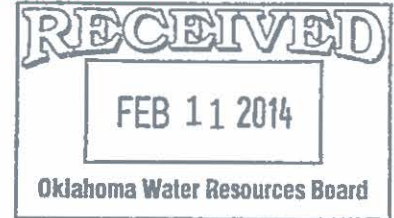




DOLESE®

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7 February 2014
14-ED-126



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

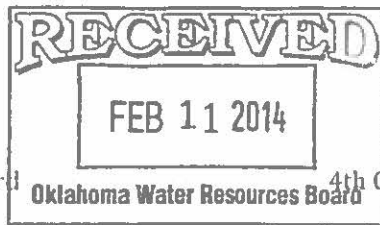
**RE: Water Monitoring Plan Report, 4th Quarter and 2013 Annual Summary,
for Dolese Bros. Co. Davis Quarry, Murray County, Oklahoma**

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 and for the previous 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 4th Quarter 2013 Report and 2013 Annual Summary. 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

¹ Mine's Equal Proportionate Share



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.

Below, in Tables 1, 2, and 3, please find the 4th Quarter 2013 summary data collected at the Davis Quarry.

Table 1—4th Quarter 2013

Accumulation and Disposition of Pit Water during 4th Quarter 2013	Acre-Feet
Water entering the Mine Pit	
Groundwater	26.51
Surface Water	38.05
Total	64.56
Water diverted from the Mine Pit into Fresh Water Lake	
Groundwater	26.51
Surface Water	38.05
Total	64.56
Water removed from Fresh Water Lake	
Groundwater	242.19
Surface Water	425.55
Total	667.74
Water returned to Fresh Water Lake	
Groundwater	253.70
Surface Water	445.78
Total	699.48
Water returned to Land Surface overlying Arbuckle Simpson Aquifer (ASA) basin	
Groundwater	3.86
Surface Water	6.77
Total	10.63
Water consumptively used	
Groundwater (See Table 3 for calculations)	7.86

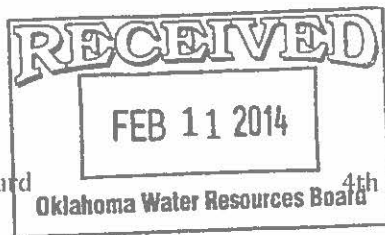


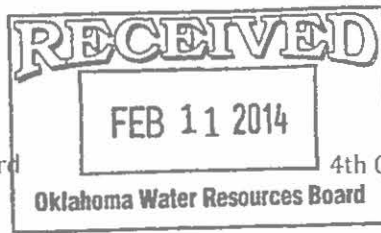
Table 2—4th Quarter 2013

Water Fluctuations in the Fresh Water Lake during 4th Quarter 2013	
Average Size of Lake	28.50 acres
Gain in Water Elevation	0.79 feet
Gain in Lake Volume	22.52 acre-feet

Table 3—4th Quarter 2013

Consumptive Use Summary for 4QTR13

Activity or Location	Amount of Pit Water Used, Acre-Feet	Percent Ground-Water	Groundwater Component, Acre-Feet
1 North Water Well	0.00	All	0.55
2 South Water Well	0.00	All	0.32
3 Material Moisture Hauled from Site	3.12	36.27% *(0.3627)	1.13
4 Land Application for Roadway Dust Suppression	9.94	36.27% *(0.3627)	3.61
5 Evaporation from Mine Pit	0.23	41.06% *(0.4106)	0.10
6 Offsite Dewatering	5.96	36.27% *(0.3627)	2.16
For 4QTR13,			
Total Groundwater Consumption from ASA at Davis Quarry =			
7.86 Acre-Feet			



Below, in Tables 4, 5, and 6, please find the 2013 Annual Summary data collected at the Davis Quarry.

Table 4—Annual Summary for 2013

Accumulation and Disposition of Pit Water during 2013	Acre-Feet
Water entering the Mine Pit	
Groundwater	82.46
Surface Water	238.02
Total	320.48
Water diverted from the Mine Pit into Fresh Water Lake	
Groundwater	82.46
Surface Water	238.02
Total	320.48
Water removed from Fresh Water Lake	
Groundwater	602.09
Surface Water	1677.13
Total	2,279.22
Water returned to Fresh Water Lake	
Groundwater	600.14
Surface Water	1,627.00
Total	2,227.14
Water returned to Land Surface overlying Arbuckle Simpson Aquifer (ASA) basin	
Groundwater	14.56
Surface Water	79.91
Total	94.47
Water consumptively used	
Groundwater (See Consumptive Use Summary Table)	36.22

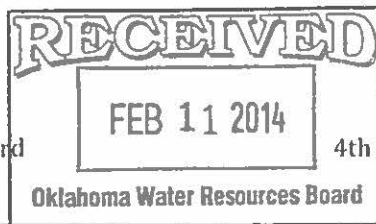


Table 5—Annual Summary for 2013

Water Fluctuations in the Fresh Water Lake during 2013	
Average Size of Lake during Year 2013	27.91 acres
Gain in Water Elevation	5.32 feet
Gain in Lake Volume	148.50 acre-feet

Table 6—Annual Summary for 2013

Consumptive Use Summary for 2013

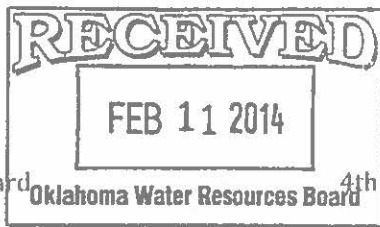
Activity or Location	Groundwater Component, Acre-Feet
1 North Water Well	3.45
2 South Water Well	1.13
3 Material Moisture Hauled from Site	3.37
4 Land Application for Roadway Dust Suppression	14.23
5 Evaporation from Mine Pit	0.76
6 Offsite Dewatering	13.31
For Calendar Year 2013, Total Groundwater Consumption from ASA at Davis Quarry = 36.25 Acre-Feet	

Below, in Table 7, please find the Groundwater Rights Summary for the Davis Quarry.

Table 7

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 4th Quarterly Report and Annual Summary for 2013, we believe that the Davis Quarry is in full compliance with all of the regulations that allow us to maintain its preexisting exemption.

As was partially detailed in the 3rd Quarterly Report for 2013, is important to again note that the groundwater percentages in the total volume of Mine Pit water were estimated at 20.45%, 11.56%, 46.36%, and 41.06% during the 1st, 2nd, 3rd, and 4th Quarters of 2013, respectively. This Mine Pit has been in the same location throughout these four (4) 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 the Mine 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 for which we turned off the dewatering pump for 14+ consecutive days earlier this year, so we are confident that the bottom of 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 the Mine Pit, but we concluded that this was highly unlikely because of the below average rainfall that has occurred this year in the region. As of late January 2014, the measured rainfall in the Davis Quarry region for the last 180 days is 8 to 12 inches below the average rainfall figures.

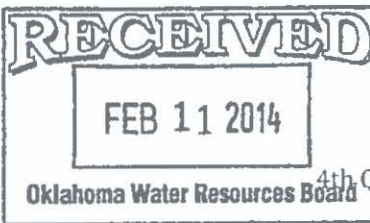
We analyzed other factors that might have caused it to appear that the groundwater composition of the Mine Pit had changed, and we recognized one particular item that warranted further research, as explained below.

During the first half of the 3rd Quarter 2013, the level of the FWL (water storage lake) was near an all-time high. During the quarter, plant personnel commented to the Quarry Superintendent that they had to run the Mine Pit dewatering pump (Pump #1) more than usual, given the drought conditions.

Based on that observation, we then realized that the very high water level of the FWL was most likely finding additional cracks in the upper stone separating the two water bodies, and thus allowing substantial amounts of water from the FWL to drain back in 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) isolated 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.

Mr. Kent Wilkins
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Water Monitoring Plan Report
4th Quarter & Annual Summary for 2013
for Dolese Bros. Co. Davis Quarry
Murray County, Oklahoma

Also, on 14 August 2013, we needed to lower the FWL level by about a foot or so—so 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 accommodate the pump maintenance. Lowering the lake level as a result of this offsite pumping seems to have caused the seepage of water into the Mine Pit from the FWL to decrease slightly.

As mentioned earlier, 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 year, 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 the 3rd and 4th Quarters of 2013 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 we obtained which likely indicates 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.

A handwritten signature in blue ink that reads "Daniel E. Becker".

Daniel E. Becker, P.E.
Environmental Engineer

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