

OIL SAMPLING REPORT

On behalf of



PLANT KNEADER SHEETER & CALIBRATION ROLLER GEARBOXES

September 2020



OVERVIEW

Oil analysis is one of the predictive maintenance tools which should be included in a good Predictive Maintenance System of condition monitoring. It provides diagnostic testing designed to evaluate lubricant condition, component wear and contamination in industrial applications. Routine fluid analysis can detect lubricant or equipment issues before major problems develop.

Whilst some machinery will always fail suddenly and catastrophically, most will trend towards failure over a period of time. If oil sampling is carried out at appropriate frequencies, these can be detected before failure occurs, thus giving time for remedial action to be organised, minimising unplanned plant downtime and maximising efficiency.

Monitoring the condition of the oil also allows you to optimize drain intervals so that you can capitalize on the fluid's full service life. Performing fewer oil changes minimises maintenance costs and maximises up-time.

BACKGROUND

Oil samples were collected by the client on selected gearboxes on the Production Plant. These samples were sent for analysis to a specialist Tribology Laboratory. An individual detailed report for each sample sent has been produced and included in the report folder with this summary report.

The report on the following pages provides a graphical representation of the items tested with the results displayed in a traffic light type format. A link to each individual report is also included in the table adjacent to each asset. To view individual reports, hover over the [OPEN](#) link then hold down CTRL and click the right-hand mouse button. The report PDF will open in another window.

Note: In order for the link to work correctly, this report must be opened from the supplied report folder: -

Oil Sampling Report – ON LINE VIBRATION MONITORING LTD – September 2020

ACTION SUMMARY

The diagnosis summaries for each sample returned as category B (Monitor) have been extracted from each lab report and are displayed on the following page. We have highlighted in yellow points where there has been a notable change from the previous round of results taken in October 2018.

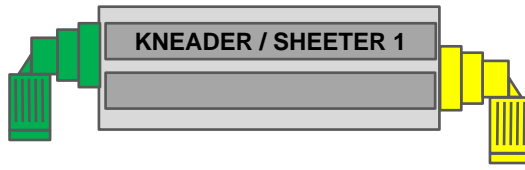
Consideration may be given to re-sampling these gearboxes before the next scheduled interval or replacing the lubricant as a precaution and retesting at the next scheduled interval (Dec 2020)

CATEGORY B (MONITOR) - REPORT DIAGNOSIS SUMMARIES

- **Line A – Kneader Sheeter No.1 LHS**
The oil viscosity appears lower than expected (277cSt – previously 283cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line A – Kneader Sheeter No.2 RHS**
The oil viscosity appears lower than expected (244cSt – previously 309cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line A – Kneader Sheeter No.2 LHS**
The oil viscosity appears lower than expected (280cSt – previously 284cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line A – Calibration Roller No.1**
The pq index (Particles) is slightly elevated (365 – previously 13) but the wear readings give no cause for concern. No action appears to be required and we will observe the next scheduled sample before making further comments.
- **Line B – Kneader Sheeter No.1 RHS**
The oil viscosity appears lower than expected (280cSt – previously 280.5) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line B – Kneader Sheeter No.1 LHS**
The oil viscosity appears lower than expected (267cSt – previously 270) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line B – Kneader Sheeter No.2 LHS**
The oil viscosity appears lower than expected (279cSt – previously 278cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line C – Kneader Sheeter No.1 RHS**
The oil viscosity appears lower than expected (209cSt – previously 281cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line C – Kneader Sheeter No.1 LHS**
The oil viscosity appears lower than expected (234cSt – previously 288cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line C – Kneader Sheeter No.2 LHS**
The oil viscosity appears lower than expected (282cSt – previously 286cSt) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line C – Calibration Roller No.5**
The oil viscosity appears lower than expected (269cSt – first sample) but the readings give us no cause for concern. We will observe the next scheduled sample.
- **Line D – Calibration Roller No.5**
The iron level is higher than expected (232ppm – first sample) but the pq index is low and the readings give us no cause for concern. We will observe the next scheduled sample.

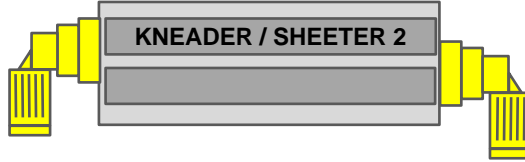
LINE A

Kneader Sheeter RH No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	A



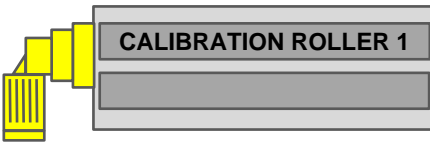
Kneader Sheeter LH No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B

Kneader Sheeter RH No.2		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B



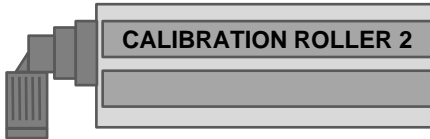
Kneader Sheeter LH No.2		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B

Calibration Roller No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B

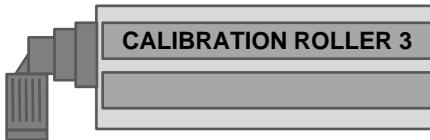


KEY	A – No Action
	B – Monitor
	C – Action
	X – Immediate Action

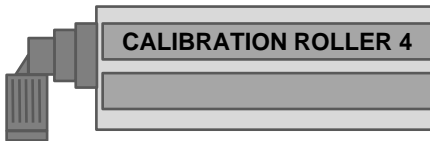
Calibration Roller No.2		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



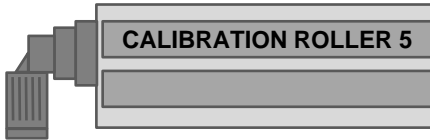
Calibration Roller No.3		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



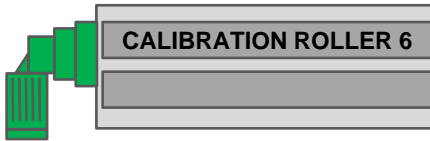
Calibration Roller No.4		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



Calibration Roller No.5		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested

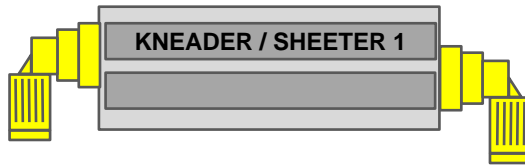


Calibration Roller No.6		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	A



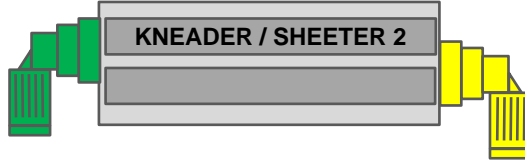
LINE B

Kneader Sheeter RH No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B



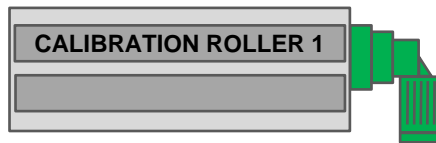
Kneader Sheeter LH No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B

Kneader Sheeter RH No.2		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	A

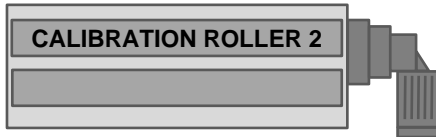


Kneader Sheeter LH No.2		
Date	Report	Status
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10-Dec-19	OPEN	B

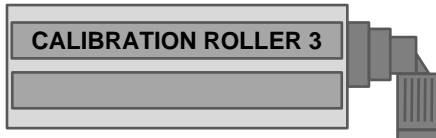
KEY	A – No Action
	B – Monitor
	C – Action
	X – Immediate Action



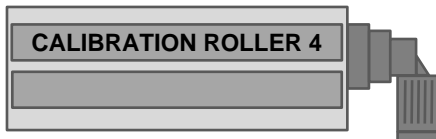
Calibration Roller No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	A



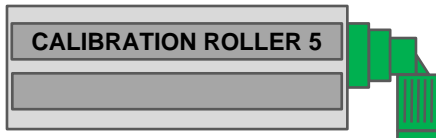
Calibration Roller No.2		
Date	Report	Status
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10-Dec-19		Not Tested



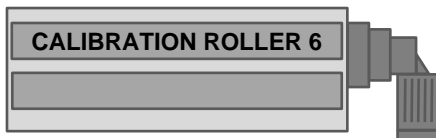
Calibration Roller No.3		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



Calibration Roller No.4		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



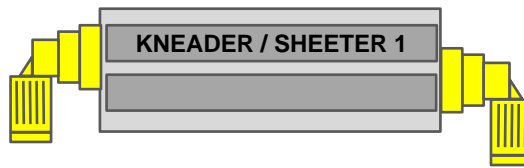
Calibration Roller No.5		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19	OPEN	A



Calibration Roller No.6		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested

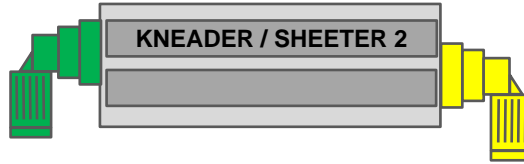
LINE C

Kneader Sheeter RH No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B



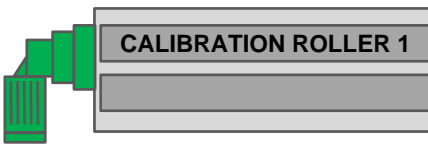
Kneader Sheeter LH No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B

Kneader Sheeter RH No.2		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	A



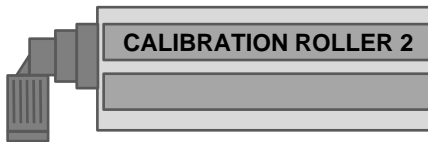
Kneader Sheeter LH No.2		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	B

Calibration Roller No.1		
Date	Report	Status
29-Oct-18		A
10-Dec-19	OPEN	A

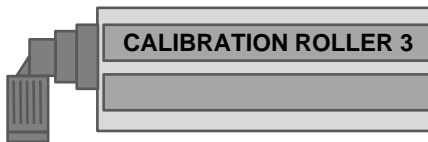


KEY	A – No Action
	B – Monitor
	C – Action
	X – Immediate Action

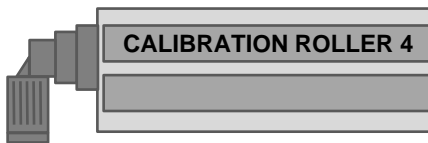
Calibration Roller No.2		
Date	Report	Status
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10-Dec-19		Not Tested



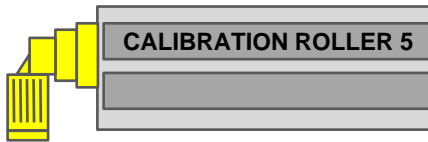
Calibration Roller No.3		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



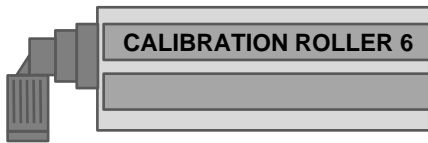
Calibration Roller No.4		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19		Not Tested



Calibration Roller No.5		
Date	Report	Status
29-Oct-18		Not Tested
10-Dec-19	OPEN	B

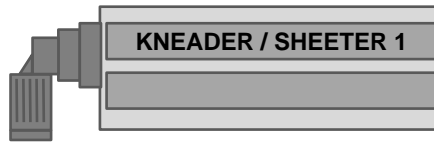


Calibration Roller No.6		
Date	Report	Status
29-Oct-18		A
10-Dec-19		Not Tested

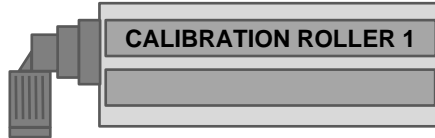


LINE D

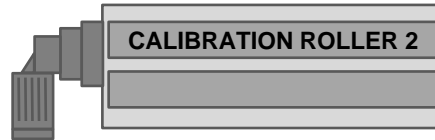
Kneader Sheeter RH No.1		
Date	Report	Status
10-Dec-19		Not Tested



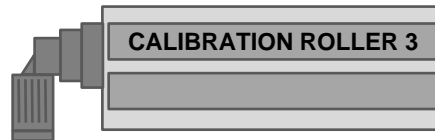
Calibration Roller No.1		
Date	Report	Status
10-Dec-19		Not Tested



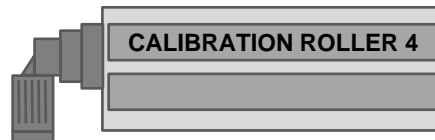
Calibration Roller No.2		
Date	Report	Status
10-Dec-19		Not Tested



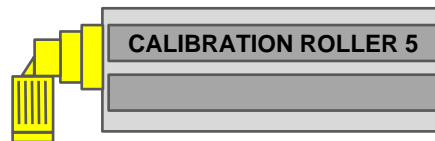
Calibration Roller No.3		
Date	Report	Status
10-Dec-19		Not Tested



Calibration Roller No.4		
Date	Report	Status
10-Dec-19		Not Tested



Calibration Roller No.5		
Date	Report	Status
10-Dec-19	<u>OPEN</u>	B



On Line Vibration Monitoring Ltd - OIL SAMPLING SCHEDULE

KEY: No Action	A
Monitor	B
Action	C
Immediate Action	X
Not Tested	-

Plant	Asset	Report Date											
		Oct-17	Apr-18	Oct-18	Dec-19								
Line A	Kneader Sheeter RH No.1	C	A	A	A								
Line A	Kneader Sheeter LH No.1	A	A	A	B								
Line A	Kneader Sheeter RH No.2	A	A	A	B								
Line A	Kneader Sheeter LH No.2	A	A	A	B								
Line A	Calibration Roller No.1	B	A	A	B								
Line A	Calibration Roller No.2	A	A	-	-								
Line A	Calibration Roller No.3	A	A	-	-								
Line A	Calibration Roller No.4	A	-	-	-								
Line A	Calibration Roller No.5	-	-	-	-								
Line A	Calibration Roller No.6	-	A	A	A								
Line B	Kneader Sheeter RH No.1	A	A	A	B								
Line B	Kneader Sheeter LH No.1	A	A	A	B								
Line B	Kneader Sheeter RH No.2	A	A	A	A								
Line B	Kneader Sheeter LH No.2	A	A	A	B								
Line B	Calibration Roller No.1	A	A	A	A								
Line B	Calibration Roller No.2	A	-	-	-								
Line B	Calibration Roller No.3	-	-	-	-								
Line B	Calibration Roller No.4	-	-	-	-								
Line B	Calibration Roller No.5	A	A	-	A								
Line B	Calibration Roller No.6	-	-	-	-								
Line C	Kneader Sheeter RH No.1	A	A	A	B								
Line C	Kneader Sheeter LH No.1	A	A	A	B								
Line C	Kneader Sheeter RH No.2	A	A	A	A								
Line C	Kneader Sheeter LH No.2	A	A	A	B								
Line C	Calibration Roller No.1	A	A	A	A								
Line C	Calibration Roller No.2	-	-	-	-								
Line C	Calibration Roller No.3	-	-	-	-								
Line C	Calibration Roller No.4	-	-	-	-								
Line C	Calibration Roller No.5	-	-	-	B								
Line C	Calibration Roller No.6	X	A	A	-								
Line D	Kneader Sheeter	-	-	-	-								
Line D	Calibration Roller No.1	-	-	-	-								
Line D	Calibration Roller No.2	-	-	-	-								
Line D	Calibration Roller No.3	-	-	-	-								
Line D	Calibration Roller No.4	-	-	-	-								
Line D	Calibration Roller No.5	-	-	-	B								

GENERAL

If you have any questions or comments regarding this report or the service provided, please contact me on one of the following.

Mobile: 07816 662420

Email: steve@onlinevibration.co.uk

A handwritten signature in black ink, appearing to read 'S. Hurst', is positioned to the right of the contact information.

Steven Hurst
On Line Vibration Monitoring Ltd

OIL SAMPLING INSTRUCTIONS

How to take a representative sample using the sample bottle, pipe & pump system:

Ensure the system has been running for at least 15 minutes just prior to taking the sample.

1. Screw the sample bottle onto the pump.
2. Fit the pipe in the hole on the top of the pump and tighten the clamp screw.
3. Remove the gearbox oil filler cap and insert the tube.
4. Draw oil into the bottle filling at least $\frac{3}{4}$ full.
5. Remove the sample bottle, replace the cap and swirl for five seconds then discard the initial sample.
6. Draw another sample and discard the oil.
7. Repeat again and finally fill the bottle to 95% full then replace the sample cap immediately.
8. Label the sample bottle.
9. Repeat this process for each different oil sample using a new pipe each time to avoid cross contamination.