

Corporate Environmental Affairs

March 1, 2019

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Oklahoma Water Resources Board

Oklahoma Water Resources Board
3800 N. Classen
Oklahoma City, OK 73118
(405) 530-8800

**Consumptive Water Use Report – Quarter 4, 2018 and Annual Report
Mine L.E.-1565 – Covia Corporation – Roff Facility**

Dear Sir or Madam:

Enclosed please find Covia's consumptive water use report for the fourth quarter of 2018 and the annual report for 2018. As noted on the attached worksheet, the plant remains below our allocated equal proportionate share.

If you have any questions or require any additional information, please contact myself or Jim Bonsall at (580) 456-7772.

Respectfully,

David Caldwell
QC Supervisor

Attachments

CC: Plant
IRO

2018 Annual Consumptive Use of Pitwater Worksheet

Enter Values in Yellow

Pit Groundwater Volume		Amount	(gallons)		
1	Total volume of water pumped from the producing mine pit(s)	1,866,366,900			
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	98,663,133			
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	50,711,517		Area of Pit:	116 (acres)
4	Other non-pit waters pumped from the producing mine pit	20,583,331		Area of Watershed Drainage:	182 (acres)
5	Add lines 2 through 4	169,957,981		Retention Before Runoff (s):	2.9
6	Pit Groundwater Volume (Line 1 - Line 5)	1,696,408,919		Area of Watershed Drainage Kite:	89
				Retention Before Runoff (s) Kite:	5.2
				Rainfall:	59.55 (inches)
				Weighted CN:	78
				Runoff:	56.20593
				Weighted CN Kite:	66
				Runoff:	53.73442
Defined Elements of Consumptive Use		Amount	(gallons)		
7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site	12,160,629		Tons Mined:	1,015,412
8	Volume of pit water that is carried away with the mined material transported off the mining site (shipped)	0		% Moisture	5.0
9	Volume of pit water that evaporates from the producing mine pit, process water ponds, and lined ponds (excluding structures used for augmentation)	2,231,070		ASHRAE Evaporation Model	
10	Volume of pit water that is used for other beneficial uses off the mine site	2,370,899,505		A:	95
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	2,385,291,203		B:	37.4
				V:	5 (mi/hr)
				Pw:	0.69 (in-Hg)
				Pa:	0.522 (in-Hg)
				Hv:	970.4 (Btu/lb)
				Evap Area:	10 (acre)
Pit Groundwater Balance		Amount	(gallons)		
12	Total groundwater from pit	1,696,408,919			
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater basic or sub basin)	0			
14	Stream Augmentation (Volume of put groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance or median historic flows.	2,370,899,505			
15	Precipitation & Run-off (Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation)	0			
16	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)	1,696,408,919			
17	Other Non-Consumptive Losses (Including pit groundwater returned to the land surface from which surface run-off flows into a mine pit, and other losses not included in lines 7 through 10)	0			
18	Add lines 13 through 18	4,067,308,424			
19	Other Consumptive Use (adjusted) Line 12 minus 18	-2,370,899,505			
Total Reported Consumptive Use Of Pit		Amount	(gallons)		
21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 19)	14,391,698			
	Facility's Equal Proportionate Share (EPS)	62,693,815		at	0.2 acre-feet
					for
					962 acres