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Oklahoma Water Resources Board

April 28, 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 Report for first quarter 2016.

As you can see, the calculated consumptive use increased considerably quarter to quarter. The published Guidelines to Estimate the Consumptive Use of Pit Water were used in these calculations.

The primary driver for the increased "use" was the large volume of water we were forced to release during Q1 from our water recycling ponds. The rationale behind this release was to create some freeboard in our pond system. This will allow us to retain water during the coming wet season and control the timing of its release, rather than discharging it during periods of potential flooding downstream. This effort continued through April.

High flow in Mill Creek prevented the application of "credit" for the released water in the consumptive use calculation. To the contrary, the released volume was counted as consumptive use.

Following the historic precipitation events during the second quarter of 2015, we have observed several trends that give evidence to the conclusion that the aquifer has reached its maximum storage capacity:

1. During Q1, the Fittstown Mesonet site measured only 6.2 inches of precipitation. In spite of the relatively low precipitation, the average daily flow at Mill Creek USGS gauge 07331200 remained above the 50% exceedance level (9.1 cfs) for all but four days of the quarter.

2. The estimated volume of pit water infiltration has shown a steady increase over the past three quarters.

3. The calculated groundwater recharge volume from our water recycling ponds has decreased over the past three quarters.

4. The combined effects of item numbers 1, 2, and 3 above are driving the large volumes being discharged via our OPDES permit.

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**

5. The static water level in our drinking water well (DEQ Public Water System ID No. OK2003514) has increased over the past 12 months from 121 feet to 60 feet, measured down from the wellhead. The static water level is now higher than the surface of our water recycling ponds.

Also attached is a chart prepared by the Thornhill Group that graphically portrays the observations outlined above. In summary, the subsurface strata appear to be saturated, and this condition is driving the increase in the reported "consumptive use" of pit water. US Silica will continue to monitor and report as required, and as always, please contact me with any questions.

Best regards,

George W. Matthews
Plant Manager

CC: David Clauson, USS, Chicago
Thornhill Group Incorporated, Austin

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# PIT WATER MONITORING AND USAGE REPORT

| | | | | |
|---|---|---|---|---|
| TYPE OF REPORT | ■ | QUARTERLY | ☐ | ANNUAL |
| REPORTING PERIOD | QUARTER ENDING | March 31, 2016 | YEAR ENDING | |

| | |
|---|---|
| COMPANY NAME | US Silica Company |
| ADDRESS | PO Box 36<br>4800 Highway 1 North<br>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 | ■ | PERMANENT | ☐ | 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 | ■ | PERMANENT | ☐ | TEMPORARY |

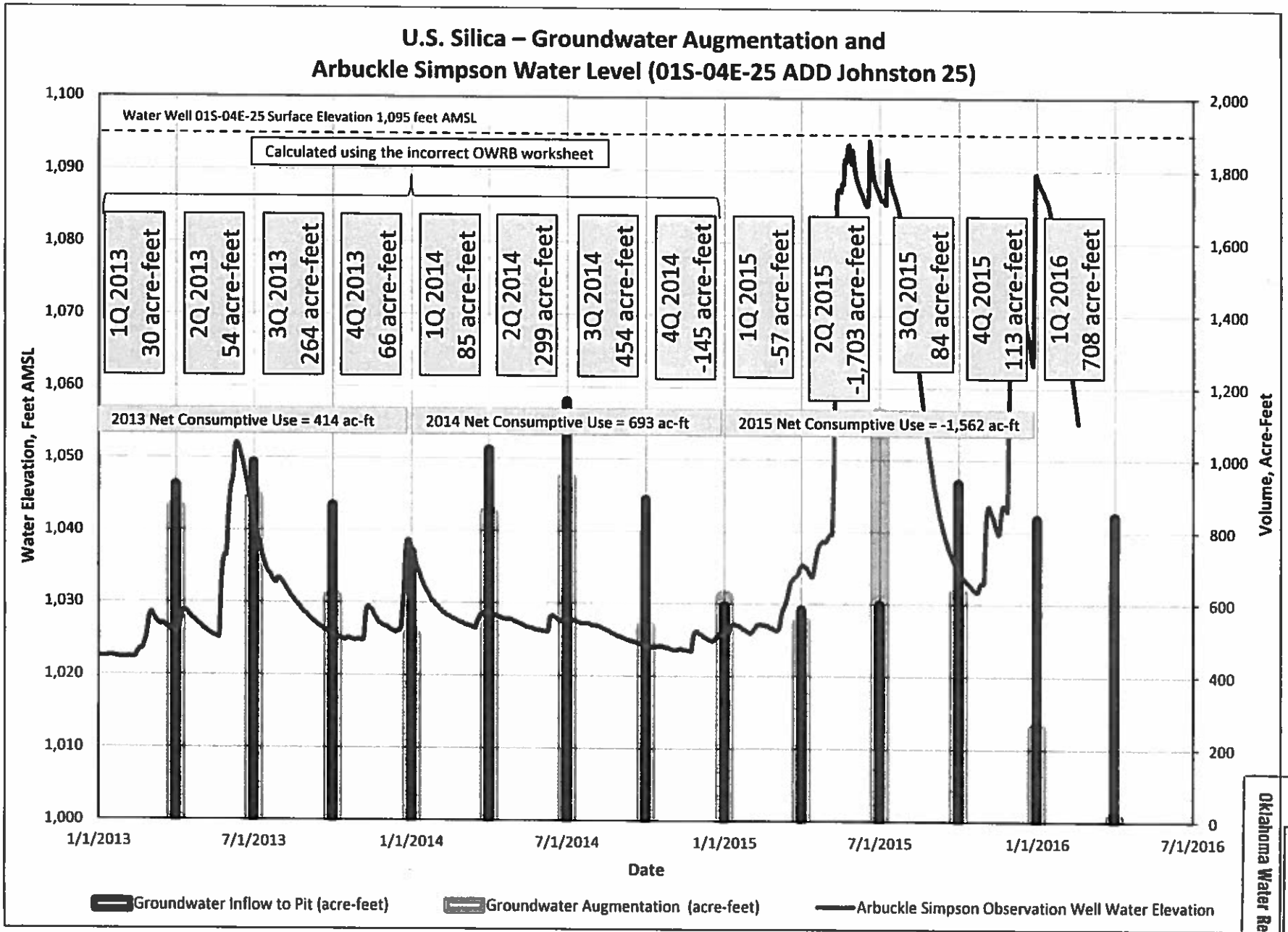
| ACCUMULATION AND DISPOSITION OF PIT WATER | | ACRE-FEET * |
|---|---|---|
| Groundwater entering the pit | | 845 |
| Surface water entering the pit | | 8 |
| Total water diverted from the pit | | 852 |
| Disposition of water from the pit | | |
| | Driven off the mined material by drying | 10 |
| | Evaporated from the active mine pit | 2 |
| | Returned to the groundwater basin by recharge | 6 |
| | Discharged to a definite stream | 45 |
| | 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 | | 707 |

* All volumes measured or reasonably estimated

George W. Matthews — 4/29/2016

Signature of Water Right Holder or Authorized Agent — Date

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

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