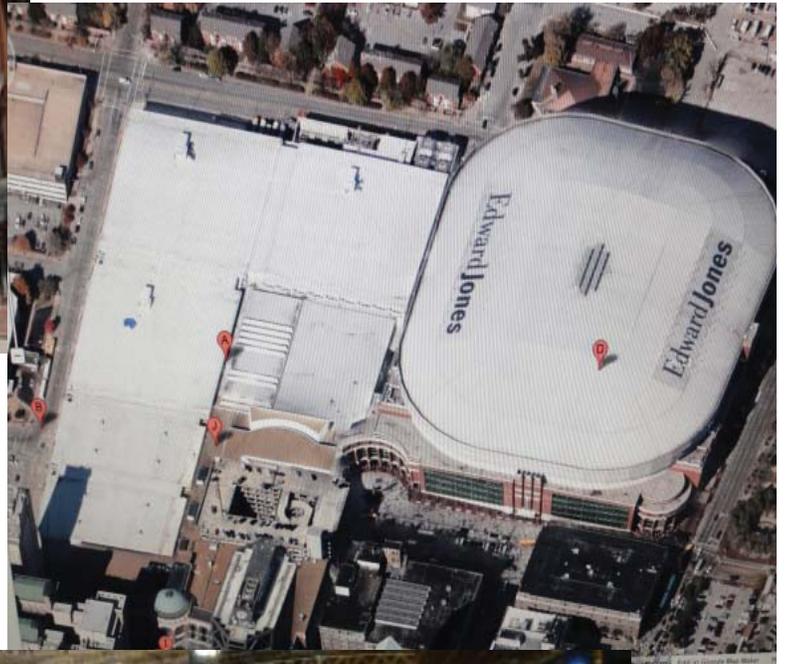




Real World  
Consulting, inc.



**Edward James Dome  
Americas Center  
Saint Louis, Mo  
Chrisal Test 2-7,8-**





## **Report on UGL Saint Louis Dome Test of Chrisal products.**

On Feb 7th and 8th, 2012 at the request by UGL for a formal test of Chrisal's Probiotic Cleaners' abilities, Howard Zalkin, a principle of Chrisal and Graham Noll, CEO of Real World Consulting Inc., and at the direction of UGL's Richard Ferreira, met at the Saint Louis Dome with Roy Thompson, second in command at the Center and Rita Holt. Together, this group then performed hands on testing at the dome in an effort to mitigate a number of specific issues encountered by UGL at the facility.

### **Issues**

The overriding issues were:

- (1) that there were multiple areas and bathrooms with uncontrollable odors,
- (2) that personnel were unable to clean to the desired level of cleanliness,
- (3) that the facility cleaning regimen employed too many specialized diverse products, and
- (4) that the normal available products are toxic, so that the personnel using the standard chemical products were adversely affected by the cleaning products, presenting either topical or respiratory distress symptoms to a varying degree.

Other issues to be addressed included:

- (5) the desire to reduce the labor costs,
- (6) lower material costs and
- (7) to reduce cleaning time and frequency as well
- (8) as to better control and standardize the mix quantity implemented by employees.

### **Locations, Testing Scope and Parameters**

The team of UGL and Chrisal personal surveyed three toilets at the stadium:

- (1) section 134 men's room,
- (2) the administrative men's room on the first floor and
- (3) the men's toilet located on the first floor near the main entrance .

Subsequently the team decided to concentrate the testing and mitigation efforts on the two most contaminated facilities: section 134 and the main entrance toilet. We also surveyed the stands, the Ram's locker room, showers and the sky box beer club area. Though the stands had contamination, the team decided that testing in the stands would not be indicative of the order of magnitude changes the team sought to depict in large scale odor control and cleaning, especially since several of the other areas had been recently cleaned. Since the locker room had not been used recently and had been cleaned and had dried for weeks, the odor in the shower was minimal though contamination was still present at the drain. The locker room had an odor of 3 on a scale of 1-10 but for the team to have deodorized the very large area would have required a larger fogger. However, from the results in the areas where fogging was performed, there is a 100% confidence level that the locker room would

easily meet all odor, cleanliness and freedom from contamination expectations with simple Chrisal use.

## **Conditions**

The most contaminated toilet was the men's room at section 134 on the second floor. This toilet had been deliberately left un-cleaned since the last event so that the team could test under realistic "worse" conditions and was heavily contaminated with urine stains under many of the urinals, urine soaked paper strewn about the entire floor area of the approximately 900 square foot bathroom. Additionally several of the toilets had feces on and around the fixtures, on the partitions and had feces contaminated toilet paper on the floor in several of the stalls.

One of the fixtures was clogged, over-flowing with urine, feces and paper. There was a filled medical urine bag on the floor and the flush valve was inoperative. This particular stall was understandably extraordinarily offensive.

## **Fogging Test**

At 4 pm on Tuesday, the team proceeded to fog the entire facility with a small Fogmaster jr fogging unit. A 50:1 concentration (4 teaspoons) was used and filled the 32 ounce capacity unit with the diluted Chrisal Probiotic Environmental Control concentrate. This fogging unit is not designed for use in such a large areas, so it required a longer time than would be expected of a properly sized commercial volume fogger to complete the task. However, even using the under powered unit that would be expected to use more product per required volume, the team required only 16 ounces of water and 2 teaspoons of the Chrisal product concentrate to completely fog the entire public bathroom from ceiling down to the floor including fixtures – plus also fogging the utility room, which had a strong odor from the storage of bags of garbage over a period of time (There were 8 filled bags in the room when the team fogged).

## **Fogging Results**

Within 20 minutes, the odor level declined from a 10 to a 2. It must be noted that no cleaning had yet been performed. The fixtures were still dirty with urine and feces and the floor had not been swept or cleaned. The only mitigation undertaken was fogging. Notwithstanding the continued presence of a large number of odor source contaminants, and the obvious contamination on the walls, floors and fixtures, only a faint odor remained after 20 minutes.

The next morning, on Wednesday, February 8th at 9am, The team entered the bathroom on the second floor to find that the plumber had drained the toilet, but the contamination was still in evidence on and around all of the fixtures. However, despite all these problems, all of the offensive odors had been completely mitigated by Chrisal. There were no offensive odors what-so-ever. On a scale of 1 to 10, the odors were a zero. In fact, interestingly, the only odor detected was a faint smell of the chemicals from the "hockey pucks" in the urinals and the leakage from the cleaning chemicals in the utility room

## Floor and Fixture cleaning

A staff employee, Mary-Joe Kent, was assigned to work with the Chrisal trainers to clean the second floor (section 134) toilet floor. She made several comments that are worth noting. *She indicated that whenever she cleaned the bathrooms previously, she would end up coughing and had to wear gloves. With the Chrisal she had no adverse effects, what so ever, and was comfortable cleaning without gloves as the product had no detrimental effects on her skin. She noted that Chrisal cleaned the floors and removed dirt that she could not remove using the conventional cleaner.* With moderate manual scrubbing using only a soft mop, we were able to demonstrate that we could remove all of the dirt down to the concrete seal, something that was not possible with the normal cleaning solution. If the team had used one of the automated floor brushing units, we would have brought the entire floor back to its original state. Over time with continued use of Chrisal, even the heavily contaminated intersection lines between concrete slabs would also become clean and free of biofilm.

We had one of the employees wash several mirrors a sink and the chrome faucets. They were very pleased with the results commenting that the mirrors “shined” and had a polished appearance, as did the chrome on the faucet, and there were no water spots after the cleaner dried on any surface. They also noted that it required substantially less Chrisal cleaner to achieve, not the same results as the normal cleaners, but instead, far superior results. We also cleaned a stainless steel drip/kick plate under the paper towel dispensers and the results were, that even with just one application of Chrisal, the plates appeared far cleaner than when cleaned with the conventional cleaners. With continued use the stainless plates would exhibit and retain a deep rich shine over the course of a few days.

The team then proceeded to mop the floors manually, using the Chrisal floor cleaner with excellent results. We removed layers of dirt, grime and grease that the normal cleaners used for the job until that point had failed to remove. As a result of cleaning the floors with Chrisal, within an hour, even most of the chemical odors were removed from the entire toilet area.



Before: Urinals have odor and floors have urine under each fixture. Note garbage bags in utility room and that floor was contaminated and wet in the utility room.



After: After mopping with Chrisal, Urine under the fixtures was eliminated. Color of the floor was lighter as dirt and some of the biofilm was removed. No urine odor was present. The only odor remaining was that of the chemical “hockey pucks”.

## Conclusions

Both Roy Thompson and Rita Holt of UGL who worked with the Chrisal staff to set up a fair and legitimate test, stated that they felt the products had achieved all the desired result of (1) completely removing the odors in the rooms tested within a short period (20 minutes) and (2) that the Chrisal floor cleaner performed in a superior manner as indicated. I called Roy on Thursday February 9th and he went to both of the toilets cleaned with Chrisal and he stated that both the rooms still continue to have zero odors.

We must point out that since only the floor has been cleaned with Chrisal, and the fixtures will have been cleaned with conventional cleaners, that after the third day, any further contamination will begin to create new odors that will not be removed unless the rooms are fogged and cleaned with Chrisal. If the toilets are cleaned and fogged using only Chrisal products, and the rooms are not used subsequently, there should be minimal odor in the rooms. If the rooms are cleaned for between 3 days to 2 weeks and all of the biofilm removed by Chrisal's unique ability to deconstruct biofilm, then no odor will remain even with daily use of the facilities as long as they are cleaned with Chrisal as they would normally be, after use.

The assessment of the tests show that Chrisal products have achieved all of the desired results and have proven efficacy.



After mopping the floors with Chrisal, all residual odors were removed within 20 minutes, and the floor color became lighter as dirt and bio film were removed



Toilet having the most contamination was the stadium's public bathroom located in Section: 134-135



It should be noted that if Chrisal were used in the floor scrubbing machines, the floors would be cleaner and would require less product to achieve a superior result.

This would accrue both product cost and labor cost reductions over time.



Graham Noll fogging the men's down stairs entry toilet with a "toy" fogger.

The undersized demo fogging machine required 10 minutes to fog the room. A full sized fogger would only require 1 to 2 minutes or less.

20 minutes after fogging, all urine and feces odors were completely removed. The only odor remaining was a slight odor of urinal hockey pucks.

It can be seen that if Chrisal is used for cleaning and as a fogging product regularly in the Saint Louis dome facilities that:

- There will be a reduction in odor to zero in any areas where the regimen is implemented and maintained.
- If implemented in areas used by athletes, there will be a substantial reduction in the incidence of infection and contamination, as well as odors.
- If used in kitchen, food or beer dispensing areas, contamination and the attendant odors and risk of infection will be vastly reduced.
- Slippage due to spilled liquids will likely be reduced
- That if the dome areas were to be Chrisal fogged, the risk of infection to patrons would be reduced substantially
- If Chrisal were used in the large cleaning machines, the large area floors would be cleaner, easier to maintain and would have a shinier appearance.
- There will be a reduction in allergic reactions in cleaning personnel.
- You will reduce use of toxic chemicals
- UGL will accrue a labor savings over time
- There will also be a reduction in sick days and other insurance claims.
- The cost of cleaning supplies will be reduced
- There will be a reduction in the number of cleaning products required.
- The overall appearance of the facilities will improve markedly over time
- The rugs and textiles will become cleaner and require less frequent shampooing

We look forward to working with UGL to design protocols that optimize the cleaning method for your personnel using Chrisal products, while achieving the desired elimination of odors, providing improved cleaning and appearance, reduced costs, elimination of allergic reactions in all concerned and improved appearance of the facility.

The Chrisal paradigm of course applies to all types of facilities, equipment and many markets that UGL serves. We will be happy to work with you to identify areas where the Chrisal products will meet UGL's requirements nationally and internationally.

Sincere Regards,

*M Graham Noll*

CEO, Real World Consulting Inc.

PO Box 220, Georgetown, Mass 01833

Tel: 978-844-0300 em: mgn200@gmail.com