CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2016
DateRun:	07/18/2016
Experimenters:	James Keats
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Vinyl Composite Tiles
PartType:	Coupon
Contaminants:	Food
Cleaning Methods:	Mechanical Agitation
Analytical Methods:	Visual
Purpose:	Evaluate beginning, middle, and end effectiveness of iRobot cleaning pad.

Experimental Procedure:

Apply soil to 4' X 4' clean vinyl floor, spreading 1g of soil onto even numbered tiles with a swab and odd tiles by dripping 1g of soil onto them (16g per floor). Allow the floor to dry for 24h. Attach a cleaning pad to the Braava unit and completely fill with water. Then place the Braava unit onto the floor. Turn on the Braava unit, and begin the cleaning cycle. At intervals of 10 seconds, take a picture of the floor. Once the cycle is complete, empty any water still in the Braava unit and dispose of the pad.

Pictures are taken periodically to compare effectiveness of cleaning pad over time. This will allow beginning, middle, and end cleaning to be visually evaluated.

To evaluate total soil removal, a visual observation will be made. This observation will be an estimation of the % soil removed from each tile by comparing before and after pictures of the floor. In addition to this rating, observers will also be asked to rate the overall cleanliness of the floor from 1-5 (1 being no soil remaining).

Tile numbers

4	5	6	7
3	14	15	8
2	13	16	9
1	12	11	10

Results:

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The floor was soiled and cleaned once.

- Found that the Braava unit stopped its cleaning cycle after ~11.6 minutes, which was before cleaning the entire floor.
- All evaluators agreed that the floor was not completely clean.
- The Braava unit removed more soil if it first sprayed water onto the tile.

Percent removal Trial 1

(Ex: 95% means that 5% of the initial soil remained on the tile.)

Observer 1 – rating: 4

70%	70%	50%	80%
70%	95%	70%	50%
90%	90%	70%	85%
80%	95%	80%	80%

Observer 2 – rating: 2

99%	92%	100%	98%
90%	99%	95%	95%
99%	95%	95%	99%
98%	100%	100%	100%

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Observer 3 – rating: 4

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72*%	50*%	60*%	60*%
60*%	72*%	45*%	55*%
76*%	65*%	60*%	55*%
60*%	76*%	55*%	70*%

*Tile was sticky.

Summary:

Substrates:	Vinyl Composite Tiles				
Contaminants:	Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
iRobot	iRobot Braava unit	100	0.00	☐	

Conclusion:

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- Pad seemed clean consistently across entire floor.
- Whether or not the tile is sprayed recently with water made the greatest difference in pad effectiveness.
- The pad spread soil around the floor, making the floor sticky.
- The Braava unit had trouble cleaning between the tiles.

Manual wipe tests will be conducted with paper towels and water in order to provide a comparison to the Braava unit. The time it takes to clean the floor will be recorded. Once cleaned, the floor will be evaluated with the same visual method mentioned earlier in this report.