exhibits A-I

Exhibit A - Table 12

Data Required for River Master Manual Calculations

TAF for WY 2018 (CY 2018)

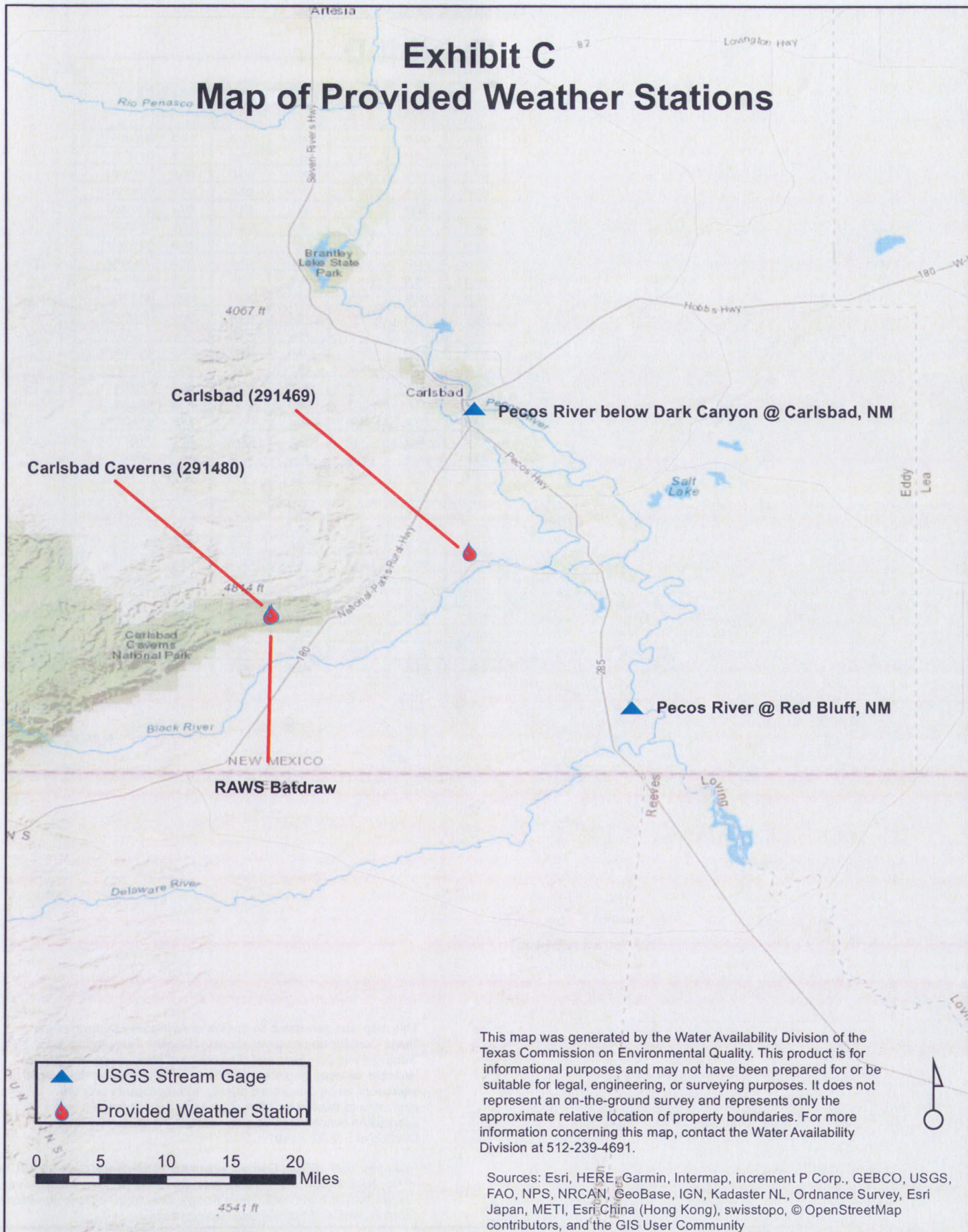
STREAMFLOW GAGING RECORDS, TAF														
***USGS data tables														
Gage No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
08384500	1.4	2.5	4.1	15.8	4.8	5.6	39.4	4.3	16.2	2.5	0.3	0.9	97.7	
08385000	0.0	1.6	4.3	4.8	5.1	6.0	4.9	3.3	3.6	1.5	0.0	0.0	35.3	
08396500	5.1	4.5	3.2	7.8	5.7	1.7	23.8	2.8	14.6	8.7	4.9	4.1	86.7	
08398500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
08400000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
08401200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
08401900	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	
08402000	0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1	
08404000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
08403500	0.0	0.0	5.6	11.6	9.0	13.4	10.9	10.5	6.1	3.4	1.7	0.0	72.2	
08405150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
08405200	1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1	
08407500	3.8	2.9	2.5	3.0	2.3	2.3	3.1	3.4	4.5	6.0	4.8	4.0	42.6	
08408500	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.1	0.1	1.8	
Jan	3160.0	3160.0	3174.7	3175.2	3174.6	3175.0	3175.2	3174.6	3174.0	3173.4	3160.0	3160.0		
Lake Avalon gage ht., EOM	3160.0	3160.0	3175.3	3174.1	3174.4	3174.1	3175.0	3174.4	3174.8	3174.1	3165.3	3160.0		
Lake Avalon gage ht., avg.	0.0	0.0	808.3	699.0	731.6	699.0	796.8	731.6	775.0	699.0	0.6	0.0		
Lake Avalon area, avg. (2013 table)														
Lake Sumner gage ht., EOM	4263.1	4263.4	4262.9	4257.4	4256.5	4254.7	4254.1	4254.2	4251.9	4253.6	4255.8	4257.6		
Lake Sumner storage, EOM. (2013 table)	41659.7	42485.2	41116.0	28146.1	26357.4	23026.1	21976.6	22149.5	18384.1	21124.9	25027.8	28555.9		
Lake Sumner gage ht., avg.	4263.4	4263.4	4263.2	4261.6	4257.0	4255.7	4254.7	4254.3	4252.3	4252.4	4254.8	4256.7		
Lake Sumner area, avg. (2013 table)	2679.6	2771.1	2745.0	2535.7	1993.1	1857.0	1774.1	1740.9	1574.9	1583.2	1782.4	1959.7		
Lake Sumner storage, avg. (2013 table)	40577.4	42485.2	41933.6	37709.0	27340.0	24841.7	23026.1	22323.1	19007.4	19165.3	23203.9	26747.1		
Santa Rosa gage ht., EOM	4747.9	4747.8	4747.6	4747.2	4747.0	4746.5	4736.8	4737.1	4734.3	4734.9	4734.8	4734.8		
Santa Rosa storage, EOM (2017 table)	94352.0	93986.0	93257.0	91811.0	91092.0	89313.0	8830.0	59661.0	5200.0	53746.0	53486.0	53486.0		
Santa Rosa gage ht., avg.	4747.9	4747.8	4747.7	4747.3	4747.0	4746.8	4738.5	4737.1	4734.9	4734.3	4734.8	4734.7		
Santa Rosa area, avg. (2017 table)	3668.0	3658.0	3647.0	3606.0	3578.0	3560.0	2886.0	2782.0	2598.0	2551.0	2590.0	2582.0		
Santa Rosa storage, avg. (2017 table)	94352.0	93986.0	93622.0	92169.0	91092.0	90377.0	63628.0	59661.0	53746.0	5200.0	53486.0	53228.0		
PRECIPITATION (INCHES)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Brantley Lake	0.01	0.19	0.08	0.01	0.03	0.78	1.57	1.01	2.38	3.49	0.23	0.5	10.28	
Las Vegas FAA AP	0.00	0.19	0.20	0.29	0.11	0.27	6.51	3.26	2.69	3.33	0.10	0.72	17.67	
Pecos Nat'l Monument	0.62	2.05	0.71	0	0.5	0.46	4.18	1.49	1.28	3.07	5.55	0.71	20.62	
Santa Rosa	0.05	0.11	0.21	0.04	0.63	1.4	2.13	1.23	2.52	5.57	0.47	1.84	16.2	
Lake Santa Rosa	0.05	0.11	0.21	0.04	0.63	1.40	2.13	1.23	2.52	5.57	0.47	1.84	16.2	
Sumner Lake	0.11	0.11	0.03	0.02	0.9	0.95	2.74	3.9	3.14	3.56	0.25	0.57	16.28	
Lake Santa Rosa	3.72	4.98	8.58	9.96	13.14	13.99	11.62	10.69	7.73	4.94	4.44	3.76	97.6	
Lake Sumner	4.68	4.97	10.56	12.80	15.73	16.05	14.67	11.90	8.09	5.60	4.11	2.50	111.7	
Brantley Lake	4.65	5.60	9.97	12.94	16.93	17.51	15.48	12.30	7.83	6.24	4.80	4.34	118.6	
OTHER REPORTS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Base inflow Acme - Artesia (USGS) (TAF)*	2.52	2.33	2.09	1.55	1.29	0.60	0.12	0.43	0.60	1.54	1.96	2.09	17.1	
River pumping Acme - Artesia (TAF)	0.00	0.00	0.10	0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.5	
C-2713, Southwest Salt Co. (Malaga Bend)	0.019	0.051	0.045	0.033	0.032	0.047	0.042	0.030	0.013	0.020	0.012	0.008	0.4	
Irrig acreage above A Dam (acres)													11529	
Water use transfer ab A Dam(TAF)													0.0	
Salvaged water (TAF)													0.0	
TX water stored in NM (TAF)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Delaware R water used by TX (TAF)													0.0	

Exhibit B - Table 3
Determination of Flood Inflows, Artesia to Carlsbad [B.4]
TAF for WY 2018 (CY 2018)

Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	RM Preliminary
Rio Pefasco at Dayton (Table 12)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.0	0.0
Fourmile Draw nr Lakewood (Table 12)	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.0	0.0
S Seven Rivers nr Lakewood (Table 12)	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Rocky A at Hwy Br nr Carlsbad (Table 12)	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.02	0.00	0.00	0.00	0.12	0.12
Flood inflow, Artesia-DS3	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.04	0.00	0.00	0.00	0.16	0.16
Pecos R at DS3 nr Carlsbad (Table 12)	0.03	0.48	10.07	12.67	9.71	15.25	12.04	10.24	6.44	3.12	0.03	0.06	80.1	80.1
C Springs new water (Table 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	-0.1	-0.1
Total inflow, DS3-Carlsbad	0.02	0.47	10.07	12.67	9.70	15.24	12.03	10.24	6.44	3.12	0.02	0.05	80.1	80.1
L Avalon evap loss (Table 10)	0.00	0.00	0.51	0.58	0.79	0.74	0.69	0.52	0.24	0.08	0.00	0.00	4.1	4.1
L Avalon ch in storage (Table 11)	0.00	0.00	2.22	0.39	-0.47	0.31	0.16	-0.47	-0.43	-0.39	-1.32	0.00	0.0	0.0
CID diversion (Table 12)	0.00	0.00	5.59	11.61	9.04	13.40	10.91	10.50	6.06	3.38	1.66	0.00	72.2	70.2
Net CID diversion (CID Div * 0.93) (B.4.a.(3))	0.00	0.00	5.20	10.80	8.41	12.46	10.15	9.77	5.64	3.14	1.54	0.00	67.1	65.3
Other depletions (hard coded B.4.a.(4))	0.10	0.10	0.10	0.10	0.10	0.10	0.20	0.20	0.10	0.10	0.10	0.10	1.4	1.4
Dark Canyon Dr at Carlsbad (Table 12)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Pecos R blw D C Dr at Carlsbad (Table 12)	1.32	1.46	1.43	1.26	1.26	1.27	1.45	1.64	1.48	1.70	1.46	1.35	17.1	17.1
Pecos R at Carlsbad	1.32	1.46	1.43	1.26	1.26	1.27	1.45	1.64	1.48	1.70	1.46	1.35	17.1	17.1
Total outflow, DS3-Carlsbad	1.42161	1.56	9.46	13.13	10.09	14.89	12.64	11.65	7.02	4.62	1.77	1.45	89.7	87.9
Flood inflow, DS3-Carlsbad	1.40093	1.09	-0.61	0.46	0.39	-0.36	0.61	1.41	0.58	1.51	1.75	1.40	9.6	7.8
Flood inflow, Artesia-Carlsbad	1.40	1.09	-0.61	0.46	0.39	-0.36	0.74	1.41	0.62	1.51	1.75	1.40	9.8	8.0

Exhibit C

Map of Provided Weather Stations



This map was generated by the Water Availability Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Water Availability Division at 512-239-4691.

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

Exhibit D

Map of Additional Weather Stations

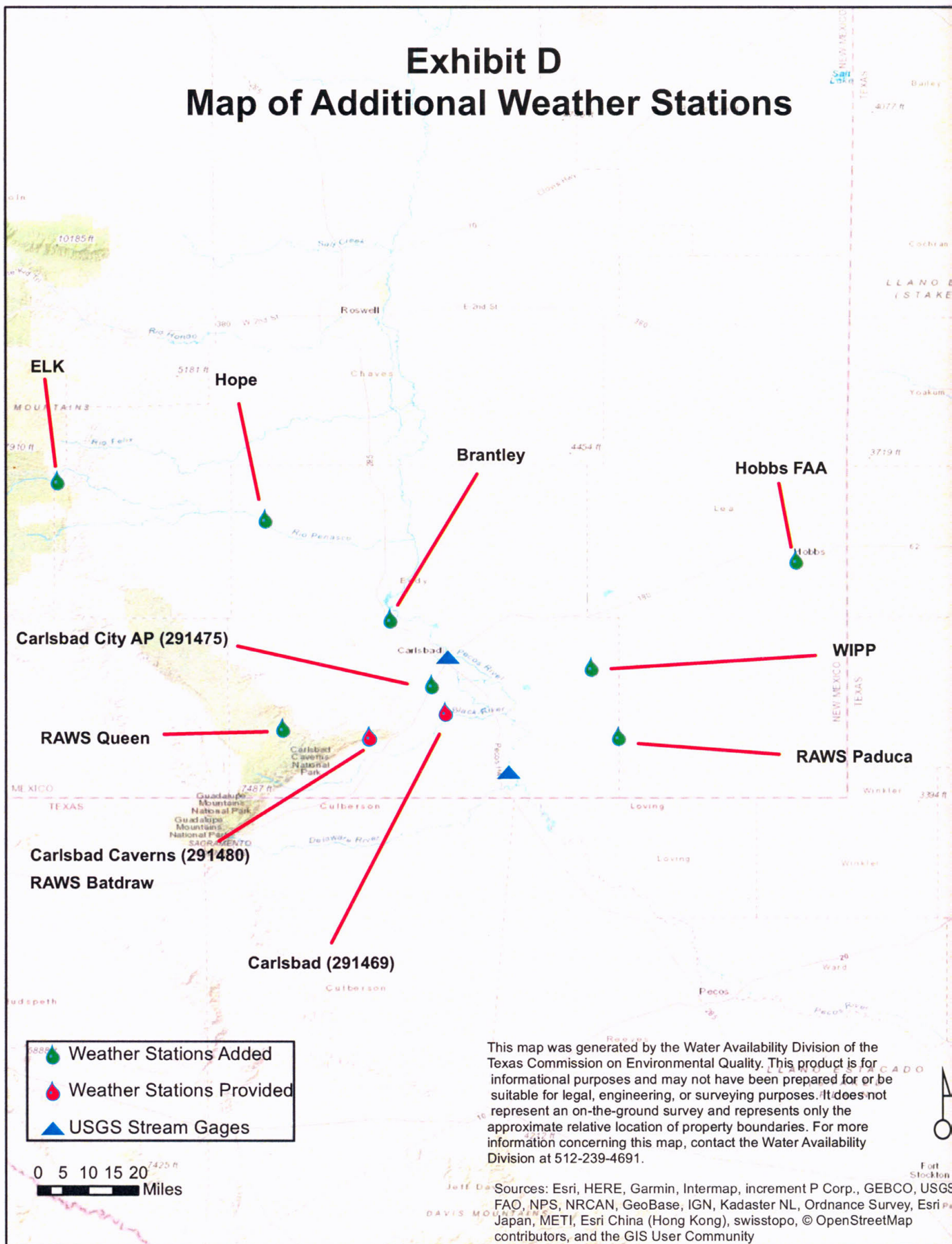


EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													Minimum value
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	
1/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/10/2018	0.00	0.08	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.10	0.10	0.05
1/11/2018	0.00	0.03	0.06	0.06	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.08	0.05
1/12/2018	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.06	0.05
1/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/26/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06	0.05
1/27/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
1/31/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	Minimum value
2/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.05
2/16/2018	0.00	0.25	0.15	0.15	0.00	0.00	0.03	0.05	0.44	0.22	0.02	0.44	0.05
2/17/2018	0.16	0.01	0.00	0.00	0.38	0.19	0.00	0.01	0.00	0.22	0.00	0.38	0.05
2/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.02	0.12	0.05
2/19/2018	M	0.14	0.03	0.03	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.14	0.05
2/20/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/21/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/22/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/23/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/24/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/25/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/26/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/27/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2/28/2018	M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	Minimum value
3/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.05
3/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.05
3/11/2018	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05
3/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.05
3/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05
3/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/26/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.17	0.17	0.05
3/27/2018	0.00	0.08	0.02	0.02	0.00	0.00	0.01	0.00	0.11	0.03	0.00	0.11	0.05
3/28/2018	0.02	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08	0.05
3/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
3/31/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WPP	Max Area Precipitation	Minimum value
4/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.05
4/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.05
4/25/2018	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.07	0.00	0.00	0.07	0.05
4/26/2018	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.05
4/27/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WPP	Max Area Precipitation	Minimum value
5/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/9/2018	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.05
5/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.05
5/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/21/2018	0.00	0.04	0.06	0.06	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14	0.05
5/22/2018	0.07	0.01	0.00	0.00	0.30	0.00	0.00	0.00	0.01	0.02	0.30	0.30	0.05
5/23/2018	0.12	0.71	0.06	0.06	0.00	0.00	0.62	0.03	1.69	0.00	0.00	1.69	0.05
5/24/2018	0.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.07	0.05
5/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/26/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.05
5/27/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
5/31/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													Minimum value
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	
6/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/3/2018	0.00	0.31	0.61	0.61	0.08	0.00	1.22	1.62	0.29	0.14	2.97	2.97	0.05
6/4/2018	0.47	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.70	0.05
6/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.27	0.05
6/7/2018	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05
6/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.05
6/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.05
6/10/2018	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.05
6/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.13	2.13	0.05
6/16/2018	0.00	0.00	0.43	0.43	0.00	0.00	0.18	0.44	0.01	0.00	0.02	0.44	0.05
6/17/2018	0.66	0.00	0.00	0.00	0.00	0.05	0.00	0.07	0.00	0.00	0.00	0.66	0.05
6/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.05
6/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/26/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21	0.05
6/27/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6/30/2018	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
7/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WPP	Max Area Precipitation	Minimum value
7/2/2018	0.00	0.04	0.02	0.02	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.65	0.05
7/3/2018	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05
7/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.05
7/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.11	0.00	0.11	0.05
7/8/2018	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05
7/9/2018	0.00	0.00	0.47	0.47	0.11	0.00	0.00	0.00	0.03	0.00	0.00	0.47	0.05
7/10/2018	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.61	0.05
7/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.02	0.01	0.41	0.05
7/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.14	0.29	0.29	0.05
7/13/2018	0.12	0.00	0.55	0.55	0.00	0.00	0.00	0.06	0.35	0.52	0.01	0.55	0.05
7/14/2018	0.44	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.71	0.06	0.71	0.05
7/15/2018	0.00	0.19	0.12	0.12	0.00	0.03	0.00	0.00	0.90	0.28	0.00	0.90	0.05
7/16/2018	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.62	0.05
7/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.17	0.17	0.05
7/26/2018	0.00	0.05	1.69	1.69	0.00	0.00	0.00	0.00	0.02	0.00	0.00	1.69	0.05
7/27/2018	0.45	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	1.22	0.00	1.22	0.05
7/28/2018	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.03	0.00	0.36	0.05
7/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.97	0.97	0.05
7/31/2018	0.17	0.62	0.83	0.83	0.11	1.20	0.00	0.36	1.18	0.45	0.00	1.20	0.05
8/1/2018	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.31	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	Minimum value
8/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.05
8/4/2018	0.02	0.03	0.00	0.00	0.45	0.55	0.00	0.00	0.00	0.03	0.00	0.55	0.05
8/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/8/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.34	0.00	0.34	0.05
8/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.79	0.79	0.05
8/10/2018	0.00	0.00	0.56	0.56	0.00	0.15	0.14	0.65	0.04	0.32	0.00	0.65	0.05
8/11/2018	0.18	0.04	0.05	0.05	0.48	0.03	0.00	0.00	0.03	0.00	0.00	0.48	0.05
8/12/2018	0.28	0.00	0.00	0.00	0.25	0.00	0.00	0.01	0.00	0.00	0.00	0.28	0.05
8/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	1.38	0.05
8/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.61	0.05
8/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.28	0.05
8/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.01	0.00	0.00	0.15	0.05
8/18/2018	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.13	0.37	0.46	0.00	1.09	0.05
8/19/2018	0.24	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.85	0.85	0.05
8/20/2018	0.00	0.36	0.12	0.12	0.00	0.24	0.00	0.21	0.00	0.00	0.00	0.36	0.05
8/21/2018	0.15	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.15	0.05
8/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/23/2018	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.04	0.05
8/24/2018	M	0.00	0.26	0.26	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.26	0.05
8/25/2018	0.28	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.54	0.54	0.05
8/26/2018	0.00	0.01	0.03	0.03	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.71	0.05
8/27/2018	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.07	0.05
8/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.35	0.05
8/29/2018	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.30	0.05
8/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
8/31/2018	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.00	0.41	1.13	0.05
9/1/2018	0.00	0.77	0.24	0.24	0.17	0.06	0.19	0.00	0.43	1.90	0.24	1.90	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	Minimum value
9/2/2018	0.16	0.01	0.01	0.01	0.21	0.26	0.00	0.06	0.19	0.25	0.97	0.97	0.05
9/3/2018	0.00	0.18	0.00	0.00	0.52	0.45	0.58	0.34	0.67	0.39	0.34	0.67	0.05
9/4/2018	0.03	0.01	0.00	0.00	1.23	0.00	0.00	0.11	0.16	0.45	1.79	1.79	0.05
9/5/2018	0.00	0.00	0.32	0.32	0.21	0.00	0.00	0.03	0.00	0.00	0.52	0.52	0.05
9/6/2018	1.22	0.00	0.50	0.50	0.11	0.08	0.00	0.26	0.09	0.00	0.05	1.22	0.05
9/7/2018	0.27	0.14	0.01	0.01	0.25	0.93	0.00	0.39	0.11	0.15	0.00	0.93	0.05
9/8/2018	0.04	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.13	0.00	0.01	0.13	0.05
9/9/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.05
9/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.05
9/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/12/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.10	0.00	0.10	0.05
9/20/2018	0.00	0.34	0.20	0.20	1.14	0.00	0.00	0.18	0.45	0.14	0.00	1.14	0.05
9/21/2018	0.14	0.10	0.06	0.06	0.32	0.25	0.00	0.01	0.52	0.08	0.00	0.52	0.05
9/22/2018	0.03	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.05
9/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/26/2018	0.00	0.14	0.30	0.30	0.04	0.00	0.00	0.21	0.21	0.06	0.00	0.30	0.05
9/27/2018	0.45	0.02	0.00	0.00	0.17	0.07	0.00	0.00	0.00	0.00	0.00	0.45	0.05
9/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
9/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/1/2018	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WPP	Max Area Precipitation	Minimum value
10/2/2018	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.02	0.02	0.00	0.17	0.05
10/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.47	0.05
10/6/2018	0.00	0.70	0.45	0.45	0.00	0.00	0.05	0.06	0.32	0.17	0.00	0.70	0.05
10/7/2018	0.49	0.05	0.06	0.06	0.00	0.33	0.00	0.08	0.09	0.02	0.00	0.49	0.05
10/8/2018	0.00	0.34	0.20	0.20	0.04	0.09	0.05	0.17	0.39	0.04	0.00	0.39	0.05
10/9/2018	0.30	0.01	0.05	0.05	0.00	0.39	0.00	0.06	0.00	0.13	0.00	0.39	0.05
10/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/11/2018	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
10/12/2018	0.00	0.40	0.37	0.37	0.04	0.08	0.28	1.24	0.44	0.13	0.00	1.24	0.05
10/13/2018	0.60	0.02	0.00	0.00	0.26	0.19	0.00	0.11	0.01	0.24	0.00	0.60	0.05
10/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04	0.05
10/15/2018	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.05
10/16/2018	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.05
10/17/2018	0.00	0.24	0.18	0.18	0.23	0.00	0.30	0.55	0.43	0.10	0.00	0.55	0.05
10/18/2018	0.40	0.57	0.49	0.49	0.15	0.37	0.09	0.35	0.58	0.20	0.00	0.58	0.05
10/19/2018	0.42	0.01	0.01	0.01	0.00	0.57	0.00	0.00	0.01	0.00	0.00	0.57	0.05
10/20/2018	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.16	0.05
10/21/2018	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.07	0.05
10/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/23/2018	0.00	1.29	1.20	1.20	1.31	0.00	0.13	0.52	0.63	0.23	0.00	1.31	0.05
10/24/2018	1.73	0.57	0.56	0.56	0.02	1.40	0.00	0.99	0.26	1.50	0.00	1.73	0.05
10/25/2018	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
10/26/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/27/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10/31/2018	0.10	0.44	0.32	0.32	0.00	0.00	0.00	0.40	0.52	0.33	0.00	0.52	0.05
11/1/2018	0.35	0.00	0.00	0.00	0.26	0.20	0.00	0.00	0.00	0.00	0.00	0.35	0.05

EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													Minimum value
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	
11/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/6/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/7/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/8/2018	0.00	0.04	0.00	0.00	0.06	0.00	0.00	0.00	0.05	0.00	0.00	0.06	0.05
11/9/2018	0.03	0.04	0.01	0.01	0.00	0.03	0.00	0.00	0.14	0.00	0.00	0.14	0.05
11/10/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/11/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/12/2018	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.05
11/13/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/14/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/15/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/18/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/19/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/20/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/26/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/27/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/28/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/29/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
11/30/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

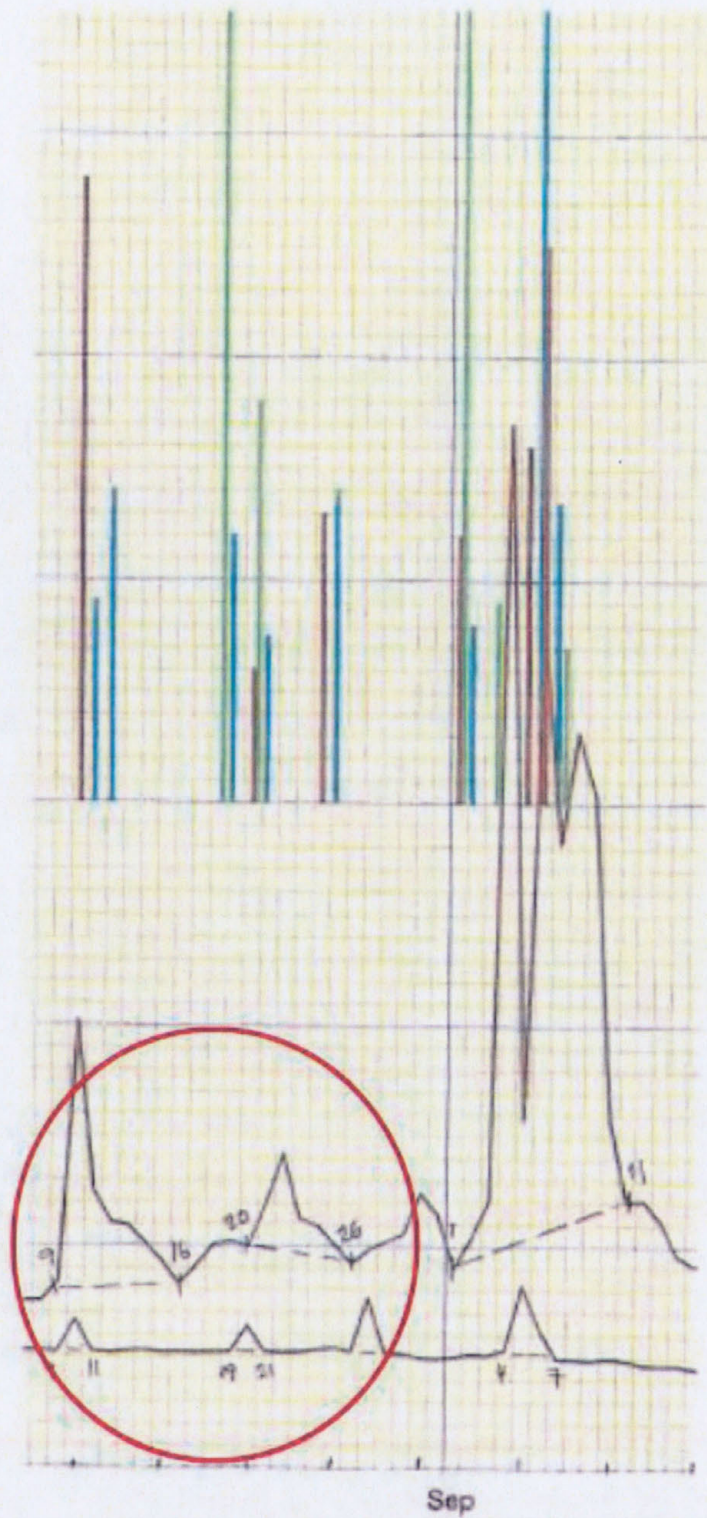
EXHIBIT E
WY 2018 PECOS BASIN AREAWIDE PRECIPITATION

EXHIBIT E CARLSBAD TO RED BLUFF													
Date	291469 Carlsbad	RAWS Bat Draw	291480 Carlsbad Caverns	291475 Carlsbad City AP	Hope 294122	Brantley	Hobbs FFA	RAWS Paduca	RAWS Queen	ELK	WIPP	Max Area Precipitation	Minimum value
12/2/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/3/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/4/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/5/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/6/2018	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05
12/7/2018	0.00	0.00	0.00	0.19	0.26	0.00	0.00	0.41	0.17	0.26	0.00	0.41	0.05
12/8/2018	0.00	0.24	0.19	0.02	0.20	0.28	0.00	0.03	0.08	0.07	0.00	0.28	0.05
12/9/2018	0.30	0.02	0.02	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.30	0.05
12/10/2018	0.00	0.00	0.00	0.00	0.16	0.00	0.00		0.00	0.00	0.00	0.16	0.05
12/11/2018	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.05
12/12/2018	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.05
12/13/2018	0.00	0.00	0.00	0.09	0.00	0.15	0.00	0.21	0.00	0.07	0.00	0.21	0.05
12/14/2018	0.00	0.16	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.05
12/15/2018	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.05
12/16/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/17/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/18/2018	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03	0.05
12/19/2018	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05
12/20/2018	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05
12/21/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/22/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/23/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/24/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/25/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12/26/2018	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.07	0.37	0.02	0.00	0.37	0.05
12/27/2018	0.00	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.05
12/28/2018	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.31	0.00	0.31	0.05
12/29/2018	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.02	0.07	0.00	0.15	0.05
12/30/2018	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.03	0.05
12/31/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

Station													
Sum	12.47	11.69	12.05	12.05	10.51	10.28	5.81	12.44	16.03	13.99	16.60	59.98	

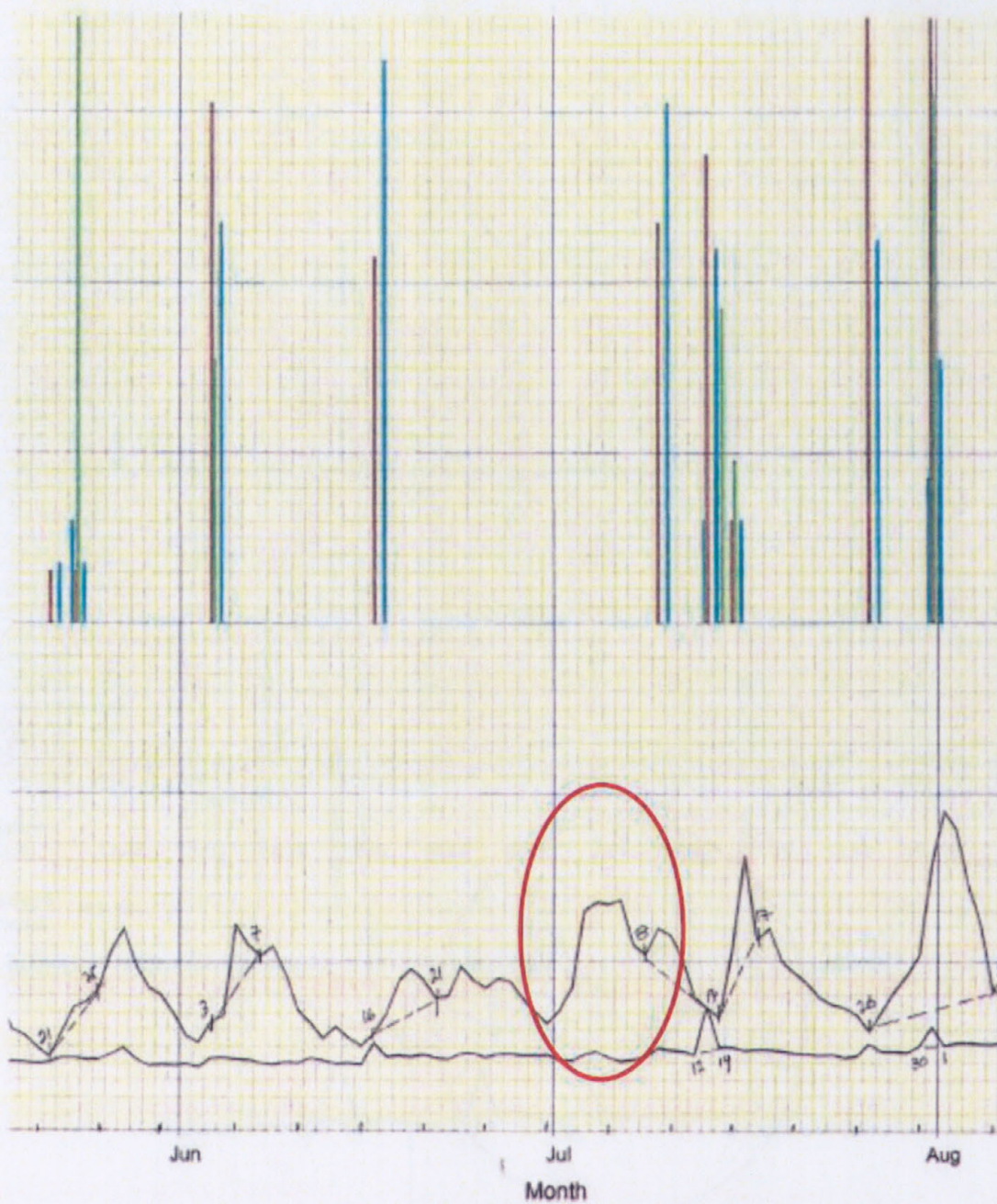
Average
Annual 12.17

EXHIBIT F



— Pecos River below

EXHIBIT G



ort, NM NOAA Station No. 93033

RAWS Station, Batdraw New Mexico

Exhibit H – Revised Table 4

Summary Table for Computations, Carlsbad to State Line (B.5)

Month	Carlsbad to Red Bluff			Delaware River			Dark Canyon			Month
	RM Prelim	USGS	Texas*	RM Prelim	USGS	Texas	RM Prelim	USGS	Texas	
Jan	0.00	0.24	0.12	0.00	0.00	0.00	0.00	0.00	0.00	Jan
Feb	0.00	0.03	0.14	0.00	0.00	0.00	0.00	0.00	0.00	Feb
Mar	0.00	0.20	0.12	0.00	0.00	0.00	0.00	0.00	0.00	Mar
Apr	0.00	0.62	0.08	0.00	0.00	0.00	0.00	0.00	0.00	Apr
May	0.00	0.65	0.48	0.00	0.00	0.01	0.00	0.00	0.00	May
Jun	0.10	0.64	0.37	0.00	0.00	0.00	0.00	0.00	0.00	Jun
Jul	0.30	1.02	0.97	0.00	0.01	0.02	0.00	0.00	0.00	Jul
Aug	0.30	0.87	0.79	0.00	0.04	0.04	0.00	0.00	0.00	Aug
Sep	1.40	1.69	1.54	0.30	0.25	0.26	0.00	0.00	0.00	Sep
Oct	2.20	2.57	2.30	0.40	0.43	0.46	0.00	0.00	0.00	Oct
Nov	0.00	0.94	0.68	0.00	0.00	0.01	0.00	0.00	0.00	Nov
Dec	0.10	0.45	0.48	0.00	0.000	0.00	0.00	0.00	0.00	Dec
Total	4.40	9.91	8.07	0.70	0.74	0.79	0.00	0.00	0.00	Total

* Dark Canyon Draw included in Carlsbad to Red Bluff Flood Inflows

Summary of flood inflows, Carlsbad to State Line, TAF		RM Preliminary	RM Revised	TEXAS	USGS
Carlsbad to Red Bluff		4.40	4.96	8.07	9.914
Dark Canyon		0.00	0.00	0.00	0.000
Delaware River		0.70	0.70	0.79	0.736
Total Flood Inflow, Carlsbad to State Line (for Table 1)		5.10	5.66	8.86	10.65

Exhibit I - Revised Table 1

General Calculation of Annual Departures [B.1]

TAF for WY 2018 (CY 2018)

Water Year 2018

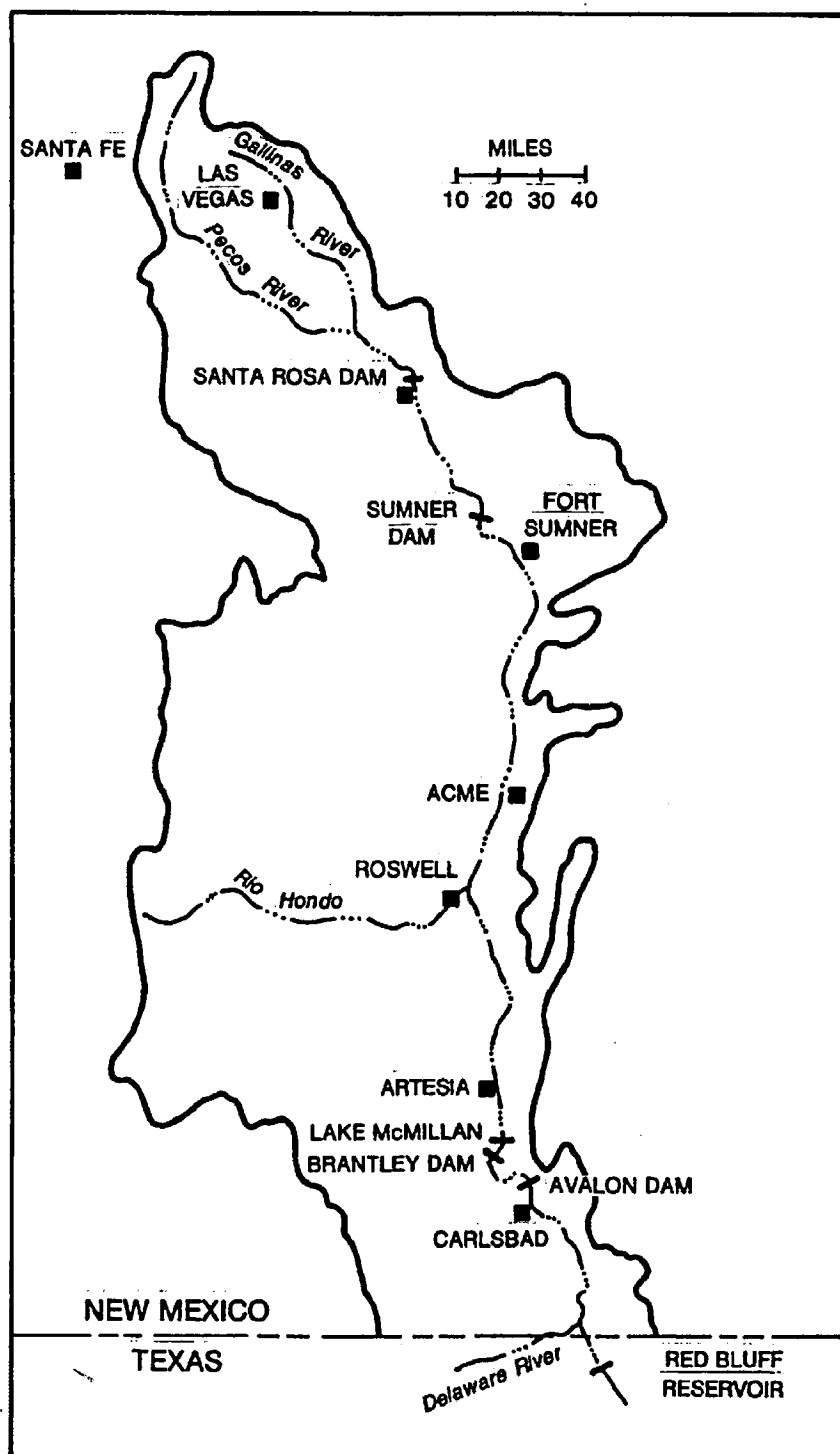
Calculation Item	RM Final 2016	RM Final 2017	TEXAS 2018	RM Revised 2018	TX minus RM 2018
B.1.a. Index Inflows					
(1) Annual flood inflow					
(a) Gaged flow Pecos R blw Sumner Dam (Table 12)	128.6	89.7	97.68	97.7	0.0
(b) Flood inflow Sumner Dam to Artesia (Table 2)	-2.6	33.0	5.23	5.3	-0.1
(c) Flood inflow Artesia to Carlsbad (Table 3)	15.3	13.1	9.80	9.8	0.0
(d) Flood inflow Carlsbad to State Line (Table 4)	9.5	6.2	8.86	5.66	3.2
Total annual flood inflow	150.8	142.0	121.57	118.46	3.1
(2) Index inflow (3-year average)			138.12	137.09	1.0
B.1.b. 1947- Condition Delivery Obligation			54.46	53.88	0.6
B.1.c. Average Historical (Gaged) Outflow					
(1) Annual historical outflow					
(a) Gaged flow Pecos R at Red Bluff, NM (Table 12)	75.4	46.9	42.65	42.6	0.0
(b) Gaged flow Delaware R nr Red Bluff, NM (Table 12)	6.2	3.3	1.75	1.8	0.0
(c) Annual diversions for C-2713, SWS (Table 12)	0.2	0.4	0.35	0.4	0.0
Total annual historical outflow	81.8	50.6	44.75	44.8	0.0
(2) Average historical outflow (3-year average)			59.05	59.07	0.0
B.1.d. Annual Departure			4.59	5.19	-0.6
C. Adjustments to Computed Departure					
(1) Adjustments for depletions above Sumner Dam					
(a) Depletions due to irrigation (Table 5)	1.3	-1.0	0.59	0.6	0.0
(b) Depl from operation of Santa Rosa Reservoir (Table 6)	-6.3	9.2	0.62	0.6	0.0
(c) Transfer of water use to u/s of Sumner Dam (Table 12)	0.0	0.0	0.00		
C.1. Recomputed Index Inflows					
(1) Annual flood inflow					
(a) Gaged flow Pecos R blw Sumner Dam	123.6	97.9	98.90	98.9	0.0
(b) Flood inflow Sumner Dam to Artesia	-2.6	33.0	5.23	5.3	-0.1
(c) Flood inflow Artesia to Carlsbad	15.3	13.1	9.80	9.8	0.0
(d) Flood inflow Carlsbad to State Line	9.5	6.2	8.86	5.66	3.2
Total annual flood inflow	145.8	150.2	122.79	119.66	3.1
Recomputed index inflow (3-year average)			143.32	138.6	4.8
C.1.c. Recomputed 1947-Condition Delivery Obligation			57.40	54.70	2.7
(Recomputed Index Outflow)					
Recomputed Annual Departures			1.65	4.36	-2.7
C. Adjustments to Computed Departure					
C.2. Depletions due to McMillan Dike			0.96	0.95	0.0
C.3. Salvage water analysis (Table 12)			0.00	0	0.0
C.4. Unappropriated flood waters			0.00	0	0.0
C.5. Texas water stored in NM reservoirs (Table 12)			0.00	0	0.0
C.6. Beneficial CU of Delaware River water (Table 12)			0.00	0	0.0
Final Calculated Departure, TAF			2.61	5.31	-2.71

PECOS RIVER COMPACT
Report of the River Master
Water Year 2018
Accounting Year 2019
Final Report

Neil S. Grigg
River Master of the Pecos River
905 Edwards Street
Fort Collins, Colorado 80524

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Map of Pecos River Basin Showing Accounting Reaches

PECOS RIVER COMPACT
Supreme Court of the United States
No. 65, Original
Amended Decree

Final Report of the River Master
Water Year 2018 - Accounting Year 2019
June 24, 2019

Purpose of the Report. In its Amended Decree issued March 28, 1988 the Supreme Court of the United States appointed a River Master of the Pecos River and directed him to “... Deliver to the parties a Preliminary Report setting forth the tentative results of the calculations required by Section III.B.1 of this Decree by May 15 of the accounting year...” and to consider “... any written objections to the Preliminary Report submitted by the parties prior to June 15 of the accounting year...” and to deliver “... to the parties a Final Report setting forth the final results of the calculations required by Section III.B.1 of this Decree by July 1 of the accounting year.” This is the required Final Report with the determination of:

- a. The Article III(a) obligation;
- b. Any shortfall or overage, which calculation shall disregard deliveries of water pursuant to an Approved Plan;
- c. The net shortfall, if any, after subtracting any overages accumulated in previous years, beginning with water year 1987.

Result of Calculations and Statement of Shortfall or Overage. The results of the calculations in this Final Report show that New Mexico’s delivery in Water Year 2018 was an overage of 5,300 acre-feet. The accumulated overage since the beginning of Water Year 1987 is 176,100 acre-feet.

/s/ Neil S. Grigg
Neil S. Grigg
River Master of the Pecos River

Pecos River Compact		
Accumulated Shortfall or Overage		
	June 23, 2019	
Water Year	Annual Overage or Shortfall, AF	Accumulated Overage or Shortfall, AF
1987	15,400	15,400
1988	23,600	39,000
1989	2,700	41,700
1990	-14,100	27,600
1991	-16,500	11,100
1992	10,900	22,000
1993	6,600	28,600
1994	5,900	34,500
1995	-14,100	20,400
1996	-6,700	13,700
1997	6,100	19,800
1998	1,700	21,500
1999	1,400	22,900
2000	-12,300	10,600
2001	-700	9,900
2002	-3,000	6,900
2003	2,000	8,900
2004	8,300	17,200
2005	24,000	41,200
2006	26,100	67,300
2007	25,200	92,500
2008	6,000	98,500
2009	1,600	100,100
2010	-500	99,600
2011	500	100,100
2012	1,900	102,000
2013	-6,300	95,700
2014	700	96,400
2015	27,300	123,700
2016	27,200	150,900
2017	19,900	170,800
2018	5,300	176,100

Table 1. General Calculation of Annual Departures in TAF (B.1)			
Water Year	2018		
6/23/2019			
	WY 2016	WY 2017	WY 2018
B.1.a. Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	128.6	89.7	97.7
(b) Flood Inflow Alamogordo - Artesia (Table 2)	-2.6	33.0	5.3
(c) Flood Inflow Artesia - Carlsbad (Table 3)	15.3	13.1	9.8
(d) Flood Inflow Carlsbad - State Line (Table 4)	9.5	6.2	5.6
Total (annual flood inflow)	150.8	142.0	118.4
(2) Index Inflow (3-year avg)			137.1
B.1.b. 1947 Condition Delivery Obligation			53.9
(Index Outflow)			
B.1.c. Average Historical (Gaged) Outflow			
(1) Annual historical outflow			
(a) Gaged Flow Pecos River at Red Bluff NM	75.4	46.9	42.6
(b) Gaged Flow Delaware River nr Red Bluff NM	6.2	3.3	1.8
(c) Metered diversions Permit 3254 into C-2713	0.2	0.4	0.4
Total Annual Historical Outflow	81.8	50.6	44.8
(2) Average Historical Outflow (3-yr average)			59.1
B.1.d. Annual Departure			5.2
C. Adjustments to Computed Departure			
1. Adjustments for Depletions above Alam Dam			
a. Depletions Due to Irrigation (Table 5)	1.3	-1.0	0.6
b. Depl fr Operation of Santa Rosa Reservoir (Table 6)	-6.3	9.2	0.6
c. Transfer of Water Use to Upstream of AD	0	0	
Recomputed Index Inflows			
(1) Annual flood inflow			
(a) Gaged flow Pecos R bel Alamogordo Dam	123.6	97.9	98.9
(b) Flood Inflow Alamogordo - Artesia	-2.6	33.0	5.3
(c) Flood Inflow Artesia - Carlsbad	15.3	13.1	9.8
(d) Flood Inflow Carlsbad - State Line	9.5	6.2	5.6
Total (annual flood inflow)	145.8	150.2	119.6
Recomputed Index Inflow (3-year avg)			138.5
Recomputed 1947 Condition Del Outflow			54.7
(Index Outflow)			
Recomputed Annual Departures			4.4
Credits to New Mexico			
C.2 Depletions Due to McMillan Dike			1.0
C.3 Salvage Water Analysis			0
C.4 Unappropriated Flood Waters			0
C.5 Texas Water Stored in NM Reservoirs			0
C.6 Beneficial C.U. Delaware River Water			0
Final Calculated Departure, TAF			5.3

Table 3. Determination of Flood Inflows, Artesia to Carlsbad (B.4)

Table 3. Determination of Flood Inflows, Artesia to Carlsbad (B.4)														
Water Year		2018												
6/23/2019														
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOT
Rio Penasco at Dayton		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fourmile Draw nr Lakew		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Seven Rivers		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rocky Arroyo at Hwy Br		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Flood Inflow, Art-DS3		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Pecos R at Dam Site 3		0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1
CB Sprgs New Water (from Table 7)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Total Inflow, DS3 - CB		0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1
Evap Loss, Lake Avalon (from Table 10)		0.0	0.0	0.5	0.6	0.8	0.7	0.7	0.5	0.2	0.1	0.0	0.0	4.1
Storage Chg, Lake Avalon (from Table 11)		0.0	0.0	2.2	0.4	-0.5	0.3	0.2	-0.5	-0.4	-0.4	-1.3	0.0	0.0
Carls ID diversions		0.0	0.0	5.6	11.6	9.0	13.4	10.9	10.5	6.1	3.4	1.7	0.0	72.2
93% CID diver		0.0	0.0	5.2	10.8	8.4	12.5	10.2	9.8	5.6	3.1	1.5	0.0	67.1
Other depletions		0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	1.4
Dark Canyon at Csbad		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pecos b Dark Canyon		1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1
Pecos R at Carlsbad		1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1
Total Outflow		1.4	1.6	9.5	13.1	10.1	14.9	12.6	11.7	7.0	4.6	1.8	1.4	89.7
Flood Inflow, DS3-CB		1.4	1.1	-0.6	0.5	0.4	-0.4	0.6	1.4	0.6	1.5	1.8	1.4	9.6
Flood Inflow, Art-CB		1.4	1.1	-0.6	0.5	0.4	-0.4	0.7	1.4	0.6	1.5	1.8	1.4	9.8

Table 4. Summary Table for Computations, Carlsbad to State Line (B.5)						
Water Year		2018				
6/23/2019						
		BCB - RB		Del R	DC	
		RM				
Jan		0.0		0.0	0.0	
Feb		0.0		0.0	0.0	
Mar		0.0		0.0	0.0	
Apr		0.0		0.0	0.0	
May		0.0		0.0	0.0	
Jun		0.1		0.0	0.0	
Jul		0.3		0.0	0.0	
Aug		0.6		0.0	0.0	
Sep		1.4		0.3	0.0	
Oct		2.2		0.4	0.0	
Nov		0.0		0.0	0.0	
Dec		0.1		0.0	0.0	
Total		4.8		0.7	0.0	
Summary of flood inflows, Carlsbad to State Line, TAF						
Red Bluff - Carlsbad + Dark C RM calcs)						4.8
Delaware River						0.7
Total Flood Inflow, Carlsbad to State Line						5.6

Table 5. Depletions Due to Irrigation Above Sumner Dam (C.1.a)											
Water Year		2018									
5/5/2019											
		APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL		
Precip Las Vegas FAA AP		0.29	0.11	0.27	6.51	3.26	2.69	3.33	16.46		
Eff prec Las Veg FAA AP		0.28	0.11	0.26	4.1	2.78	2.36	2.83	12.72		
Precip Pecos Natl Monument		0	0.50	0.46	4.18	1.49	1.28	3.07	10.98		
Eff Precip Pecos RS		0	0.49	0.45	3.42	1.40	1.21	2.64	9.61		
Precip Santa Rosa		0.04	0.63	1.40	2.13	1.23	2.52	5.57	13.52		
Eff Precip Santa Ro		0.04	0.62	1.32	1.93	1.17	2.23	3.99	11.30		
Average eff precip, ft		0.01	0.03	0.06	0.26	0.15	0.16	0.26	0.93		
Consumptive use, ft		0.19	0.36	0.36	0.30	0.27	0.18	0.11	1.77		
Unit depletion rate (CU less eff precip), ft		0.18	0.33	0.30	0.04	0.12	0.02	0.00	0.99		
Acres (most recent inventory)		11529									
Streamflow depletion (actual use), AF		11398									
1947 depletion, AF		10804									
Difference (actual use - 1947 depletion), TAF		0.6									
Adjustment to Gaged Flow, Pecos River below Sumner Dam, TAF =							0.6				

Table 7. Carlsbad Springs New Water [B.4.c.(2)]					
Water Year	2018				
5/4/2019					
		TAF	AF/day	cfs	Totals
Pecos R bel DC		17.1	46.8	23.6	23.6
Dark Canyon		0.0	0.0	0.0	0.0
Pecos R bel Lake Avalon		0.0	0.0	0.0	0.0
Depletion, cfs					2.0
CID lag seep, cfs (from Table 8)					7.1
Return flow, cfs					1.0
Lake Av lagged seep, cfs (from Table 9)					14.6
PR seepage, cfs					3.0
Carls new water, cfs					-0.09
Carls new wat, TAF					-0.1
Carls new wat monthly, TAF					0.0

Table 8. Carlsbad Main Canal Seepage Lagged [B.4.c.(2)(e)]													
Water Year	2018												
5/4/2019		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
													TOTAL
WY 2018													
CID, TAF	0	0	5.6	11.6	9.0	13.4	10.9	10.5	6.1	3.4	1.7	0.0	72.2
days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
cfs	0	0	90.9	195.1	147.0	225.2	177.5	170.8	101.9	54.9	27.9	0.0	99.3
cfs, qtr avg			31.3			188.7			150.6			27.6	
WY 2017		1Q	2Q	3Q	4Q								
FLows, cfs				147.0	40.5								
SEVEN %				10.3	2.8								
WY 2018 lagged		1Q	2Q	3Q	4Q								
FLows, cfs		31.3	188.7	150.6	27.6								
SEVEN %		2.2	13.2	10.5	1.9								
LAG		3.8	7.8	10.0	6.7	Avg =	7.1	cfs					

Table 10. Evaporation Loss at Lake Avalon [B.4.d.(1)]

Table 10. Evaporation Loss at Lake Avalon [B.4.d.(1)]													
Water Year		2018											
5/4/2019													
										</			

* Computed as WS elev by NM Report minus Gage datum at 3157.0 (USBR datum)

**** Based on 2006 USBR Area and Capacity Table**

Table 12. Data Required for River Master Manual Calculations

Water Year 2018														
5/4/2019	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL	
STREAMFLOW GAGING RECORDS, TAF														
Pecos R b Sumner Dam	1.4	2.5	4.1	15.8	4.8	5.6	39.4	4.3	16.2	2.5	0.3	0.9	97.7	
Fort Sumner Main C	0.0	1.6	4.3	4.8	5.1	6.0	4.9	3.3	3.6	1.5	0.0	0.0	35.3	
Pecos R nr Artesia	5.1	4.5	3.2	7.8	5.7	1.7	23.8	2.8	14.6	8.7	4.9	4.1	86.7	
Rio Penasco at Dayton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fourmile Draw nr Lakewood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
South Seven Rivers nr Lkwd	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rocky Arroyo at Hwy Br nr	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	
Pecos R at Dam Site 3	0.0	0.5	10.1	12.7	9.7	15.2	12.0	10.2	6.4	3.1	0.0	0.1	80.1	
Pecos bel Avalon Dam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carlsbad Main Canal	0.0	0.0	5.6	11.6	9.0	13.4	10.9	10.5	6.1	3.4	1.7	0.0	72.2	
Dark Canyon at Carlsbad	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pecos below Dark Canyon	1.3	1.5	1.4	1.3	1.3	1.3	1.4	1.6	1.5	1.7	1.5	1.3	17.1	
Pecos R at Red Bluff	3.8	2.9	2.5	3.0	2.3	2.3	3.1	3.4	4.5	6.0	4.8	4.0	42.6	
Delaware R nr Red Bluff	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.1	0.1	1.8	
GAGE HEIGHTS														
Avalon gage ht, end mo	60.0	60.0	74.7	75.2	74.6	75.0	75.2	74.6	74.0	73.4	60.0	60.0		
Avalon gage ht, avg	60.0	60.0	75.3	74.1	74.4	74.1	75.0	74.4	74.8	74.1	65.3	60.0		
Sumner Lake ga ht, end mo	63.1	63.4	62.9	57.4	56.5	54.7	54.1	54.2	51.9	53.6	55.8	57.6		
Sumner Lake gage ht, avg	62.7	63.4	63.2	61.6	56.9	55.7	54.7	54.3	52.3	52.4	54.8	56.7		
Lake S Rosa ga ht, end mo	47.9	47.8	47.6	47.1	47.0	46.5	36.8	37.1	34.3	34.9	34.8	34.8		
Lake S Rosa ga ht, avg	47.9	47.8	47.7	47.3	47.0	46.8	38.5	37.1	34.9	34.3	34.8	34.7		
PRECIPITATION, INCHES														
Brantley Lake	0.01	0.19	0.08	0.01	0.03	0.78	1.57	1.01	2.38	3.49	0.23	0.50	10.28	
Las Vegas FAA AP	0.00	0.19	0.20	0.29	0.11	0.27	6.51	3.26	2.69	3.33	0.10	0.72	17.67	
Pecos National Monument	0.62	2.05	0.71	0.00	0.50	0.46	4.18	1.49	1.28	3.07	5.55	0.71	20.62	
Santa Rosa	0.05	0.11	0.21	0.04	0.63	1.40	2.13	1.23	2.52	5.57	0.47	1.84	16.20	
Lake Santa Rosa	0.05	0.11	0.21	0.04	0.63	1.40	2.13	1.23	2.52	5.57	0.47	1.84	16.20	
Sumner Lake	0.11	0.11	0.03	0.02	0.90	0.95	2.74	3.90	3.14	3.56	0.25	0.57	16.28	
PAN EVAPORATION, INCHES														
Lake Santa Rosa	3.72	4.98	8.58	9.96	13.14	13.99	11.62	10.69	7.73	4.94	4.44	3.76	97.6	
Lake Sumner	4.68	4.97	10.56	12.80	15.73	16.05	14.67	11.90	8.09	5.60	4.11	2.50	111.7	
Brantley Lake	4.65	5.60	9.97	12.94	16.93	17.51	15.48	12.30	7.83	6.24	4.80	4.34	118.6	
OTHER REPORTS														
Base Acme-Art, TAF (USGS)	2.5	2.3	2.1	1.5	1.3	0.6	0.1	0.4	0.6	1.5	2.0	2.1	17.1	
Pump depl Ac-Artesia, TAF	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5	
Pumping, C-2713, Malaga B													0.4	
NM irrig inv, acres (3/9/2000)													11529	
NM Transfer water use, TAF														
NM salvaged water, TAF													0.00	
Texas, water stored NM, TAF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Texas, use Del water, TAF														

**APPENDIX A
RESPONSE TO STATES'
OBJECTIONS**

RESPONSE TO STATES' OBJECTIONS

Final Report, Accounting Year 2019

NEW MEXICO OBJECTIONS

I. Table 3. USGS Carlsbad Main Canal at Head Near Carlsbad, NM Gage Data

NM noted that incorrect data were used in the Preliminary Report for April, May, June, August, September, October and November for the Carlsbad Main Canal gage. TX discovered the same error. This objection is accepted and the correction has been made.

II. Accumulated Shortfall or Overage Table

NM noted that the Table of Annual and Accumulated Overage or Shortfall contains a one-time credit of 16,600 AF for Water Year 2017 that is the subject of a motion by Texas before the U.S. Supreme Court. No changes in the Preliminary Report are required to respond to this issue at this time.

TEXAS OBJECTIONS

1. Table 3. Determination of Flood Inflows, Artesia to Carlsbad [B.4]

This objection has been accepted, see NM Objection I above.

2. Table 4. Summary Table for Computations, Carlsbad to State Line [B.5]

TX noted that in the River Master's spreadsheet, the scalped flood flows marked on the plotted hydrographs for August 9-16 and 20-26 were omitted. This objection is accepted. The River Master recomputed 0.32 TAF for the flood inflows of these periods and added it to Table 4.

TX noted rain events detected by gages other than those reported by NM. The River Master examined Texas' Exhibit E and noted all periods where rain was detected other than the same periods detected by the three gages used in the Preliminary Report. As required by B.5 of the River Master's Manual, the hydrographs at Dark Canyon Draw, Black River, and Delaware River were studied. They did not show any distinct rises in the periods noted by Texas. Also, the gages added by Texas are far distant from the Carlsbad to Red Bluff reach, and some are to the east where the land is flat and less likely to contribute runoff to the reach than nearby steeper and rockier land. One notable example is the gage at Hobbs, which is apparently some 50 miles from the river. A rainfall of 0.65 inches on July 2 seems significant, but no rain was detected on any other gage and the hydrograph rise beginning July 1 seems unlikely to result from this isolated storm so far away on flat land with unclear paths to the reach. A similar conclusion was reached about the 1.38 inch rainfall at WIPP on August 14. The hydrograph at Red Bluff is declining at

that time. For the foregoing reasons, Texas' objection concerning runoff from rains measured by the additional rain gages is rejected.

3. Table 1. General Calculation of Annual Departures in TAF for WY 2018

The final departure has been modified as a result of changes noted above in Tables 3 and

FINAL CALCULATED DEPARTURE

The Preliminary Report had a Final Calculated Departure as an overage of 5.7 TAF.

After considering the states' objections, the Final Determination is an overage of 5.3 TAF.

