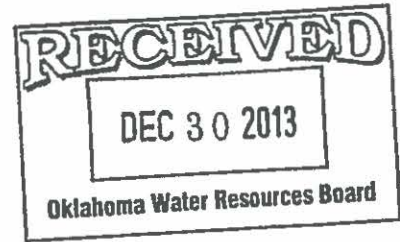




DOLESE®

PHONE (405) 235-2311 • 20 N.W. 13TH STREET • P.O. BOX 677 • OKLAHOMA CITY, OK 73101-0677

30 December 2013
13-ED-618



Mr. Kent Wilkins, Assistant Chief
Planning and Management Division
Oklahoma Water Resources Board
3800 North Classen Boulevard
Oklahoma City, OK 73118

**RE: Water Monitoring Plan Report, 3rd Quarter 2013, for Dolese Bros. Co.
Davis Quarry, Murray County, Oklahoma**

Dear Mr. Wilkins:

According to the Oklahoma Water Resources Board's Title 785, Chapter 30, Subchapter 15, Part 4, *Mines with Preexisting Exemptions*, Dolese Bros. Co. Davis Quarry qualifies as a mine with a preexisting exemption. As part of maintaining this exemption status, the regulations require us to do the following:

1. Adopt and implement a plan to monitor and report to the Board the accumulation and disposition of pit water during the previous calendar year;
 - The Davis Quarry has adopted and implemented such a plan, and the tables below serve to report to the Board the accumulation and disposition of pit water during the previous quarter. Once the year ends, we will summarize the accumulation and disposition of pit water for the calendar year.
2. Make quarterly and annual reports of the measured or reasonably estimated groundwater and surface water volumes, separately stated, entering the pit, of the water that is diverted from the pit, of the disposition of the water from the pit, and of the consumptive use of the water from the pit on or before the deadlines provided by Title 82 of Oklahoma Statutes, § 1020.2(E)(1); and
 - The Davis Quarry has fulfilled this obligation by compiling and submitting this Third Quarterly Report for 2013. The specific information requested in this section is outlined in the tables shown below.
3. At any time after March 31, 2015, demonstrate to the satisfaction of the Board within the pertinent report or reports that the mine has not consumptively used during the previous twelve-month period, from the mining site, an amount of groundwater which combined with any amounts used from permitted groundwater wells exceeds the MEPS¹. Such demonstration may require providing to the Board a copy of the mine's monitoring plan and all of the data collected and procedures used to support the calculations and results reported.
 - After 31 March 2015, the Davis Quarry will be willing to demonstrate to the Board that the mine site has not consumptively used during the previous twelve-month period from the mining site, an amount of groundwater which combined with any amounts used from permitted groundwater wells exceeds the MEPS. Additionally, example calculations used in the First Quarterly Monitoring Report for 2013 have already been submitted to the OWRB for review and analysis.

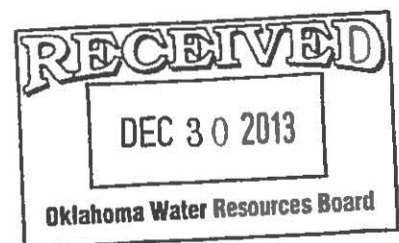
¹ Mine's Equal Proportionate Share

Table 1

Accumulation and Disposition of Pit Water during 3rd Quarter 2013		Acre-Feet
Water entering the Mine Pit		
Groundwater		29.38
Surface Water		33.99
Total		63.37
Water diverted from the Mine Pit into Fresh Water Lake		
Groundwater		29.38
Surface Water		33.99
Total		63.37
Water removed from Fresh Water Lake		
Groundwater		246.99
Surface Water		347.31
Total		594.30
Water returned to Fresh Water Lake		
Groundwater		241.01
Surface Water		338.90
Total		579.91
Water returned to Land Surface overlying Arbuckle Simpson Aquifer (ASA) basin		
Groundwater		1.32
Surface Water		1.85
Total		3.17
Water consumptively used		
Groundwater (See Table 3 for calculations)		22.61

Table 2

Water Fluctuations in the Fresh Water Lake during 3rd Quarter 2013		
Average Size of Lake during Quarter		29.07 acres
Loss in Water Elevation		2.50 feet
Loss in Lake Volume		72.68 acre-feet



RECEIVED

DEC 30 2013

Oklahoma Water Resources Board

Table 3
Consumptive Use Summary for 3QTR13

Activity or Location	Amount of Pit Water Used, Acre-Feet	Percent Ground-Water	Groundwater Component, Acre-Feet
1 North Water Well	0.00	All	0.56
2 South Water Well	0.00	All	0.32
3 Material Moisture Hauled from Site	3.69	41.56% *(0.4156)	1.53
4 Land Application for Roadway Dust Suppression	20.40	41.56% *(0.4156)	8.48
5 Evaporation from Mine Pit	1.25	46.36% *(0.4636)	0.58
6 Offsite Dewatering	26.81	41.56% *(0.4156)	11.15
For 3QTR13, Total Groundwater Consumption from ASA at Davis Quarry = 22.61 Acre-Feet			

Table 4
Groundwater Rights

Davis Quarry Groundwater Rights

From Acreage ON the Arbuckle-Simpson Aquifer

And Included in the ASA Groundwater Rights:

(1,083 acres on ASA)*(0.2 ac-ft/acre) = 216.6 acre-feet ON the ASA

From Acreage OFF the Arbuckle-Simpson Aquifer

And Excluded from the ASA Groundwater Rights:

(937 acres off ASA)*(2.0 ac-ft/acre) = 1,874 acre-feet OFF the ASA

Based on the plan that we have adopted and implemented to monitor and report the accumulation and disposition of pit water, based on our actual consumptive use of groundwater quantities, and based on the timely submittal of this Third Quarterly Report for 2013 (3QTR13), we believe that we are in full compliance with all of the regulations that allow us to maintain our preexisting exemption.

It is important to note that the groundwater percentage in the Mine Pit was estimated at 20.45%, 11.56%, and 46.36% during the 1st, 2nd, and 3rd Quarters of 2013, respectively. This Mine Pit has been in the same location throughout these three (3) quarters, it is roughly the same size, and it is roughly the same depth as it has always been; however, the groundwater composition percentage has seemingly changed significantly. This pit is dewatered, as necessary, to allow mining to take place in the Mine Pit area. All of the water pumped from this pit is transferred to the Fresh Water Lake (FWL) for storage (as the plant's water supply). The percentage of groundwater versus storm water in this pit is computed using the amount of storm water that is estimated to enter the pit compared to the

total amount pumped from the pit. Essentially, any volume of water that is pumped from the Mine Pit that exceeds the estimated amount of storm water that entered the pit is considered groundwater.

This is the same Mine Pit where we turned off the dewatering pump for 14+ consecutive days earlier this year, so we are confident that this pit was above the groundwater table at that time. We initially wondered if the groundwater table might have recently risen above the floor elevation of our Mine Pit, but we concluded that this was highly unlikely because of the below average rainfall that has occurred this year in the region. The Davis Quarry region was 6 to 8 inches below the average rainfall during the last six (6) months.

We analyzed other factors that might have caused it to appear that the groundwater composition of the Mine Pit had changed, and we recognized one particular item that warranted further research, as explained below. During the first half of the 3rd Quarter 2013, the FWL (water storage lake) remained near an all-time high level. During the quarter, the plant personnel even commented to the Quarry Superintendent that they had to run the Mine Pit dewatering pump (Pump #1) more than usual given the drought conditions. We then realized that the very high water level of the FWL was most likely allowing substantial amounts of water from the FWL to find additional cracks in the stone separating the two water bodies—allowing some of it to drain back into the Mine Pit. This draining back causes us to continue to pump regularly, even when it hasn't rained in weeks, because we are pumping the water in circles. Please keep in mind that the water surface of the FWL is more than 50 feet above the surface of the Mine Pit, and these two water bodies are separated only by 400 to 500 feet of fractured and faulted stone.

We performed a visual inspection of the east wall of the Mine Pit to see if we could locate places where the water was seeping back into the Mine Pit from the FWL. We found two (2) areas where water was seeping back. We photographed and videotaped these areas to confirm the seepage; however, we were unable to quantify the inflow rates.

Also, on 14 August 2013, we had the need to lower the FWL by about a foot or so—so that our crane could get close enough to the floating dock to lift one of the large pumps off the dock for maintenance purposes. We were forced to pump some water offsite to lower the FWL to allow for the pump maintenance to occur. Lowering this lake as a result of this pumping seems to have caused the seepage of water into the Mine Pit from the FWL to decrease slightly.

As mentioned, we are unable to quantify the rate that water is seeping back into the Mine Pit, but we plan to study this characteristic during the next quarter, and we plan to try to estimate this volume. We will need a period with minimal amounts of rain to use as the study period, and the results will be reported when they become available.

We wanted to make you aware that the reported groundwater composition of the Mine Pit shown in this 3rd Quarter 2013 summary is almost certainly too high, and we hope to determine a procedure to account for the seepage from the FWL so that we can provide you with more accurate data. Until then, we will use the data that we obtained that likely show a much higher groundwater concentration than what is actual.

Please contact me if you have any questions or comments concerning this submittal. Thank you.

Sincerely,
DOLESE BROS. CO.

Daniel E. Becker
Daniel E. Becker, P.E.
Environmental Engineer

dh

