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OKLAHOMA WATER
RESOURCES BOARD

Corporate Environmental Affairs

March 23, 2016

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

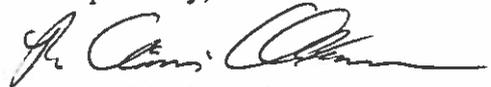
**RE: Consumptive Water Use Report – 2015
Mine L.E.-1565 – Unimin Corporation – Roff Facility**

Dear Sir or Madam:

Enclosed please find Unimin's consumptive water use reports for the Year 2015. Corrections were made for all previous quarters to include data that had previously been left out. 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 Don Russell at (580) 456-7772.

Respectfully,



R. Amiri Alexander
QC/Mine Supervisor

Attachments

CC: Plant
IRO

Consumptive Use of Pitwater Worksheet - 2015 Annual

Enter Values in Yellow

Pit Groundwater Volume		Amount (gallons)	Area of Pit: (acres)	Rainfall: (inches)
1	Total volume of water pumped from the producing mine pit(s)	325,270,045	82.2	77.69
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	133,644,493		
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	0		
4	Other non-pit waters pumped from the producing mine pit	0		
5	Add lines 2 through 4	133,644,493		
6	Pit Groundwater Volume (Line 1 - Line 5)	191,625,552		
Defined Elements of Consumptive Use		Amount (gallons)	Tons Mined: 967,799	% Moisture 5.0
7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site	11,590,407		
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)	2,231,070	ASHRAE Evaporation Model	A: 95 B: 37.4 V: 5 Pw: 0.69 Pa: 0.522 Hv: 970.4 Evap Area: 10 (acres)
10	Volume of pit water that is used for other beneficial uses off the mine site (Outfall Discharge)	1,086,170,590		
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	1,089,992,067		
Pit Groundwater Balance		Amount (gallons)		
12	Starting groundwater deficit (line 11)	191,625,552		
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater bank or sub basin)	0		
14	Stream Augmentation (Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance or median historic flows.	1,086,170,590		
15	Precipitation & Run-off (Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation)	0		
16	Additional Discharge (Volume of pit groundwater discharged to a definite stream, not meeting stream augmentation credit criteria)	0		
				CREDITS
17	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)	191,625,552		
18	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		
19	Add lines 13 through 18	1,277,796,142		
20	Other Consumptive Use (adjusted) (line 12 minus line 19)	-1,086,170,590		
Total Reported Consumptive Use Of Pit		Amount (gallons)		
21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 20)	13,821,477		
Facility's Equal Proportionate Share (EPS)		62,693,815	at	0.2
			acre-feet	for
				962 acres



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Consumptive Use of Pitwater Worksheet - Quarter 1 2015

Enter Values in Yellow

Pit Groundwater Volume		Amount (gallons)	Area of Pit: 54.5 (acres)	Rainfall: 6.47 (inches)
1	Total volume of water pumped from the producing mine pit(s)	11,274,700		
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	9,574,344		
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	0		
4	Other non-pit waters pumped from the producing mine pit	0		
5	Add lines 2 through 4	9,574,344		
6	Pit Groundwater Volume (Line 1 - Line 5)	1,700,356		

Defined Elements of Consumptive Use		Amount (gallons)	Tons Mined: 262,921	% Moisture: 5.0
7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site	3,148,754		
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 of the mine site (Outfall Discharge)	0		
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	3,706,522		

Pit Groundwater Balance		Amount (gallons)	ASHRAE Evaporation Model
12	Starting groundwater deficit (line 11)	1,700,356	A: 95 B: 37.4 V: 5 Pw: 0.69 Pa: 0.522 Hr: 970.4 Evap Area: 10
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater base or sub basin)	0	
14	Stream Augmentation (Volume of pit 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	

CREDITS		Amount (gallons)
16	Additional Discharge (Volume of pit groundwater discharged to a definite stream, not meeting stream augmentation credit criteria)	0
17	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)	1,700,356
18	Other Non-Consumptive Losses (including pit groundwater returned to the land surface from which surface runoff flows into a mine pit, and other losses not included in lines 7 through 10)	0
19	Add lines 13 through 18	1,700,356
20	Other Consumptive Use (adjusted) Line 12 minus 19	0

21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 20)	Amount (gallons)	3,706,522
	Facility's Equal Proportionate Share (EPS)	at	62,693,815
		0.2	962 acres



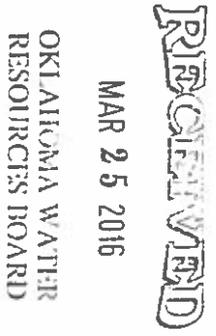
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Consumptive Use of Pitwater Worksheet - Quarter 2 2015

Enter Values in Yellow

Pit Groundwater Volume		Amount (gallons)	Area of Pit: (acres)	Rainfall: (inches)
1	Total volume of water pumped from the producing mine pit(s)	108,120,500	54.5	35.84
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	53,036,240		
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	0		
4	Other non-pit waters pumped from the producing mine pit	0		
5	Add lines 2 through 4	53,036,240		
6	Pit Groundwater Volume (Line 1 - Line 5)	55,084,260		
Defined Elements of Consumptive Use		Amount (gallons)	Tons Mined: 240,568	% Moisture 5.0
7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site	2,881,054		
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 (Outfall Discharge)	119,100,000		
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	222,539,821		
Pit Groundwater Balance		Amount (gallons)		
12	Starting groundwater deficit (line 11)	55,084,260		
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater basin or sub basin)	0		
14	Stream Augmentation (Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance or median historic flows.	119,100,000		
15	Precipitation & Run-off (Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation)	0		
16	Additional Discharge (Volume of pit groundwater discharged to a definite stream, not meeting stream augmentation credit criteria)	0		
		CREDITS		
17	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)	55,084,260		
18	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		
19	Add lines 13 through 18	174,184,260		
20	Other Consumptive Use (adjusted) Line 12 minus 19	-119,100,000		
Total Reported Consumptive Use Of Pit		Amount (gallons)		
21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 20)	3,438,821	at	0.2 acre-feet for 962 acres
Facility's Equal Proportionate Share (EPS)		62,693,815		



Consumptive Use of Pitwater Worksheet - Quarter 3 2015

Enter Values in Yellow

Pit Groundwater Volume		Amount (gallons)	Area of Pit: 61.9 (acre)	Rainfall: 14.39 (inches)
1	Total volume of water pumped from the producing mine pit(s)	86,599,745		
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	24,185,756		
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	0		
4	Other non-pit waters pumped from the producing mine pit	0		
5	Add lines 2 through 4	24,185,756		
6	Pit Groundwater Volume (Line 1 - Line 5)	62,413,989		
Defined Elements of Consumptive Use		Amount (gallons)	Tons Mined: 247,200	% Moisture 5.0
7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site	2,960,479		
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	ASHRAE Evaporation Model	A: 95 B: 37.4 V: 5 Pw: 0.69 Pa: 0.522 Hv: 970.4 Evap Area: 10
10	Volume of pit water that is used for other beneficial uses off the mine site (Dustfall Discharge)	265,938,340		
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	269,456,586		
Pit Groundwater Balance		Amount (gallons)		
12	Starting groundwater deficit (line 11)	62,413,989		
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater basin or sub basin)	0		
14	Stream Augmentation (Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance or median historic flows.	265,938,340		
15	Precipitation & Run-off (Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation)	0		
16	Additional Discharge (Volume of pit groundwater discharged to a definite stream, not meeting stream augmentation credit criteria	0		
		CREDITS		
17	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)	62,413,989		
18	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		
19	Add lines 13 through 18	328,352,329		
20	Other Consumptive Use (adjusted) Line 12 minus 19	-265,938,340		
Total Reported Consumptive Use Of Pit		Amount (gallons)		
21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 20)	3,518,246		
Facility's Equal Proportionate Share (EPS)		62,693,815	0.2	962 acres



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Consumptive Use of Pitwater Worksheet - Quarter 4 2015

Enter Values in Yellow

Pit Groundwater Volume		Amount (gallons)	Area of Pit: 82.2 (acres)	Rainfall: 20.99 (inches)
1	Total volume of water pumped from the producing mine pit(s)	119,275,100		
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	46,848,154		
3	Portion of total precipitation that flows over the land surfaces that drains into the mine pit water	0		
4	Other non-pit waters pumped from the producing mine pit	0		
5	Add lines 2 through 4	46,848,154		
6	Pit Groundwater Volume (Line 1 - Line 5)	72,426,946		
Defined Elements of Consumptive Use		Amount (gallons)	Tons Mined: 217,110	% Moisture 5.0
7	Volume of pit water that is driven off (by drying) the mined material transported off the mine site	2,600,120		
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	ASHRAE Evaporation Model	A: 95 B: 37.4 V: 5 Pw: 0.69 Pa: 0.572 Hv: 970.4 Evap Area: 10 (acres)
10	Volume of pit water that is used for other beneficial uses off the mine site (Outfall Discharge)	701,132,250		
11	Defined Elements of Consumptive Use of Pit Groundwater (add Lines 7 through 10)	704,290,137		
Pit Groundwater Balance		Amount (gallons)		
12	Starting groundwater deficit (line 11)	72,426,946		
13	Groundwater Augmentation (Volume of pit groundwater returned to the groundwater basin or sub basin)	0		
14	Stream Augmentation (Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance or median historic flows.	701,132,250		
15	Precipitation & Run-off (Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation)	0		
16	Additional Discharge (Volume of pit groundwater discharged to a definite stream, not meeting stream augmentation credit criteria)	0		
CREDITS				
17	Recycled Pit Groundwater (Volume of pit groundwater returned to a mine pit or holding basin not included on lines 7 through 10)	72,426,946		
18	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		
19	Add lines 13 through 18	72,426,946		
20	Other Consumptive Use (adjusted) Line 12 minus 19	-701,132,250		
Total Reported Consumptive Use Of Pit		Amount (gallons)		
21	Total Reported Consumptive Use Of Pit (add Line 11 and Line 20)	3,157,887	0.2	962 acres
Facility's Equal Proportionate Share (EPS)		62,693,815		



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