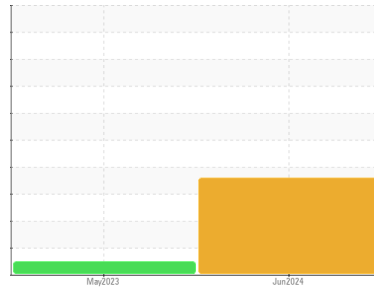


# OIL ANALYSIS REPORT

## Sample Rating Trend



Area

**LAKE CALUMET**

Machine Id

**DOOSAN G35S-7 38-04 (S/N 1811-003 S/N FGBOR-2560-00034)**

Component

**Diesel Engine**

Fluid

**DIESEL ENGINE OIL SAE 10W30 (--- GAL)**

### DIAGNOSIS

#### Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

#### Fluid Condition

The BN level is low. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PCA0123856</b>	PCA0097283	---
Sample Date	Client Info			<b>20 Jun 2024</b>	25 May 2023	---
Machine Age	hrs	Client Info		<b>6875</b>	5654	---
Oil Age	hrs	Client Info		<b>500</b>	900	---
Oil Changed	Client Info			<b>N/A</b>	Changed	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<b>&lt;1.0</b>	<1.0	---
Water	WC Method	>0.1		<b>NEG</b>	NEG	---
Glycol	WC Method			<b>NEG</b>	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<b>52</b>	51	---
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	---
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	5	---
Lead	ppm	ASTM D5185m	>40	<b>14</b>	15	---
Copper	ppm	ASTM D5185m	>30	<b>4</b>	4	---
Tin	ppm	ASTM D5185m	>15	<b>0</b>	2	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	---

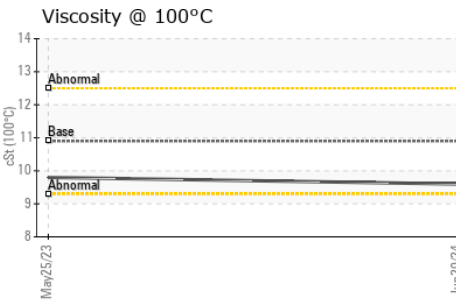
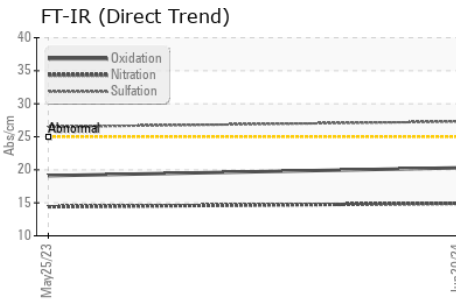
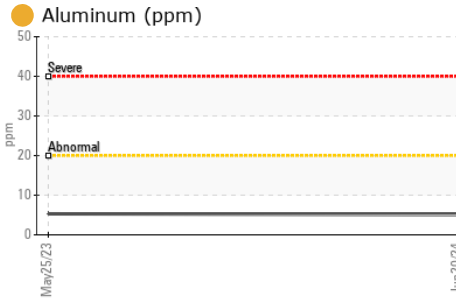
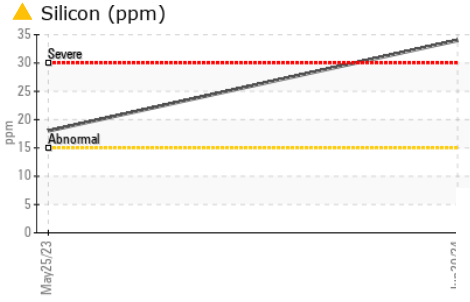
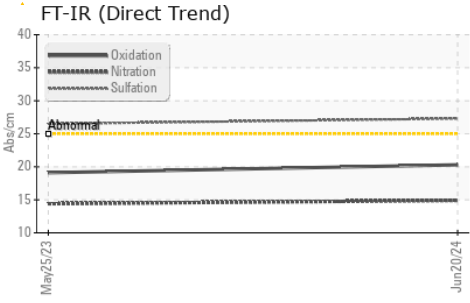
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	<b>31</b>	66	---
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m	100	<b>59</b>	85	---
Manganese	ppm	ASTM D5185m		<b>7</b>	2	---
Magnesium	ppm	ASTM D5185m	450	<b>760</b>	548	---
Calcium	ppm	ASTM D5185m	3000	<b>930</b>	1479	---
Phosphorus	ppm	ASTM D5185m	1150	<b>637</b>	741	---
Zinc	ppm	ASTM D5185m	1350	<b>867</b>	1002	---
Sulfur	ppm	ASTM D5185m	4250	<b>2346</b>	3329	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>▲ 34</b>	18	---
Sodium	ppm	ASTM D5185m		<b>15</b>	5	---
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	5	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.9</b>	14.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>27.3</b>	26.5	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.3</b>	19.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>▲ 2.6</b>	3.1	---

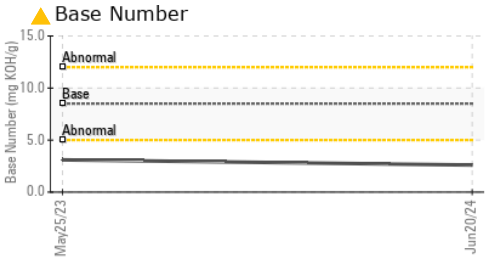
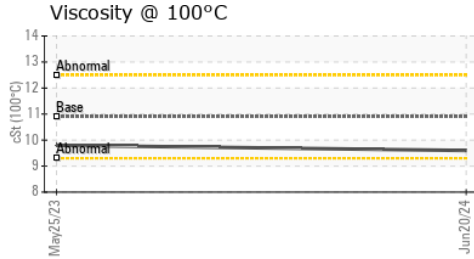
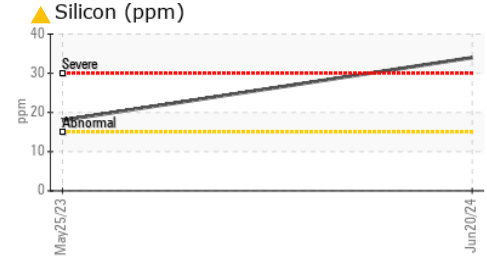
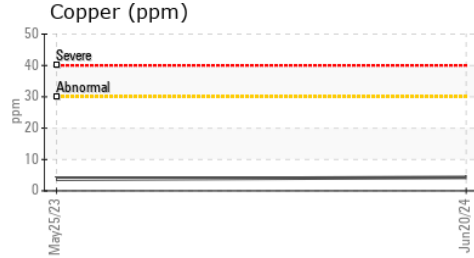
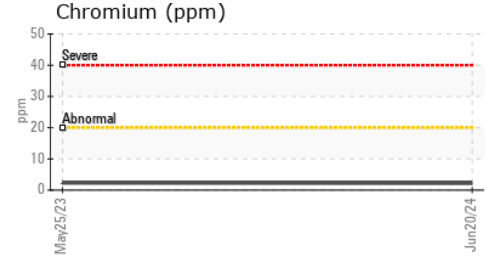
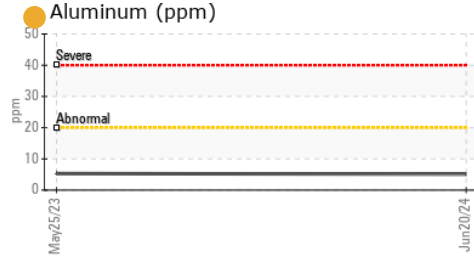
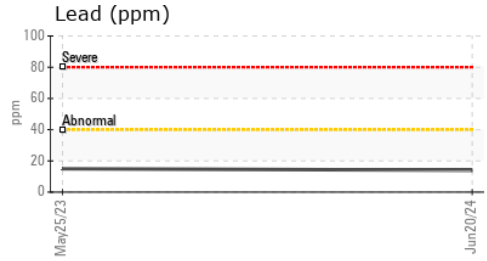
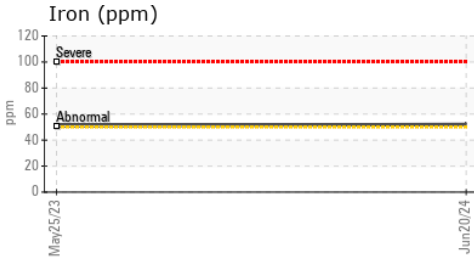
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	10.9	<b>9.6</b>	9.8	---

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0123856      **Received** : 05 Jul 2024  
**Lab Number** : 06228370      **Tested** : 08 Jul 2024  
**Unique Number** : 11111863      **Diagnosed** : 08 Jul 2024 - Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**NORTH AMERICAN STEVEDORING CO**  
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 CHICAGO, IL  
 US 60617  
 Contact: PACO MARTINEZ  
 paco.martinez@qsl.com

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)