Impact of K# Swings on a Pre-Bleach Washer Located After Unbleached Storage

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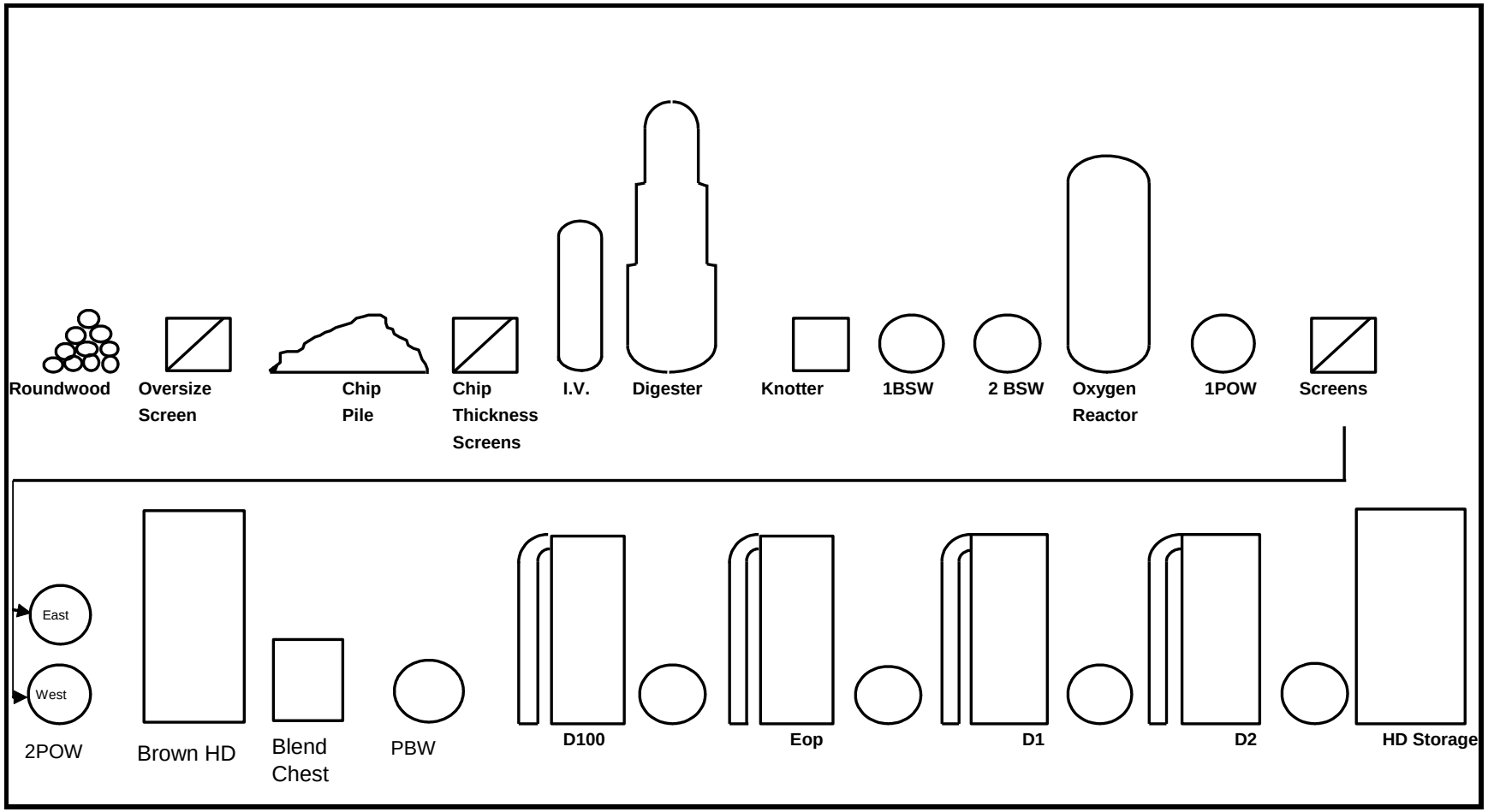
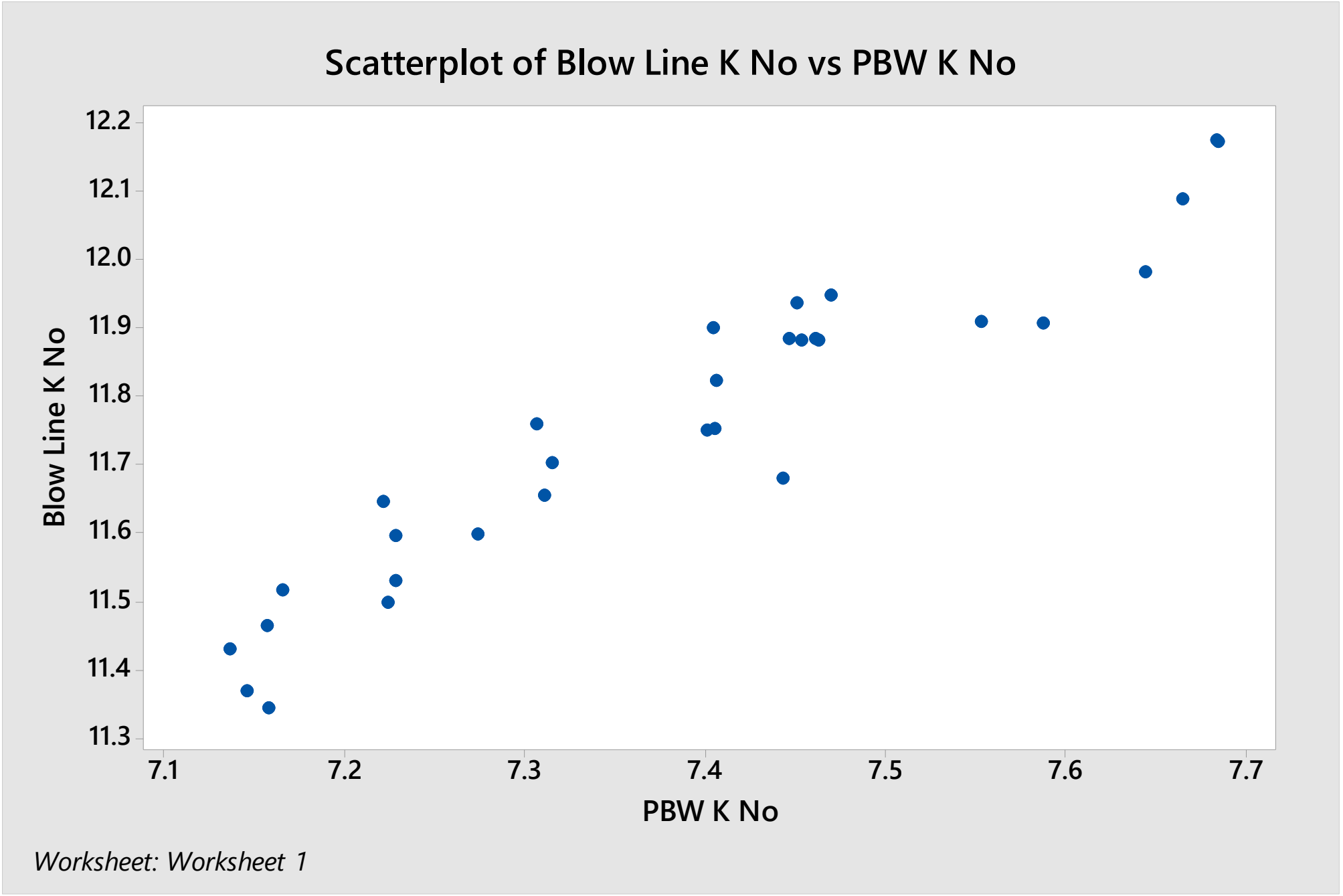
PAPTAC Bleaching Committee

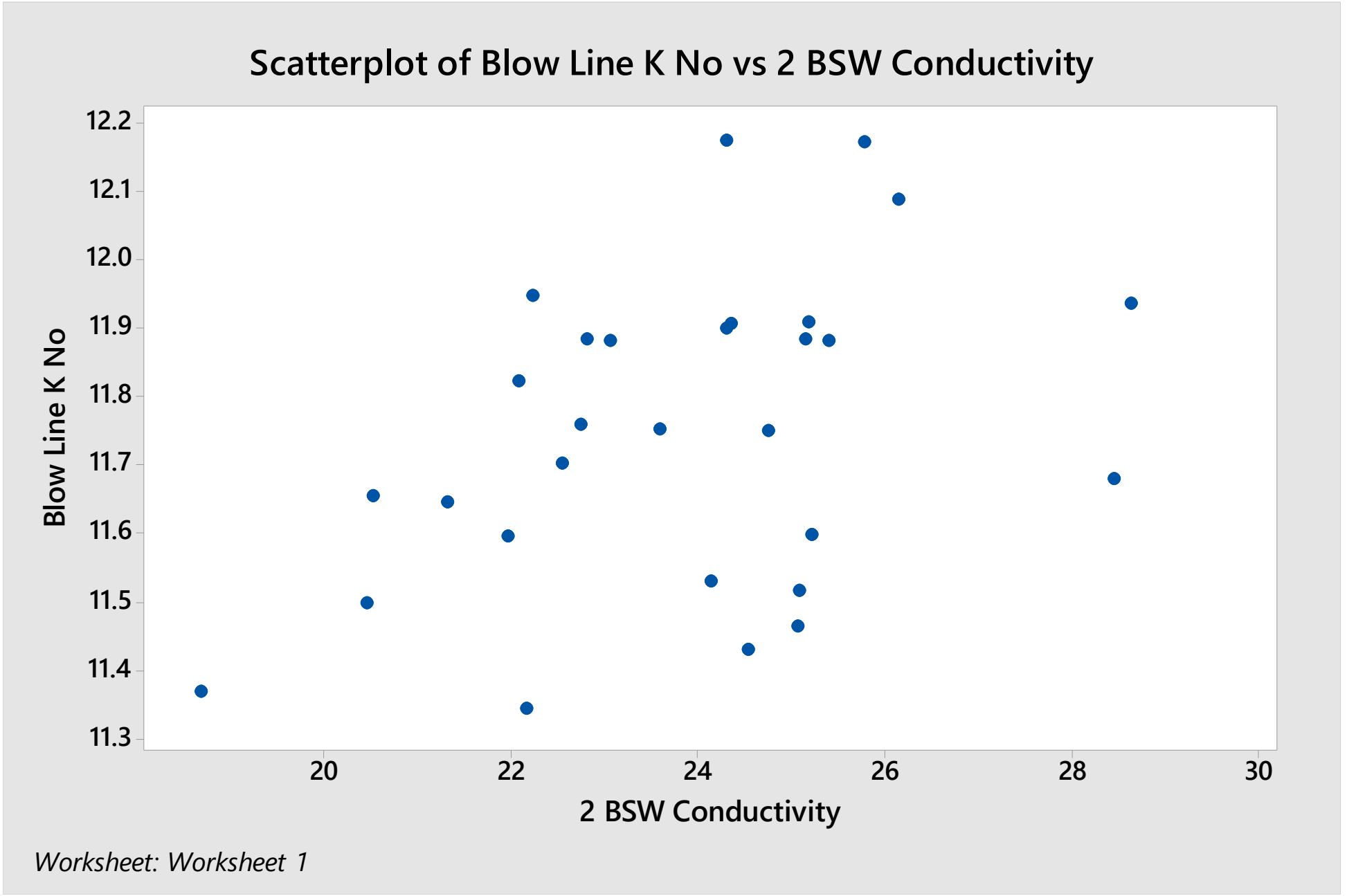
Fiberline Overview

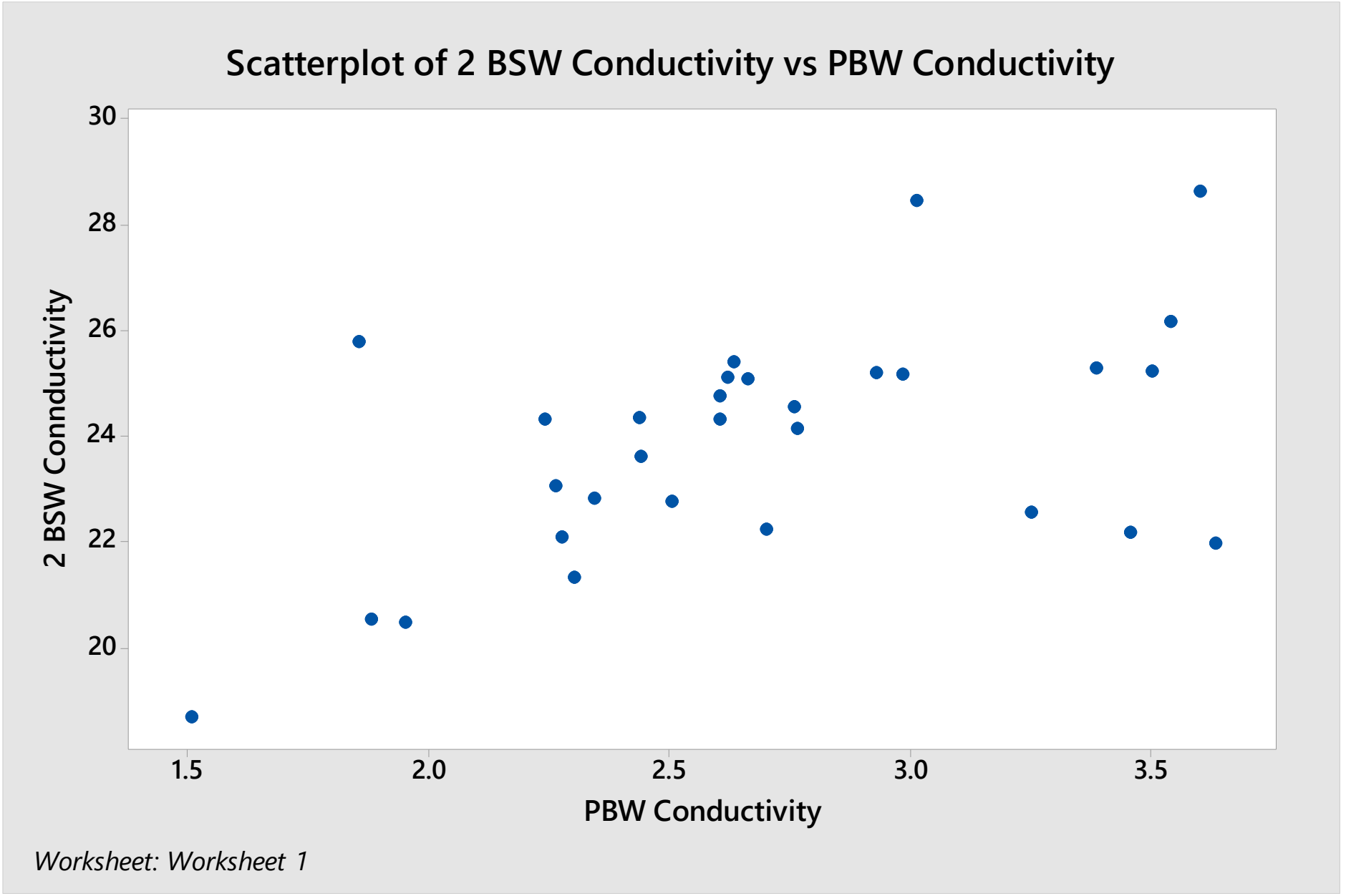


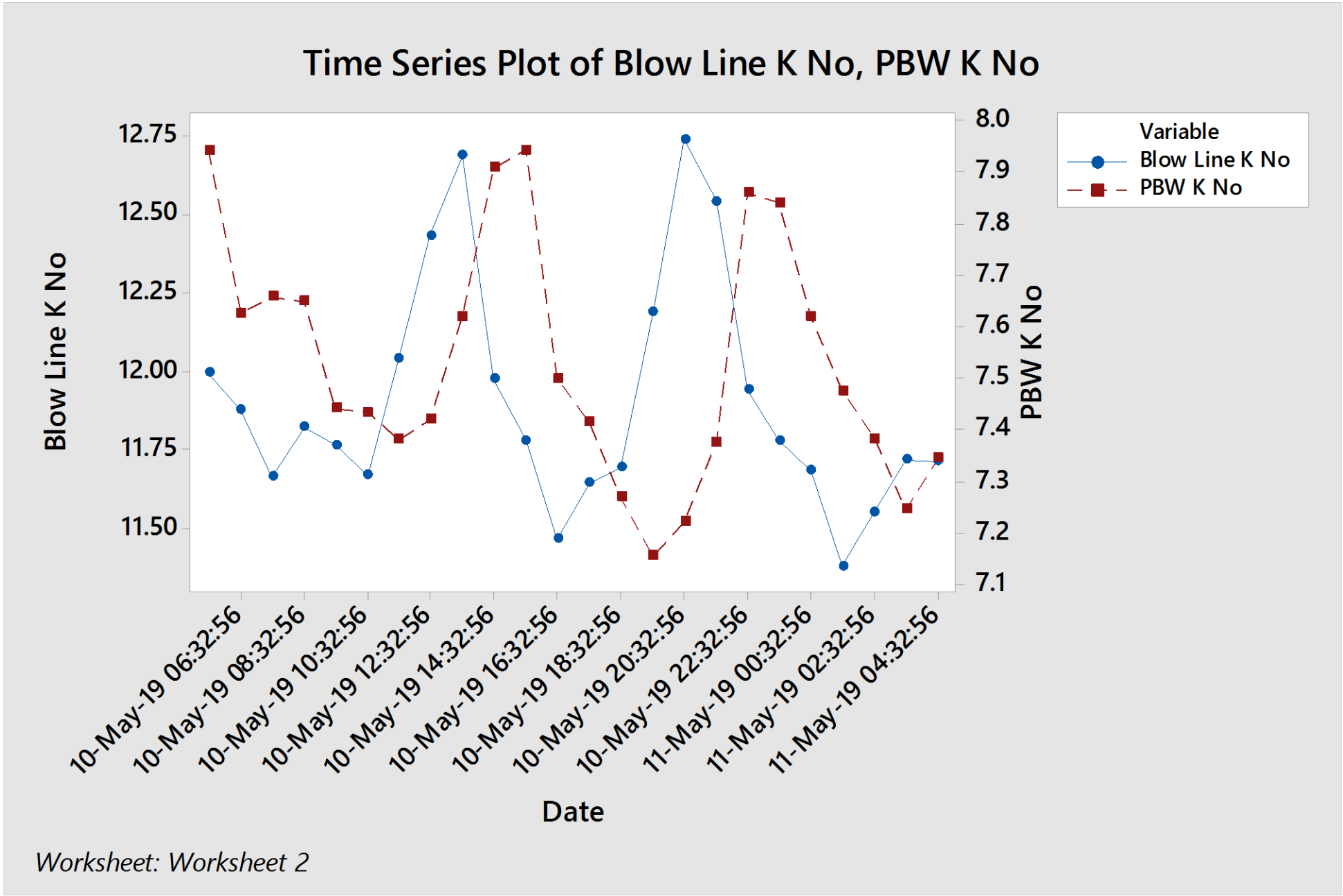
Some Background

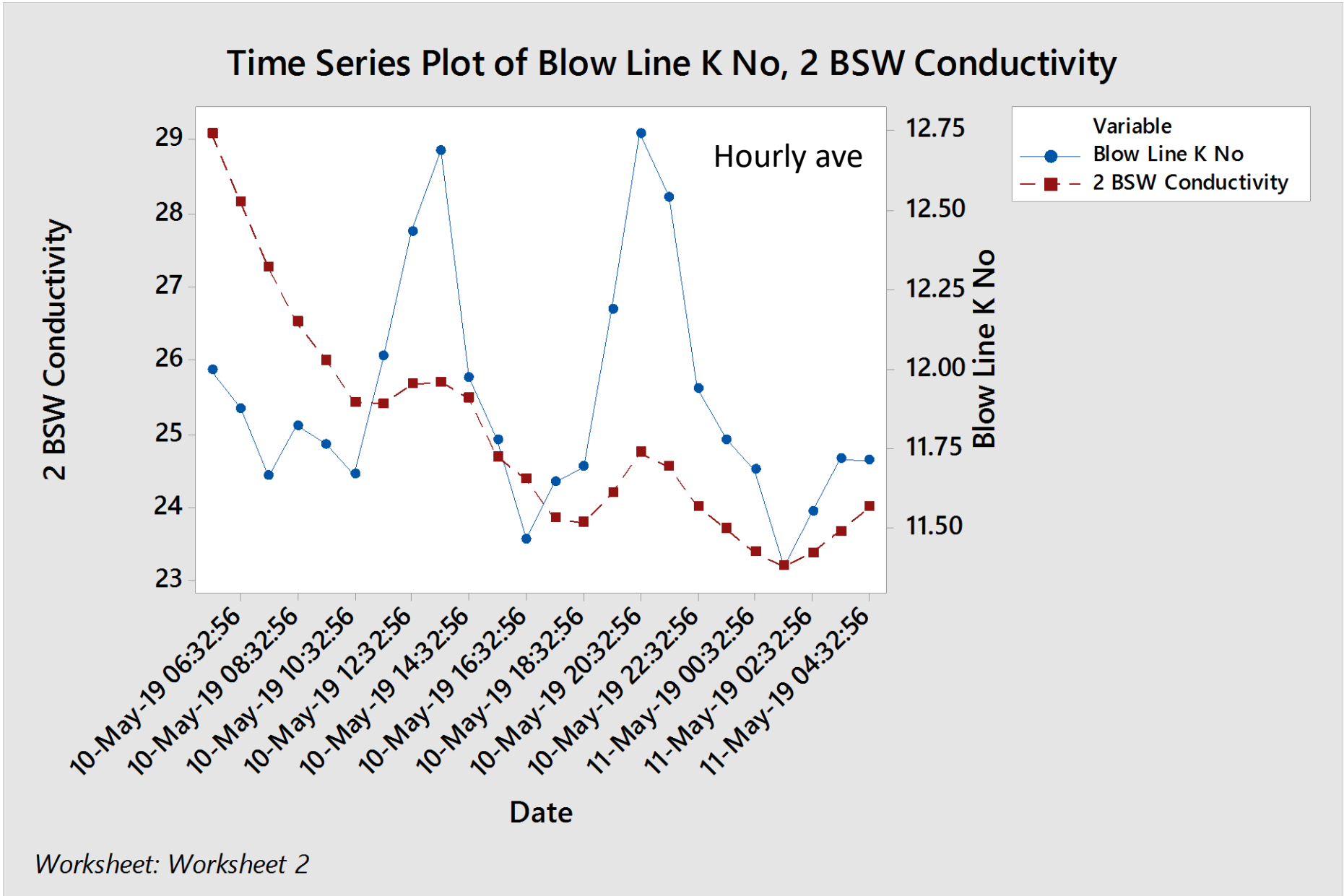
- Operating just under 2X the original design rate
- Oxygen Delignification was added 5 years after start-up
- Single stage O2D on northern hardwood – get constant %Delig
  - Blowline variation goes right through
- We control washing to #1 solids and run showers on #2 BSW to achieve this. Showers on the PBW are basically fixed whether running open/partially open/full counter-current. Normally the washer is run open.
- The focus is on good washing prior to O2D

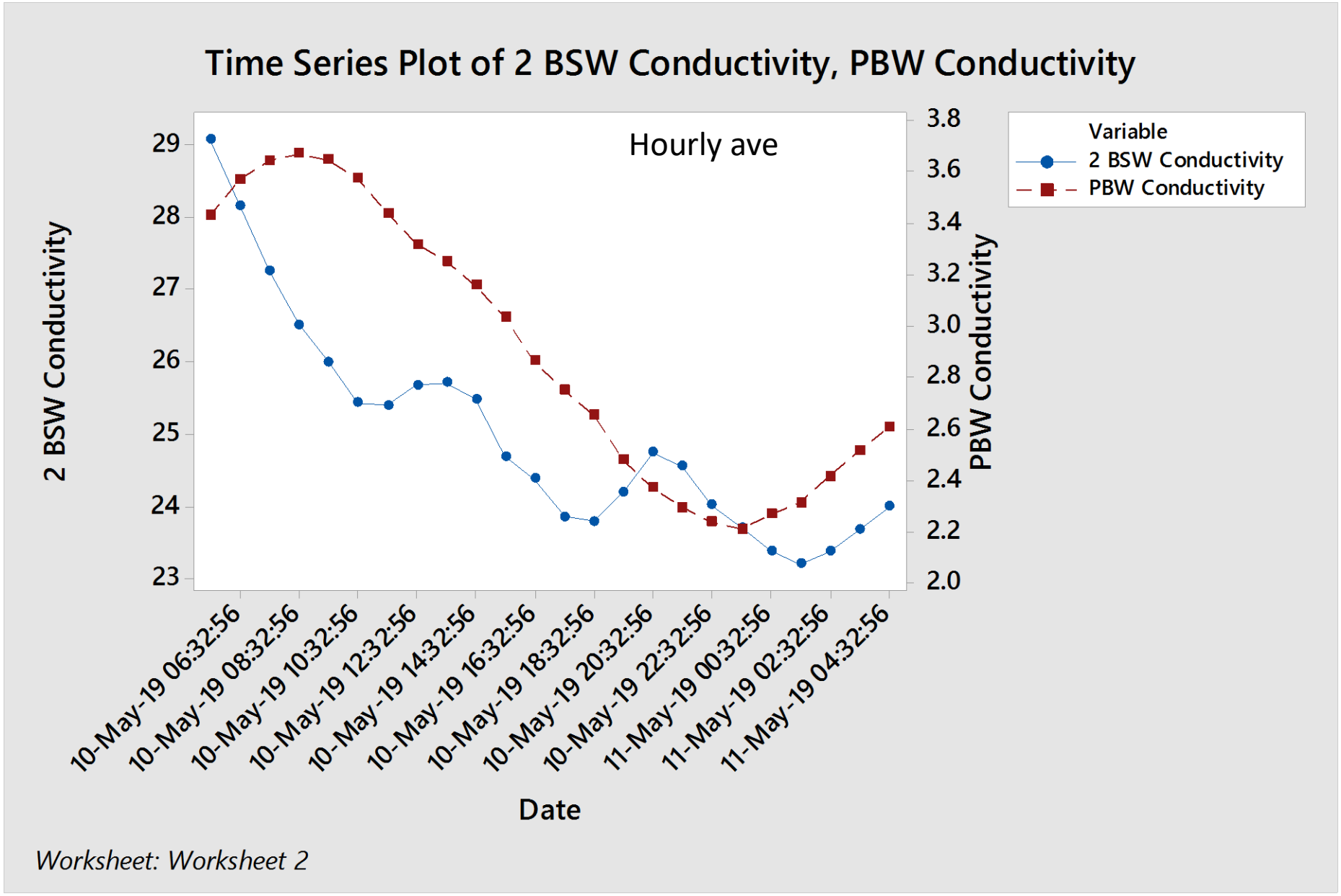

Scatterplot of Blow Line K No vs PBW K No
Blow Line K No
12.2
12.1
12.0
11.9
11.8
11.7
11.6
11.5
11.4
11.3
7.1
7.2
7.3
7.4
7.5
7.6
7.7
PBW K No
Worksheet: Worksheet 1


Scatterplot of Blow Line K No vs 2 BSW Conductivity
Blow Line K No
12.2
12.1
12.0
11.9
11.8
11.7
11.6
11.5
11.4
11.3
20
22
24
26
28
30
2 BSW Conductivity
Worksheet: Worksheet 1

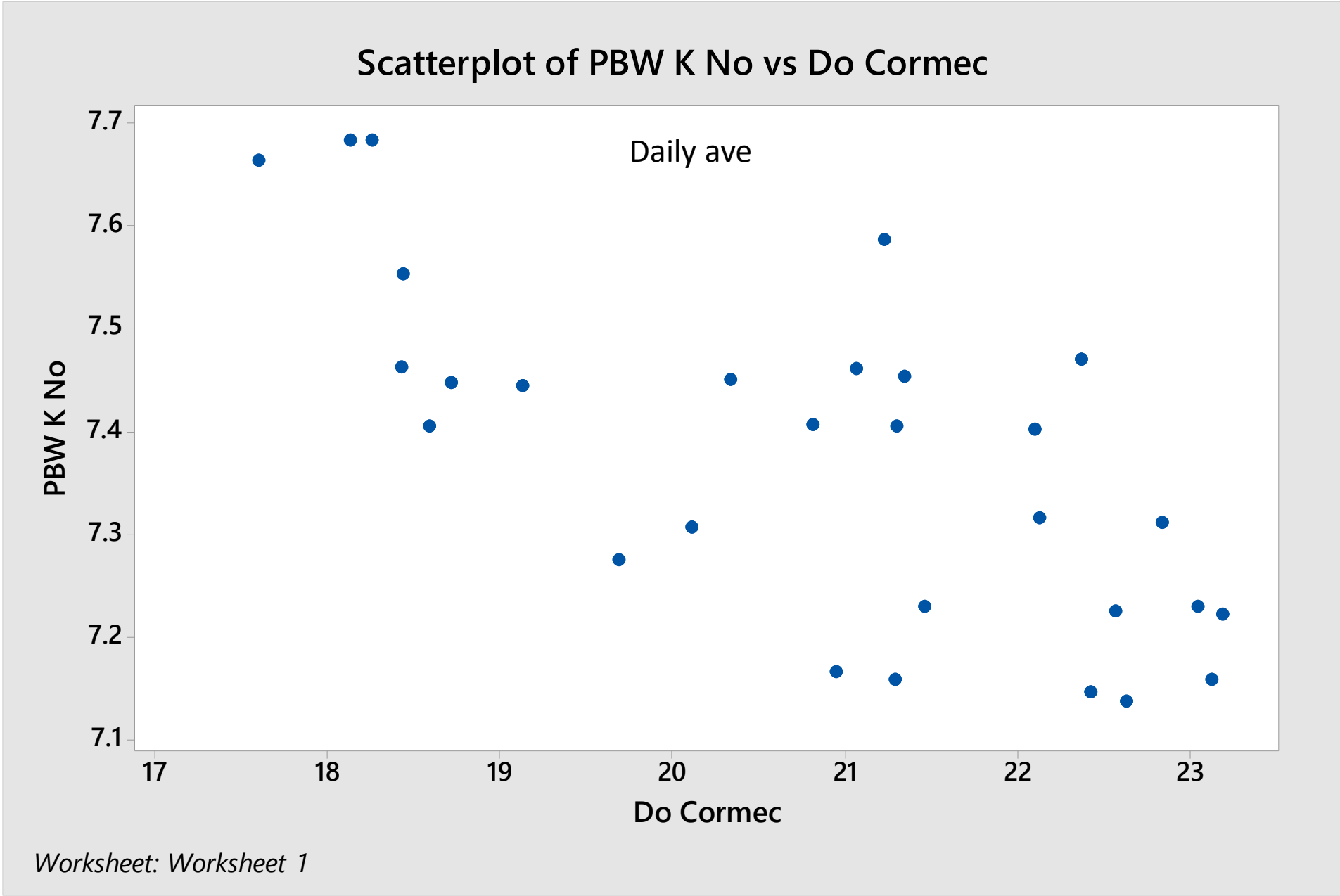

Scatterplot of 2 BSW Conductivity vs PBW Conductivity
30
28
26
24
22
20
2 BSW Connductivity
1.5
2.0
2.5
3.0
3.5
PBW Conductivity
Worksheet: Worksheet 1


Time Series Plot of Blow Line K No, PBW K No
Blow Line K No
PBW K No
12.75
12.50
12.25
12.00
11.75
11.50
8.0
7.9
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
Variable
Blow Line K No
PBW K No
10-May-19 06:32:56
10-May-19 08:32:56
10-May-19 10:32:56
10-May-19 12:32:56
10-May-19 14:32:56
10-May-19 16:32:56
10-May-19 18:32:56
10-May-19 20:32:56
10-May-19 22:32:56
11-May-19 00:32:56
11-May-19 02:32:56
11-May-19 04:32:56
Date
Worksheet: Worksheet 2

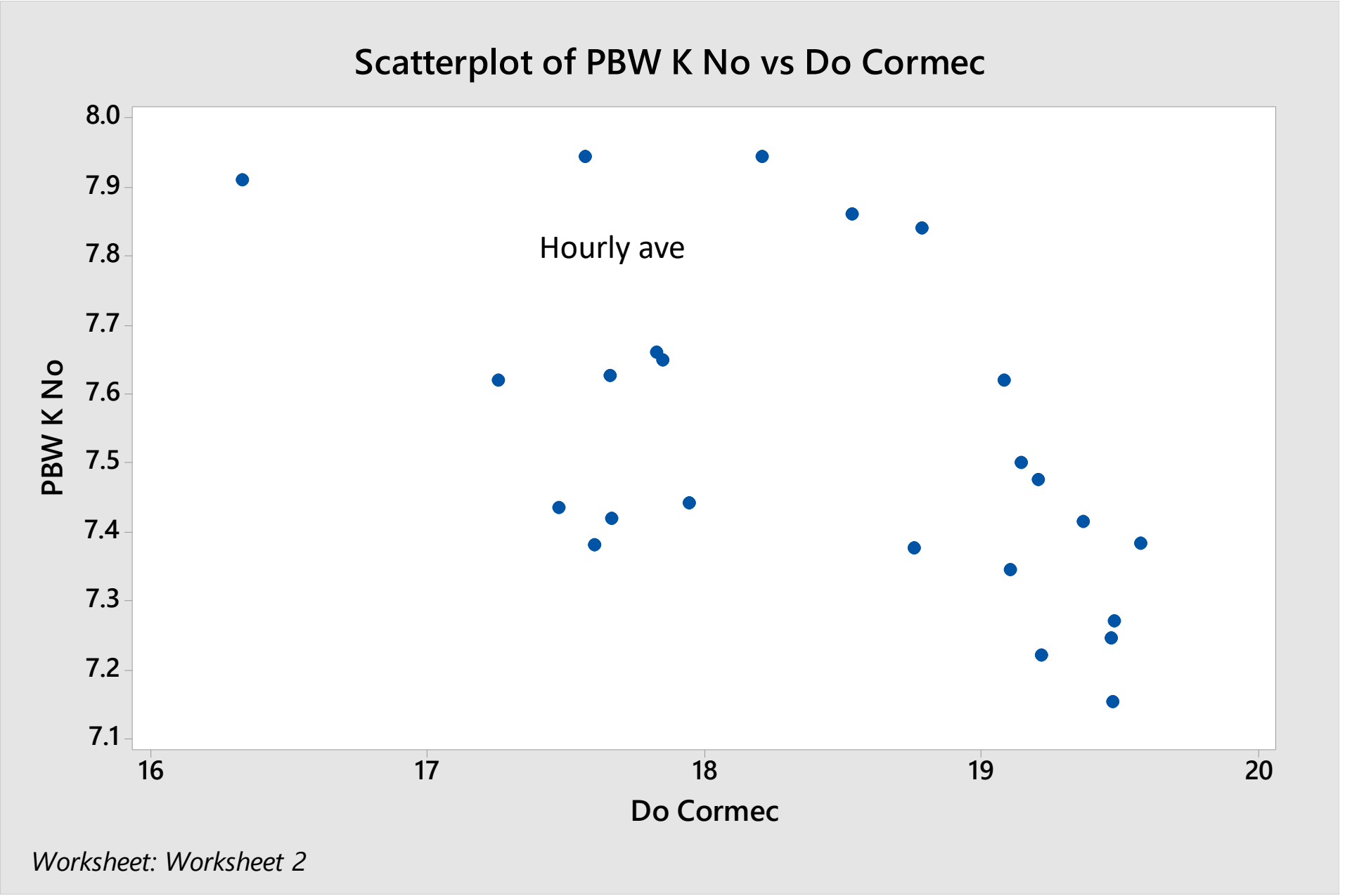

Time Series Plot of Blow Line K No, 2 BSW Conductivity
Hourly ave
Variable
Blow Line K No
2 BSW Conductivity
2 BSW Conductivity
Blow Line K No
29
28
27
26
25
24
23
12.75
12.50
12.25
12.00
11.75
11.50
10-May-19 06:32:56
10-May-19 08:32:56
10-May-19 10:32:56
10-May-19 12:32:56
10-May-19 14:32:56
10-May-19 16:32:56
10-May-19 18:32:56
10-May-19 20:32:56
10-May-19 22:32:56
11-May-19 00:32:56
11-May-19 02:32:56
11-May-19 04:32:56
Date
Worksheet: Worksheet 2



Worksheet: Worksheet 2



Worksheet: Worksheet 1


Scatterplot of PBW K No vs Do Cormec
Hourly ave
PBW K No
8.0
7.9
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
16
17
18
19
20
Do Cormec
Worksheet: Worksheet 2

Conclusions

- For this Fiberline, blowline K# swings occur with changes in dissolved solids into the BSW system which carry through to the PBW
- When operating a PBW after an unbleached HD, consideration has to be given as to how to handle changes in washing as you are de-coupled from the rest of the washing system.