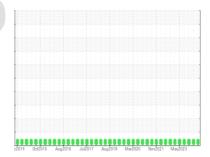


## **OIL ANALYSIS REPORT**

#### Sample Rating Trend







KOMATSU HD605-7 LB-64 (S/N 10877)

Diesel Engine

Fluid
FLEETLINE SUPERFLEET XHD 15W40 (21 GAL)

# DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil

### **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number   Client Info   PCA0109829   PCA0110087   LP0000614	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Client Info					PCA0109829	PCA0110087	
Machine Age   hrs   Client Info   15839   15561   15223							01 Nov 2023
Oil Age         hrs         Client Info         278         338         250           Oil Changed         Changed		hrs			•		
Client Info   Changed   Changed   Changed   NORMAL   NORMAL   NORMAL   NORMAL							
CONTAMINATION	-				-		
Fuel	-		CHOIL HIIO			_	_
Water Glycol         WC Method WC Method         >0.2         NEG NEG         NEG NEG         NEG NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         3         3         2           Chromium         ppm         ASTM D5185m         >20         0         0         0           Nickel         ppm         ASTM D5185m         >4         <1         0         0           Silver         ppm         ASTM D5185m         >4         <1         0         0           Silver         ppm         ASTM D5185m         >40         0         <1         <1           Silver         ppm         ASTM D5185m         >20         2         1         <1         <1           Lead         ppm         ASTM D5185m         >40         0         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1		ON	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol				NEG	NEG	
Chromium         ppm         ASTM D5185m         >20         0         0         0           Nickel         ppm         ASTM D5185m         >4         <1	WEAR METALS		method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185m         >20         0         0         0           Nickel         ppm         ASTM D5185m         >4         <1	Iron	ppm	ASTM D5185m	>100	3	3	2
Nickel			ASTM D5185m	>20			0
Titanium					-		
Silver							
Aluminum				>3			
Lead							-
Copper         ppm         ASTM D5185m         >330         1         0         0           Tin         ppm         ASTM D5185m         >15         0         <1							
Tin							
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         27         24         10           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         38         38         24           Manganese         ppm         ASTM D5185m         <1         0         <1         0         <1           Magnesium         ppm         ASTM D5185m         157         132         388         24           Calcium         ppm         ASTM D5185m         2091         1808         1648         1648           Phosphorus         ppm         ASTM D5185m         949         933         904           Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         >25         3         3         2           CONTAMINANTS         method							
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         27         24         10           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         38         38         24           Manganese         ppm         ASTM D5185m         <1				>13			
ADDITIVES							
Boron		ррпп		11. 11.0			
Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         38         38         24           Manganese         ppm         ASTM D5185m         <1				ilmit/base			
Molybdenum         ppm         ASTM D5185m         38         38         24           Manganese         ppm         ASTM D5185m         <1         0         <1           Magnesium         ppm         ASTM D5185m         157         132         388           Calcium         ppm         ASTM D5185m         2091         1808         1648           Phosphorus         ppm         ASTM D5185m         949         933         904           Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/.1mm         *ASTM D7415<							
Manganese         ppm         ASTM D5185m         <1         0         <1           Magnesium         ppm         ASTM D5185m         157         132         388           Calcium         ppm         ASTM D5185m         2091         1808         1648           Phosphorus         ppm         ASTM D5185m         949         933         904           Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION		ppm			-		
Magnesium         ppm         ASTM D5185m         157         132         388           Calcium         ppm         ASTM D5185m         2091         1808         1648           Phosphorus         ppm         ASTM D5185m         949         933         904           Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4							
Calcium         ppm         ASTM D5185m         2091         1808         1648           Phosphorus         ppm         ASTM D5185m         949         933         904           Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         3         0         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/:1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1			ASTM D5185m		<1		
Phosphorus         ppm         ASTM D5185m         949         933         904           Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         3         0         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1 </td <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>_</th> <td></td> <td></td>	Magnesium	ppm	ASTM D5185m		_		
Zinc         ppm         ASTM D5185m         1085         1077         1060           Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         3         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2	Calcium	ppm	ASTM D5185m		2091		1648
Sulfur         ppm         ASTM D5185m         4089         3498         3232           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         3         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	Phosphorus	ppm	ASTM D5185m		949		904
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         3         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	Zinc	ppm	ASTM D5185m		1085	1077	1060
Silicon         ppm         ASTM D5185m         >25         3         3         2           Sodium         ppm         ASTM D5185m         3         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	Sulfur	ppm	ASTM D5185m		4089	3498	3232
Sodium         ppm         ASTM D5185m         3         0         0           Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         4         2         0           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	Silicon	ppm	ASTM D5185m	>25	3	3	2
INFRA-RED	Sodium	ppm	ASTM D5185m		3	0	0
Soot %         %         *ASTM D7844 >3         0.4         0.4         0.4           Nitration         Abs/cm         *ASTM D7624 >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415 >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         10.2         10.5         10.6	Potassium	ppm	ASTM D5185m	>20	4	2	0
Nitration         Abs/cm         *ASTM D7624         >20         6.7         6.7         6.0           Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	Soot %	%	*ASTM D7844	>3	0.4	0.4	0.4
Sulfation         Abs/.1mm         *ASTM D7415         >30         16.3         16.4         16.4           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         10.2         10.5         10.6	Nitration	Abs/cm	*ASTM D7624	>20	6.7	6.7	6.0
Oxidation Abs/.1mm *ASTM D7414 >25 <b>10.2</b> 10.5 10.6							
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	10.2	10.5	10.6
			ASTM D2896	-	9.70	8.82	9.53



### OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: PCA0109829 Lab Number : 06223646 Unique Number : 11101843

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received : 28 Jun 2024 **Tested** Diagnosed Test Package : MOB 2 ( Additional Tests: KV40 )

: 01 Jul 2024 : 01 Jul 2024 - Jonathan Hester

611 PLEASANT ST WEYMOUTH, MA US 02189 Contact: PAUL MOGAN lbstone611@comcast.net T: (781)331-5379

LORUSSO BRISTOL STONE CORP

To discuss this sample report, contact Customer Service at 1-800-237-1369.  $^st$  - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: (781)337-8274 Contact/Location: PAUL MOGAN - LORWEYMA