

January 29, 2016

Oklahoma Water Resources Board
Planning and Management Division
3800 North Classen Boulevard
Oklahoma City, OK 73118-2855

RE: Arbuckle-Simpson Pit Water Report

Enclosed please find US Silica's Pit Water Reports for the following periods:

- Quarterly report for the quarter ending December 31, 2015
- Annual report for the year ending December 31, 2015
- Quarterly report for the quarter ending March 31, 2015 (Revised)
- Quarterly report for the quarter ending June 30, 2015 (Revised)
- Quarterly report for the quarter ending September 30, 2015 (Revised)
- Consumptive Use Estimation Worksheets for all four quarters of 2015

The logic behind the revisions is outlined below:

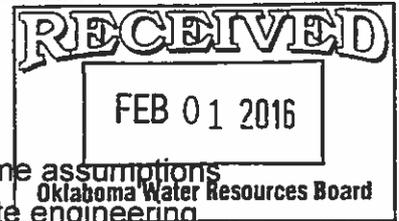
During 2015, US Silica worked with a consultant to verify and streamline our pit water reporting calculations. Several iterations of the calculation model were developed and refined throughout the year. As part of the process, we met with the OWRB staff on May 13 in Mill Creek and on July 10 at the OWRB offices in Oklahoma City.

The consultant's work and the OWRB meetings highlighted several errors in our reporting logic and calculations:

- We were attempting to calculate the fraction of pit water in the various streams throughout our rather complex water storage and recycling system. This resulted in an overly complicated reporting model. The calculations are now based on the full volume moving through the system.
- We were using an incorrect version of the Consumptive Use Estimation Worksheet for the first two quarters of 2015. The worksheet incorrectly reported evaporation from recharging ponds and failed to deduct precipitation and run-into the recharging ponds.

P.O. Box 36, 4800 State Highway 1 North, Mill Creek, OK 74856-0036

phone (800) 445-3950 (580) 384-5241 fax (580) 384-5216 web
www.ussilica.com



We also discovered several errors in the input data, and refined some assumptions based on a new material balance developed by US Silica's corporate engineering group.

The table below summarizes the revisions in the Estimation Worksheets by quarter. These updates are reflected in the attached revised quarterly reports.

1Q15		(acre-feet) Reported	(acre-feet) Revised	
	Pit groundwater volume	585	585	
Driven off by drying	9	14		total flow vs. pit water fraction
Evaporation	75	0		included evap from recharging ponds
Defined consumptive use	84	14		
GW augmentation	432	547		Johnson pond level mis-estimated
Precip and runoff into recharge ponds	0	95		using incorrect estimation worksheet
Recycled pit groundwater	3	0		
Other consumptive use	66	-71		
Total consumptive use	151	-56		

2Q15		(acre-feet) Reported	(acre-feet) Revised	
	Pit groundwater volume	599	599	
Driven off by drying	9	9		
Evaporation	1	1		
Defined consumptive use	10	10		
GW augmentation	1,124	1,124		
Precip and runoff into recharge ponds	0	1,178		using incorrect estimation worksheet
Recycled pit groundwater	0	0		
Other consumptive use	-535	-1,713		
Total consumptive use	-525	-1,703		

3Q15		(acre-feet) Reported	(acre-feet) Revised	
	Pit groundwater volume	943	938	
Driven off by drying	12	12		
Evaporation	4	4		
Defined consumptive use	16	16		
GW augmentation	626	629		rounding error
Precip and runoff into recharge ponds	225	225		
Recycled pit groundwater	0	0		
Other consumptive use	76	68		
Total consumptive use	92	84		rounding error



The amount of precipitation received in 2015 and the resulting "fully charged aquifer" conditions were never envisioned by the developers of the Consumptive Use Estimation Worksheet. The Worksheet yielded large negative values in several quarters, and are enclosed in support of the revised quarterly reports.

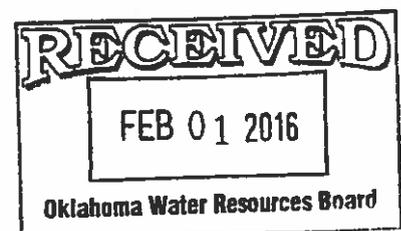
As always, please contact me with any questions.

Best regards,



George W. Matthews
Plant Manager

CC: David Clauson, USS, Chicago



PIT WATER MONITORING AND USAGE REPORT

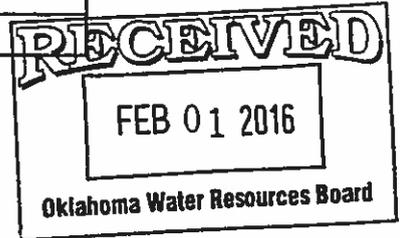
TYPE OF REPORT
REPORTING PERIOD

QUARTERLY
 QUARTER ENDING December 31, 2015

ANNUAL
 YEAR ENDING _____

COMPANY NAME	US Silica Company
ADDRESS	PO Box 36 4800 Highway 1 North Mill Creek, OK 74856

FACILITY	Mill Creek Mine
COUNTY	Johnston



WATER RIGHT INFORMATION

SOURCE	1190	Arbuckle Simpson
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GROUND WATER PERMIT NUMBER	1974-266	
PERMITTED VOLUME	712	ACRE-FEET PER YEAR *
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

* Permitted volume includes additional water rights owned and leased applied to MEPS

STREAM WATER PERMIT NUMBER	1973-412	
PERMITTED VOLUME	43	ACRE-FEET PER YEAR
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

ACCUMULATION AND DISPOSITION OF PIT WATER	ACRE-FEET *
Groundwater entering the pit	838
Surface water entering the pit	77
Total water diverted from the pit	915
Disposition of water from the pit	
Driven off the mined material by drying	12
Evaporated from the active mine pit	1
Returned to the groundwater basin by recharge	254
Discharged to a definite stream	38
Returned to a mine pit or holding basin	0
Returned to the land surface from which runoff flows into a mine pit	0
Total consumptive use of mine pit water	113

* All volumes measured or reasonably estimated

George W. Matthews
 Signature of Water Right Holder or Authorized Agent

1/29/2016
 Date

PRINTED NAME	George W. Matthews
TITLE	Plant Manager
TELEPHONE	(580) 384-5241 x3015

PIT WATER MONITORING AND USAGE REPORT

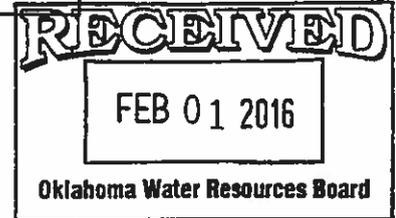
TYPE OF REPORT
REPORTING PERIOD

QUARTERLY
 QUARTER ENDING _____

ANNUAL
 YEAR ENDING **December 31, 2015**

COMPANY NAME	US Silica Company
ADDRESS	PO Box 36 4800 Highway 1 North Mill Creek, OK 74856

FACILITY	Mill Creek Mine
COUNTY	Johnston



WATER RIGHT INFORMATION

SOURCE	1190	Arbuckle Simpson
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GROUND WATER PERMIT NUMBER	1974-266	
PERMITTED VOLUME	712	ACRE-FEET PER YEAR *
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

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STREAM WATER PERMIT NUMBER	1973-412	
PERMITTED VOLUME	43	ACRE-FEET PER YEAR
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

ACCUMULATION AND DISPOSITION OF PIT WATER	ACRE-FEET *
Groundwater entering the pit	2,960
Surface water entering the pit	273
Total water diverted from the pit	3,233
Disposition of water from the pit	
Driven off the mined material by drying	47
Evaporated from the active mine pit	6
Returned to the groundwater basin by recharge	2,554
Discharged to a definite stream	38
Returned to a mine pit or holding basin	0
Returned to the land surface from which runoff flows into a mine pit	0
Total consumptive use of mine pit water	-1,562

* All volumes measured or reasonably estimated

George W. Matthews
 Signature of Water Right Holder or Authorized Agent

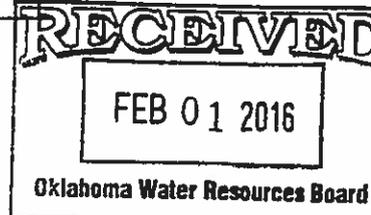
1/29/2016
 Date

PRINTED NAME	George W. Matthews
TITLE	Plant Manager
TELEPHONE	(580) 384-5241 x3015

PIT WATER MONITORING AND USAGE REPORT (1/22/2016 revision)

TYPE OF REPORT	<input checked="" type="checkbox"/> QUARTERLY	<input type="checkbox"/> ANNUAL
REPORTING PERIOD	QUARTER ENDING <u>March 31, 2015</u>	YEAR ENDING <u> </u>

COMPANY NAME	US Silica Company	FACILITY	Mill Creek Mine
ADDRESS	PO Box 36 4800 Highway 1 North Mill Creek, OK 74856	COUNTY	Johnston



WATER RIGHT INFORMATION

SOURCE	1190	Arbuckle Simpson
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GROUND WATER PERMIT NUMBER	1974-266	
PERMITTED VOLUME	712	ACRE-FEET PER YEAR *
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

* Permitted volume includes additional water rights owned and leased applied to MEPS

STREAM WATER PERMIT NUMBER	1973-412	
PERMITTED VOLUME	43	ACRE-FEET PER YEAR
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

ACCUMULATION AND DISPOSITION OF PIT WATER		ACRE-FEET *
Groundwater entering the pit		585
Surface water entering the pit		1
Total water diverted from the pit		586
Disposition of water from the pit		
Driven off the mined material by drying		14
Evaporated from the active mine pit		0
Returned to the groundwater basin by recharge		547
Discharged to a definite stream		0
Returned to a mine pit or holding basin		0
Returned to the land surface from which runoff flows into a mine pit		0
Total consumptive use of mine pit water		-56

* All volumes measured or reasonably estimated

Signature of Water Right Holder or Authorized Agent: *George W. Matthews* Date: 1/29/2016

PRINTED NAME	George W. Matthews
TITLE	Plant Manager
TELEPHONE	(580) 384-5241 x3015

PIT WATER MONITORING AND USAGE REPORT

(1/22/2016 revision)

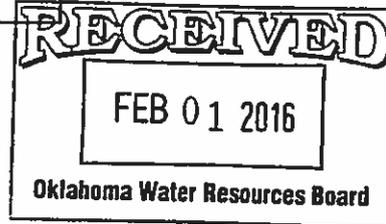
TYPE OF REPORT
REPORTING PERIOD

QUARTERLY
 QUARTER ENDING June 30, 2015

ANNUAL
 YEAR ENDING _____

COMPANY NAME	US Silica Company
ADDRESS	PO Box 36 4800 Highway 1 North Mill Creek, OK 74856

FACILITY	Mill Creek Mine
COUNTY	Johnston



WATER RIGHT INFORMATION

SOURCE	1190	Arbuckle Simpson
--------	------	------------------

GROUND WATER PERMIT NUMBER	1974-266	
PERMITTED VOLUME	712	ACRE-FEET PER YEAR *
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

* Permitted volume includes additional water rights owned and leased applied to MEPS

STREAM WATER PERMIT NUMBER	1973-412	
PERMITTED VOLUME	43	ACRE-FEET PER YEAR
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

ACCUMULATION AND DISPOSITION OF PIT WATER		ACRE-FEET *
Groundwater entering the pit		599
Surface water entering the pit		159
Total water diverted from the pit		757
Disposition of water from the pit		
Driven off the mined material by drying		9
Evaporated from the active mine pit		1
Returned to the groundwater basin by recharge		1,124
Discharged to a definite stream		0
Returned to a mine pit or holding basin		0
Returned to the land surface from which runoff flows into a mine pit		0
Total consumptive use of mine pit water		-1,703

* All volumes measured or reasonably estimated

George W. Matthews
 Signature of Water Right Holder or Authorized Agent

1/29/2016
 Date

PRINTED NAME	George W. Matthews
TITLE	Plant Manager
TELEPHONE	(580) 384-5241 x3015

PIT WATER MONITORING AND USAGE REPORT

(1/22/2016 revision)

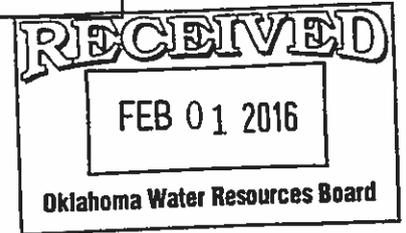
TYPE OF REPORT
REPORTING PERIOD

QUARTERLY
 QUARTER ENDING September 30, 2015

ANNUAL
 YEAR ENDING _____

COMPANY NAME	US Silica Company
ADDRESS	PO Box 36 4800 Highway 1 North Mill Creek, OK 74856

FACILITY	Mill Creek Mine
COUNTY	Johnston



WATER RIGHT INFORMATION

SOURCE	1190	Arbuckle Simpson
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STREAM WATER PERMIT NUMBER	1973-412	
PERMITTED VOLUME	43	ACRE-FEET PER YEAR
PERMIT STATUS	<input checked="" type="checkbox"/> PERMANENT	<input type="checkbox"/> TEMPORARY

ACCUMULATION AND DISPOSITION OF PIT WATER	ACRE-FEET *
Groundwater entering the pit	938
Surface water entering the pit	36
Total water diverted from the pit	974
Disposition of water from the pit	
Driven off the mined material by drying	12
Evaporated from the active mine pit	4
Returned to the groundwater basin by recharge	629
Discharged to a definite stream	0
Returned to a mine pit or holding basin	0
Returned to the land surface from which runoff flows into a mine pit	0
Total consumptive use of mine pit water	84

* All volumes measured or reasonably estimated

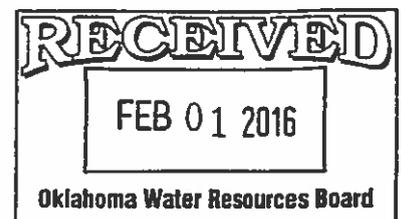
George W. Matthews
 Signature of Water Right Holder or Authorized Agent

1/29/2016
 Date

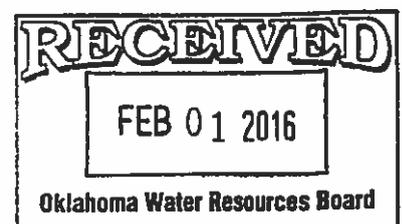
PRINTED NAME	George W. Matthews
TITLE	Plant Manager
TELEPHONE	(580) 384-5241 x3015

SSWMCP Mill Creek Water Balance 1Q2015 new format revision

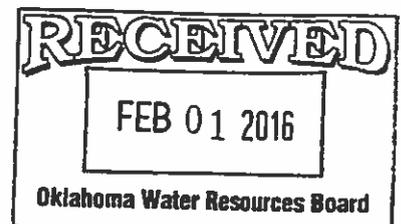
OWRB WORKSHEET		
1	Total volume of water pumped from the producing mine pit(s)	1441
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	1
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water	0
4	Other non-pit waters pumped from the producing mine pit	855
5	Add lines 2 through 4	856
6	Pit Groundwater Volume Line 1 minus Line 5	585
DEFINED ELEMENTS OF CONSUMPTIVE USE		
7	Volume of pit groundwater that is driven off (by drying) the mined material transported off the mine site	14
8	Volume of pit groundwater that is carried away with the mined material transported off the mining site	0
9	Volume of pit groundwater that evaporates from the producing mine pit, process water ponds, and lined ponds (Excluding structures used for augmentation)	0
10	Volume of pit groundwater that is used for other beneficial uses off the mine site	0
11	Consumptive Use of Pit Groundwater Add Lines 7 through 10	14
PIT GROUNDWATER BALANCE		
12	Line 6 minus Line 11	571
13	Groundwater Augmentation Volume of pit groundwater returned to the groundwater basin or subbasin, pursuant to a Management	547
14	Stream Augmentation Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance, pursuant to a Management Plan	0
15	Precipitation & Run-off Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation	95
16	Recycled Pit Groundwater Volume of pit groundwater returned to a mine pit or holding basin (not included on lines 7 through 10)	0
17	Other Non-Consumptive Losses Including pit groundwater returned to the land surface from which surface runoff flows into a mine pit, and other (not included in lines 7 through 10)	0
18	Add lines 13 through 17	642
19	Other Consumptive Use (adjusted) Line 12 minus Line 18	-70
TOTAL REPORTED CONSUMPTIVE USE OF PIT		
20	Total Net Reported Consumptive Use Line 11 plus Line 19	-56



OWRB WORKSHEET		
1	Total volume of water pumped from the producing mine pit(s)	1612
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	3
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water	155
4	Other non-pit waters pumped from the producing mine pit	855
5	Add lines 2 through 4	1014
6	Pit Groundwater Volume Line 1 minus Line 5	599
DEFINED ELEMENTS OF CONSUMPTIVE USE		
7	Volume of pit groundwater that is driven off (by drying) the mined material transported off the mine site	9
8	Volume of pit groundwater that is carried away with the mined material transported off the mining site	0
9	Volume of pit groundwater that evaporates from the producing mine pit, process water ponds, and lined ponds (Excluding structures used for augmentation)	1
10	Volume of pit groundwater that is used for other beneficial uses off the mine site	0
11	Consumptive Use of Pit Groundwater Add Lines 7 through 10	10
PIT GROUNDWATER BALANCE		
12	Line 6 minus Line 11	589
13	Groundwater Augmentation Volume of pit groundwater returned to the groundwater basin or subbasin, pursuant to a Management	1124
14	Stream Augmentation Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance, pursuant to a Management Plan	0
15	Precipitation & Run-off Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation	1178
16	Recycled Pit Groundwater Volume of pit groundwater returned to a mine pit or holding basin (not included on lines 7 through 10)	0
17	Other Non-Consumptive Losses Including pit groundwater returned to the land surface from which surface runoff flows into a mine pit, and other (not included in lines 7 through 10)	0
18	Add lines 13 through 17	2303
19	Other Consumptive Use (adjusted) Line 12 minus Line 18	-1713
TOTAL REPORTED CONSUMPTIVE USE OF PIT		
20	Total Net Reported Consumptive Use Line 11 plus Line 19	-1703



OWRB WORKSHEET		
1	Total volume of water pumped from the producing mine pit(s)	1783
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	1
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water	35
4	Other non-pit waters pumped from the producing mine pit	809
5	Add lines 2 through 4	845
6	Pit Groundwater Volume Line 1 minus Line 5	938
DEFINED ELEMENTS OF CONSUMPTIVE USE		
7	Volume of pit groundwater that is driven off (by drying) the mined material transported off the mine site	12
8	Volume of pit groundwater that is carried away with the mined material transported off the mining site	0
9	Volume of pit groundwater that evaporates from the producing mine pit, process water ponds, and lined ponds (Excluding structures used for augmentation)	4
10	Volume of pit groundwater that is used for other beneficial uses off the mine site	0
11	Consumptive Use of Pit Groundwater Add Lines 7 through 10	16
PIT GROUNDWATER BALANCE		
12	Line 6 minus Line 11	922
13	Groundwater Augmentation Volume of pit groundwater returned to the groundwater basin or subbasin, pursuant to a Management	629
14	Stream Augmentation Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance, pursuant to a Management Plan	0
15	Precipitation & Run-off Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation	225
16	Recycled Pit Groundwater Volume of pit groundwater returned to a mine pit or holding basin (not included on lines 7 through 10)	0
17	Other Non-Consumptive Losses Including pit groundwater returned to the land surface from which surface runoff flows into a mine pit, and other (not included in lines 7 through 10)	0
18	Add lines 13 through 17	854
19	Other Consumptive Use (adjusted) Line 12 minus Line 18	68
TOTAL REPORTED CONSUMPTIVE USE OF PIT		
20	Total Net Reported Consumptive Use Line 11 plus Line 19	84



OWRB WORKSHEET		
1	Total volume of water pumped from the producing mine pit(s)	1570.5
2	Volume of precipitation that falls onto the surface of water in the producing mining pit(s)	1.9
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water	75.0
4	Other non-pit waters pumped from the producing mine pit	656.0
5	Add lines 2 through 4	732.8
6	Pit Groundwater Volume Line 1 minus Line 5	837.7
DEFINED ELEMENTS OF CONSUMPTIVE USE		
7	Volume of pit groundwater that is driven off (by drying) the mined material transported off the mine site	12.3
8	Volume of pit groundwater that is carried away with the mined material transported off the mining site	0.0
9	Volume of pit groundwater that evaporates from the producing mine pit, process water ponds, and lined ponds (Excluding structures used for augmentation)	1.4
10	Volume of pit groundwater that is used for other beneficial uses off the mine site	0.0
11	Consumptive Use of Pit Groundwater Add Lines 7 through 10	13.7
PIT GROUNDWATER BALANCE		
12	Line 6 minus Line 11	824.0
13	Groundwater Augmentation Volume of pit groundwater returned to the groundwater basin or subbasin, pursuant to a Management	254.0
14	Stream Augmentation Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance, pursuant to a Management Plan	38.2
15	Precipitation & Run-off Volume of precipitation and surface run-off into a recharge pit or holding pond used for augmentation	432.6
16	Recycled Pit Groundwater Volume of pit groundwater returned to a mine pit or holding basin (not included on lines 7 through 10)	0.0
17	Other Non-Consumptive Losses Including pit groundwater returned to the land surface from which surface runoff flows into a mine pit, and other (not included in lines 7 through 10)	0.0
18	Add lines 13 through 17	724.8
19	Other Consumptive Use (adjusted) Line 12 minus Line 18	99.2
TOTAL REPORTED CONSUMPTIVE USE OF PIT		
20	Total Net Reported Consumptive Use Line 11 plus Line 19	112.9

