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*Corporate Environmental Affairs*

Oklahoma Water Resources Board

December 11, 2019

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

**Consumptive Water Use Report – Quarter 3 2019  
Mine L.E.-1565 – Covia Corporation – Roff Facility**

Dear Sir or Madam:

Enclosed please find Covia's consumptive water use report for the third quarter of 2019. 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

Consumptive Use of Pitwater Worksheet Quarter 3

Enter Values in Yellow

Oklahoma Water Resources Board

Pit Groundwater Volume		Amount (gallons)
1	Total volume of water pumped from the producing mine pit(s)	589,703,280
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	40,630,851
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	49,281,779
4	Other non-pit waters pumped from the producing mine pit	19,924,553
5	Add lines 2 through 4	109,837,183
6	<b>Pit Groundwater Volume (Line 1 - Line 5)</b>	<b>479,866,097</b>

Area of Pit:	116 (acres)	Rainfall:	12.9 (inches)
Area of Watershed Drainage:	182	Weighted CN:	78
Retention Before Runoff (s):	2.9	Runoff:	9.97
Area of Watershed Drainage Kite:	89	Weighted CN Kite:	66
Retention Before Runoff (s) Kite:	5.2	Runoff:	8.244994

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	2,874,108
8	Volume of pit water that is carried away with the mined material transported off the mining site (shipped)	0
9	Volume of pit water that evaporates from the producing mine pit, process water ponds, and lined ponds (excluding structures used for augmentation)	557,767
10	Volume of pit water that is used for other beneficial uses off the mine site	
11	<b>Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)</b>	<b>3,431,875</b>

Tons Mined: 239,988 % Moisture 5.0

ASHRAE Evaporation Model			
A:	95		
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	479,866,097	
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater basic or sub basin)	0	Credits
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.)	0	
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)	479,866,097	
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	479,866,097	
19	<b>Other Consumptive Use (adjusted) Line 12 minus 18</b>	<b>0</b>	

Total Reported Consumptive Use Of Pit		Amount (gallons)
21	<b>Total Reported Consumptive Use Of Pit (add Line 11 and Line 19)</b>	<b>3,431,875</b>

Facility's Equal Proportionate Share (EPS) 62,693,815 at 0.2 acre-feet for 962 acres