

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend





#### 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.

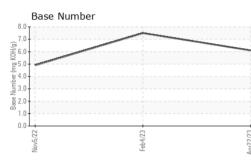
### Fluid Condition

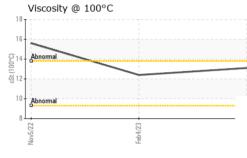
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC05878600	WC05790707	WC05699558
Sample Date		Client Info		22 Apr 2023	04 Feb 2023	05 Nov 2022
Machine Age	mls	Client Info		503419	479829	453732
Oil Age	mls	Client Info		49417	26097	50310
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.2	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	46	26	38
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm		>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	3
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	8	8	6
Lead	ppm		>40	0	0	0
Copper	ppm	ASTM D5185m		7	4	5
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method				history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base		history1 1	history2 0
	ppm ppm		limit/base	current 0 0		
Boron Barium	ppm	ASTM D5185m	limit/base	0	1	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0	1 0	0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	0 0 75 0	1 0 64	0 0 62
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0 1068	1 0 64 <1 821	0 0 62 <1 404
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0	1 0 64 <1	0 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0 1068 1532	1 0 64 <1 821 1305	0 0 62 <1 404 1868
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0 1068 1532 1234	1 0 64 <1 821 1305 1052	0 0 62 <1 404 1868 993
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0 1068 1532 1234 1596	1 0 64 <1 821 1305 1052 1290	0 0 62 <1 404 1868 993 1234
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0 1068 1532 1234 1596 3677	1 0 64 <1 821 1305 1052 1290 2937	0 0 62 <1 404 1868 993 1234 3145
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 75 0 1068 1532 1234 1596 3677 current	1 0 64 <1 821 1305 1052 1290 2937 history1	0 0 62 <1 404 1868 993 1234 3145 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	limit/base	0 0 75 0 1068 1532 1234 1596 3677 current 7	1 0 64 <1 821 1305 1052 1290 2937 history1 5	0 0 62 <1 404 1868 993 1234 3145 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	0 0 75 0 1068 1532 1234 1596 3677 current 7 12	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1	0 0 62 <1 404 1868 993 1234 3145 history2 5 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	0 0 75 0 1068 1532 1234 1596 3677 current 7 12 12 14 current	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1 4	0 0 62 <1 404 1868 993 1234 3145 history2 5 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	0 0 75 0 1068 1532 1234 1596 3677 <i>current</i> 7 12 14 14 <i>current</i>	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1 4 history1 1	0 0 62 <1 404 1868 993 1234 3145 <b>history2</b> 5 0 0 0 <b>history2</b> 1.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	0 0 75 0 1068 1532 1234 1596 3677 current 7 12 12 14 current	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1 4 history1	0 0 62 <1 404 1868 993 1234 3145 <b>history2</b> 5 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	0 0 75 0 1068 1532 1234 1596 3677 <i>current</i> 7 12 14 14 <i>current</i> 1.6 14.1	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1 4 history1 1 1 11.5	0 0 62 <1 404 1868 993 1234 3145 history2 5 0 0 0 history2 1.8 15.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 >30	0 0 75 0 1068 1532 1234 1596 3677 <i>current</i> 7 12 14 <i>current</i> 1.6 14.1 29.2 <i>current</i>	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1 4 history1 1 1.5 24.2 history1	0 0 62 <1 404 1868 993 1234 3145 <b>history2</b> 5 0 0 0 <b>history2</b> 1.8 15.0 33.7 <b>history2</b>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	Iimit/base >25 >20 Iimit/base >3 >20 >30	0 0 75 0 1068 1532 1234 1596 3677 current 7 12 14 14 current 1.6 14.1 29.2	1 0 64 <1 821 1305 1052 1290 2937 history1 5 <1 4 history1 1 1 11.5 24.2	0 0 62 <1 404 1868 993 1234 3145 <b>history2</b> 5 0 0 0 <b>history2</b> 1.8 15.0 33.7



# **OIL ANALYSIS REPORT**





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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		13.1	12.4	15.6
hronium nickel	$\checkmark$	/				
Non-ferrous Meta	Feb4/23		Apr22/23			

Apr22/23

Apr22/23 .

: 20 Jun 2023

: 22 Jun 2023

8.0

7.0

(B/HOX Bw) 5.(

under (Number Number 1.0 ase 2.0 1.0 0.0

Vov5/77

Base Number



Unique Number : 10523703 Diagnostician : Sean Felton Test Package : FLEET Contact: LONNIE SONGER Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - 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)

Feb4/23

Feb4/23.

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

Received

Diagnosed

Viscosity @ 100°C

16

15

14 cSt (100°C)

8

Laboratory

Sample No.

Lab Number

Vov5/22

: WC05878600

: 05878600

US 37743

Apr22/23

LONNIE SONGER

GREENEVILLE, TN

1820 SHELTON MISSION RD

Contact/Location: LONNIE SONGER - LONGRETN

Feb4/23.

T: F: