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Corporate Environmental Affairs

Oklahoma Water Resources Board

February 19, 2020

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

**Consumptive Water Use Report – Quarter 4, and Annual 2020
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 and the annual report for 2020. 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 me or Jim Bonsall at (580) 456-7772.

Respectfully,

David Caldwell
QC Supervisor

Attachments

CC: Plant
IRO

Consumptive Use of Pitwater Worksheet Annual 2020

Enter Values in Yellow

Pit Groundwater Volume

1	Total volume of water pumped from the producing mine pit(s)
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water
4	Other non-pit waters pumped from the producing mine pit
5	Add lines 2 through 4
6	Pit Groundwater Volume (Line 1 - Line 5)

	Amount	(gallons)
6,568	2,140,075,700	
496	161,578,502	
985	320,998,419	
440	143,360,624	
1,921	625,937,546	
4,647	1,514,138,154	

Area of Pit:	116	(acres)	Rainfall:	64.53	(inches)
Area of Watershed Drainage:	298	(acres)	Weighted CN:	78	
Retention Before Runoff (s):	2.9		Runoff:	61.1758	
Area of Watershed Drainage Kite:	89		Weighted CN Kite:	66	
Retention Before Runoff (s) Kite:	5.2		Runoff:	58.68365	

Defined Elements of Consumptive Use

7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site
8	Volume of pit water that is carried away with the mined material transported off the mining site (shipped)
9	Volume of pit water that evaporates from the producing mine pit, process water ponds, and lined ponds (excluding structures used for augmentation)
10	Volume of pit water that is used for other beneficial uses off the mine site
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)

	Amount	(gallons)
39	12,643,504	
0	0	
7	2,231,070	
0		
46	14,874,573	

Tons Mined:	1,164,708	% 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

12	Total groundwater from pit
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater basic or sub basin)
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.
15	Precipitation & Run-off (Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation)
16	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)
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)
18	Add lines 13 through 18
19	Other Consumptive Use (adjusted) Line 12 minus 18

	Amount	(gallons)
4,647	1,514,138,154	
0	0	
0	0	
0	0	
4,647	1,514,138,154	
0	0	
4,647	1,514,138,154	
0	0	

Credits

Total Reported Consumptive Use Of Pit

21 **Total Reported Consumptive Use Of Pit (add Line 11 and Line 19)**

	Amount	(gallons)
46	14,874,573	

Facility's Equal Proportionate Share (EPS)

192	62,693,815	at	0.2	acre-feet	for	962	acres
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Consumptive Use of Pitwater Worksheet Quarter 4

Enter Values in Yellow

Pit Groundwater Volume		Amount	(gallons)				
1	Total volume of water pumped from the producing mine pit(s)	400,962,600					
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	14,488,521					
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	18,896,027					
4	Other non-pit waters pumped from the producing mine pit	9,229,530					
5	Add lines 2 through 4	42,614,078					
6	Pit Groundwater Volume (Line 1 - Line 5)	358,348,522					
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	3,751,151					
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	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	4,308,919					
Pit Groundwater Balance		Amount	(gallons)				
12	Total groundwater from pit	358,348,522					
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.						
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)	358,348,522					
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	358,348,522					
19	Other Consumptive Use (adjusted) Line 12 minus 18	0					
Total Reported Consumptive Use Of Pit		Amount	(gallons)				
21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 19)	4,308,919					
Facility's Equal Proportionate Share (EPS)		62,693,815		at	0.2	acre-feet	for 962 acres

Area of Pit:	116	(acres)	Rainfall:	4.6	(inches)
Area of Watershed Drainage:	298		Weighted CN:	78	
Retention Before Runoff (s):	2.9		Runoff:	2.34	
Area of Watershed Drainage Kite:	89		Weighted CN Kite:	66	
Retention Before Runoff (s) Kite:	5.2		Runoff:	1.446758	

Tons Mined: 313,221 % 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)

Credits