



## **As promised, here's the article you requested...**

Here you go...I really hope you enjoy this article and, more importantly, I hope that it helps you improve your bowling.

Please note that this page will only be available for a very limited time. If you come back to this page in a day or two, your access will most likely be expired. For that reason, I really hope you'll take just a few minutes right now to read the entire article so you don't miss out.

Sincerely,  
Bill Sempstrott  
Owner - Bowling This Month

# **How to Read a Program Sheet – Part 2**

## **Finding the oil**

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CATEGORY: **LANE PLAY**

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**bowling**  
this month

**Distance: 39 Feet**  
**Total: 19.25 mL**  
**Boards Crossed: 385 Boards**

Stop	Loads	Speed	Crossed	Start	End
R	6	14	222	0.0	9.9
R	1	18	31	9.9	12.4
R	1	18	29	12.4	14.9
R	1	18	27	14.9	17.4
R	1	18	23	17.4	19.9

**HOW TO READ A PROGRAM SHEET Part-2**  
Finding the oil

Image credit

I promised that this month we would talk about how to translate all this data into a place to play on the lane, so here goes. What part of this do you really need to know and how will it help you? Here again is the 2012 Baton Rouge program sheet we're using. (see below)

I think you should pay attention to the number of 2 to 2 loads, the pattern length, the total volume of oil, the ratios, and, if the program sheet has this information (which the sample does not), the reverse brush drop distance. More on that in a moment.

## 2 to 2 loads

The more 2 to 2 loads, the more difficult the pattern can be. It gives you a clue about how much oil will be near the ditch. Obviously, the more oil near the ditch, the less free hook to the outside you will have.

If I just used one load from 2 to 2 and the distance was 44 feet, then I would be dragging not much oil 44 feet and by the time I get close to the end of the pattern, it will be pretty dry on the outside. If I have six loads, however, that won't be the case. You will have less (maybe no) room to swing the ball and could "enjoy" an out-of-bounds experience with a lateral area check.

## Pattern length

The longer the pattern, the closer to the headpin you have to play. On a 44 foot pattern, there is only 16 feet of dry back end. That's not much time or distance for your orb to slow down and move toward the pocket. When that distance is so short, the ball needs to be closer to the headpin when it makes its move. In case you are wondering what constitutes a short, medium, or long pattern, less than 36 feet is considered short, 37-42 feet is considered medium, and more than 43 feet is a long pattern.

## Total volume

So, how much is a lot of oil? Well, there isn't any rule about it but generally it follows this guideline (provided by Kegel):

Less than 18 ml	use a weaker cover ball
18 - 21 ml	use a weak to medium cover
21 - 25 ml	use a medium to strong cover
More than 25 ml	use an aggressive coverstock

**Oil volume general guidelines**

A lot of oil will often be used to combat an old, beat up, or high friction surface. The amount of oil used will also be based on how many games will be bowled before any re-oiling is done. According to Kegel, the average house shot today is about 23 milliliters.

That number fluctuates depending on the surface on which that oil is placed. A 27 milliliter volume on an old wood lane will hook more than a 27 milliliter volume on Brunswick Pro Lane, so always consider the surface when using volume as part of your decision-making process about where and how to play a condition.

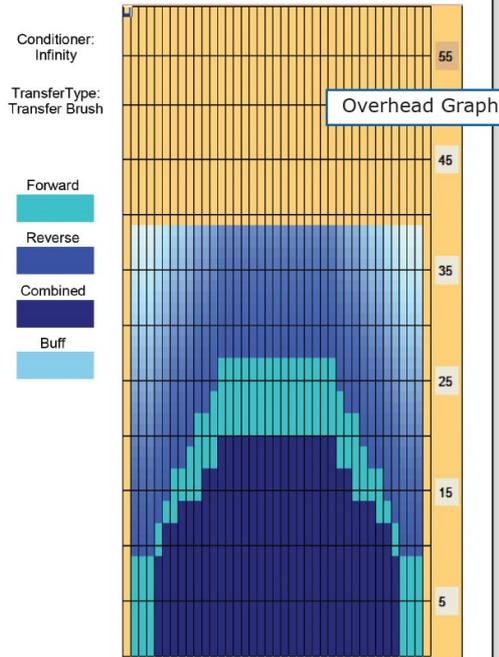
# 2012 USBC Open Championships-Baton Rouge



Oil Pattern Distance: **39 Feet**      Reverse Brush Drop: **34 Feet**      Oil Per Board: **50 uL**  
 Forward Oil Total: **19.25 mL**      Reverse Oil Total: **5.95 mL**      Volume Oil Total: **25.2 mL**  
 Forward Boards Crossed: **385 Boards**      Reverse Boards Crossed: **119 Boards**      Total Boards Crossed: **504 Boards**

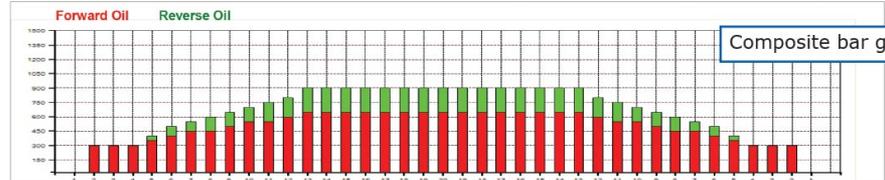
	Start	Stop	Loads	Speed	Crossed	Start	End	Feet	T.Oil
1	2L	2R	6	14	222	0.0	9.9	9.9	11100
2	5L	5R	1	18	31	9.9	12.4	2.5	1550
3	6L	6R	1	18	29	12.4	14.9	2.5	1450
4	7L	7R	1	18	27	14.9	17.4	2.5	1350
5	9L	9R	1	18	23	17.4	19.9	2.5	1150
6	10L	10R	1	18	21	19.9	22.4	2.5	1050
7	12L	12R	1	18	17	22.4	24.9	2.5	850
8	13L	13R	1	18	15	24.9	27.4	2.5	750
9	2L	2R	0	22	0	27.4	35.0	7.6	0
10	2L	2R	0	26	0	35.0	39.0	4.0	0

	Start	Stop	Loads	Speed	Crossed	Start	End	Feet	T.Oil
1	2L	2R	0	30	0	39.0	20.0	-19.0	0
2	13L	13R	1	22	15	20.0	15.9	-3.1	750
3	11L	11R	1	18	19	15.9	14.4	-2.5	950
4	8L	8R	1	18	25	14.4	11.9	-2.5	1250
5	6L	6R	1	18	29	11.9	9.4	-2.5	1450
6	5L	5R	1	18	31	9.4	6.9	-2.5	1550
7	2L	2R	0	10	0	6.9	0.0	-6.9	0



Oil ratio

Item	3L-7L:18L-18R	8L-12L:18L-18R	13L-17L:18L-18R	18L-18R:17R-13R	18L-18R:12R-8R	18L-18R:7R-3R
Description	Outside Track:Middle	Middle Track:Middle	Inside Track:Middle	Middle: Inside Track	Middle:Middle Track	Middle:Outside Track
Track Zone Ratio	2.2	1.29	1	1	1.29	2.2



Composite bar graph

2012 USBC Open Championships oil pattern sheet

## Reverse brush drop distance

Since the buffer brush is the part of the machine that has the oil on it, you can probably figure out that when you raise the buffer from the lane, it will still have oil on it. It won't be much, but it will be there. So, when the machine finishes its forward pass and comes back for the reverse pass, there is a small amount of oil on the brush.

If the buffer brush is still in contact with the lane at the end of the pattern, a little more oil is being applied there. However, if the brush is raised at 34 feet instead of 39 feet, less oil would be applied to the last five feet of the pattern. That would be good information to have.

## The overhead graph

This is an overhead view of the lane. It will tell you the shape of the forward, reverse, and combination passes as well as what area was buffed. It, like any lane graph, won't tell you where to play but it can show you where the oil has been placed. The reason it can't tell you where to play is

because it doesn't show you any of the hills, valleys, bumps, and potholes the ball has to traverse on its way to the pocket. The oiling pattern usually can't mitigate the surface on which it is placed.

## **Composite bar graph**

This doesn't tell you how much oil is at any given place on the lane. This is a graphical representation of what it would look like if you stood at the end of the pattern and pushed all the oil toward the foul line so that it stacked vertically.

## **Oil ratio**

This table will tell you the ratio of oil in certain zones of the lane. Some folks consider ratio to be more important than volume and distance. The first ratio in this graphic is between the 3rd board on the left (3L) and the 7th board on the left (7L) and between the 18th board on the left and the 18th board on the right. That ratio is 2.2:1. Translated that means there is 2.2 times as much oil on boards 18L-18R as there is on boards 3L-7L. It's the same on the right side of the lane. The smaller the ratio, the more difficult the pattern.

For a sport pattern to be "legal", the ratio of oil inside to outside is defined in certain areas of the lane by the USBC Sport Bowling Technical Manual. Tapes must be taken at 22 feet and two feet before the end of the pattern. The ratio for all tapes taken must be a maximum of 3:1. In other words, the average amount of oil between boards 18L-18R is divided by the average amount of oil between boards 3L-7L. There are even more specifics in the manual but that's enough to give you a taste of how precise the measuring must be to assure sport compliance.

## **USBC requirements**

USBC doesn't talk about oil in microliters or milliliters. They talk units. Really, there is no way to measure the oil on the lane. Like with the Kegel machines, we can measure how much oil is leaving the machine and going to the lane but if someone came behind and wiped some oil off the lane, we would have measured how much and where we put it on the lane but the truth is it didn't stay there long enough to matter.

So, to accommodate some type of measurement until we come up with a foolproof method, USBC requires that all oil have a UV additive in it. A take-up device is used to "take up" the oil from the lane. It's like a piece of cellophane type tape that is placed on the lane and, when it's removed, there is oil on the tape from the lane. This tape is fed through a UV reader which measures the amount of UV in the oil. The measurement from the take up device and reader gives a printout.

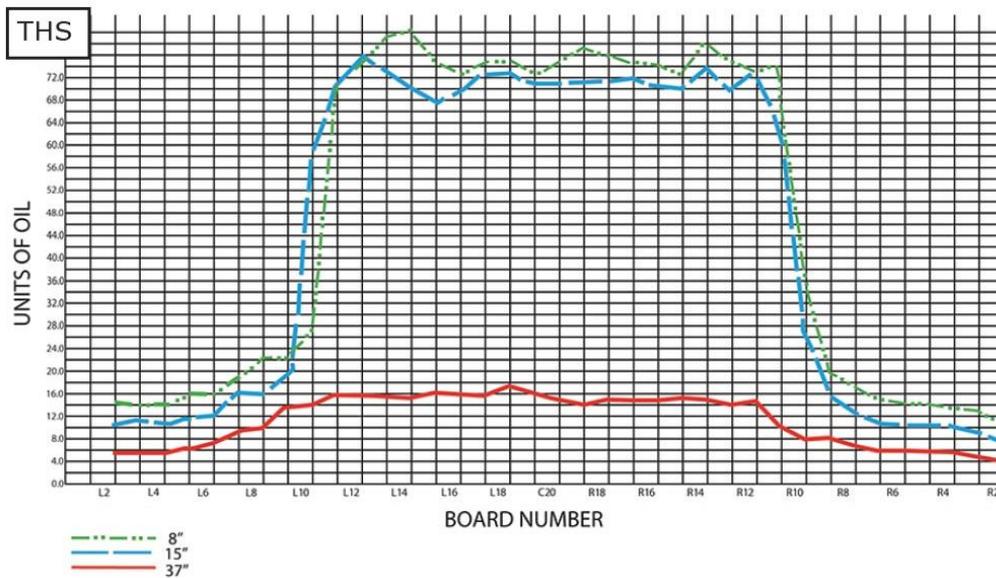
There are some limitations to the lane reader method. If there is an improper amount of UV in the oil, readings will be off. If there is more UV additive than there is supposed to be (300-370 parts per million), it will "read" that there is more oil. Less UV additive than required and the readout will indicate there is less oil than there is supposed to be when really there is just less UV additive.



**Oil UV additive take-up device**

Older bulbs in the reader cause low readings. Dirty readers give improper values. Different batches of take-up tape also affect the readings. There are calibration strips for the reader. They must contain the proper ppm (parts per million) values, can often be mislabeled, and are very affected by age and light. Other than that, the readers never give a “false positive.”

Here’s how that might work in the real world. Let’s say there was too much UV additive in this batch of lane oil. It’s placed in the machine, the settings are programmed just as they always are, and the laneman runs the machine, just as he always does. He uses the take up device and feeds the tapes through the reader.



**Oil units graph for a typical house shot**

He’ll get a graph like the one above, but his graph will indicate he has more “oil” on the lanes than he intended. So, he does what any good laneman would do. He cuts back on the oil so league bowlers will be happy.

They’re not. They complain the lanes are way drier than usual, make derogatory remarks about forgetting to oil them, and whine that the lanes are never the same. The laneman did what he was

supposed to do, running the lanes the same way he always runs them. It's just that his decision was based on faulty information, something he could not possibly know. You can see just a few of the obstacles facing any laneman in trying to have consistency in conditioning the lanes.

Different lines indicate the different distances down the lane where the measurements were taken. The higher the units of oil, the closer to the foul line the reading was taken. You can see the board number across the bottom of the graph and the units of oil down the left side. On this THS (typical house shot), the readings were taken at 8 feet, 15 feet, and 37 feet. Pretty basic and simple. However, it didn't give you nearly as much information about the pattern as the program sheet.

That's a quick primer on reading a program sheet. If you understand that it's really only part of the picture of a lane, you'll be fine. It does tell you where the oil is and how much there is but does not show you anything about the surface on which the oil is placed. The topography of the lane will have a lot more to do with how the lane plays than the pattern. However, we don't have a lot of topography readings today. Until we can get a topographical map along with the program sheet, we'll just have to let the ball do the interpreting for us!



### **About Susie Minshew**

Susie Minshew is a USBC Gold Coach, Master Silver Instructor, a regional PWBA champion, and past president of IBPSIA. She has authored two new books, *Whoever Finds It First, Wins* and *Bowling Whisperer*. Visit her online at [www.strikeability.com](http://www.strikeability.com).

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