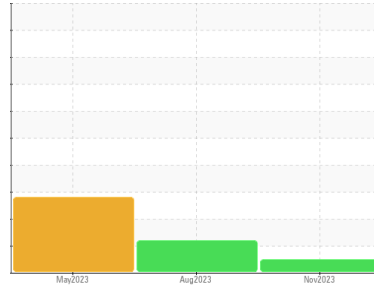


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL


Area
LAKE CALUMET
 Machine Id
DOOSAN G35NC-7 37-01 (S/N FGA17-1290-00128)
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 10W30 (--- 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PCA0113143	PCA0105664	PCA0097266
Sample Date	Client Info			15 Nov 2023	30 Aug 2023	25 May 2023
Machine Age	hrs	Client Info		1268	4059	3743
Oil Age	hrs	Client Info		250	500	0
Oil Changed	Client Info			N/A	N/A	Changed
Sample Status				NORMAL	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<1.0	<1.0	<1.0
Water	WC Method	>0.1		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	12	32	97
Chromium	ppm	ASTM D5185m	>20	2	4	9
Nickel	ppm	ASTM D5185m	>5	<1	<1	1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	5	15
Lead	ppm	ASTM D5185m	>40	1	1	2
Copper	ppm	ASTM D5185m	>30	5	11	16
Tin	ppm	ASTM D5185m	>15	3	4	6
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	<1

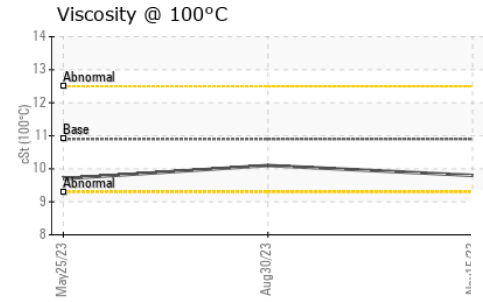
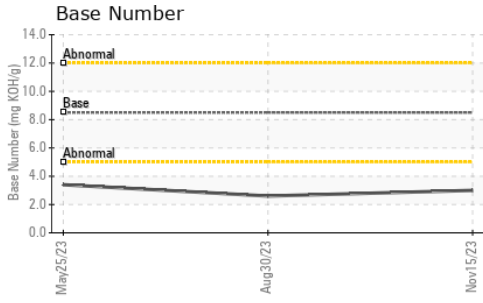
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	51	34	15
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	63	61	68
Manganese	ppm	ASTM D5185m		<1	1	3
Magnesium	ppm	ASTM D5185m	450	465	478	559
Calcium	ppm	ASTM D5185m	3000	823	907	1580
Phosphorus	ppm	ASTM D5185m	1150	527	524	717
Zinc	ppm	ASTM D5185m	1350	655	692	985
Sulfur	ppm	ASTM D5185m	4250	2134	2121	3698

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	5	7	15
Sodium	ppm	ASTM D5185m		2	3	5
Potassium	ppm	ASTM D5185m	>20	1	1	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.4	9.4	16.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	23.2	29.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.5	12.4	19.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	3.0	▲ 2.6	3.4

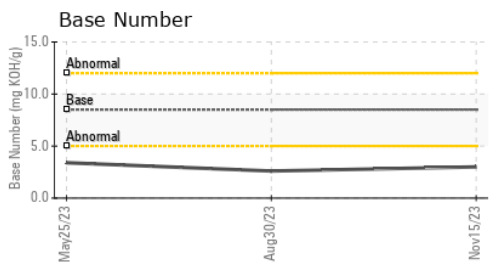
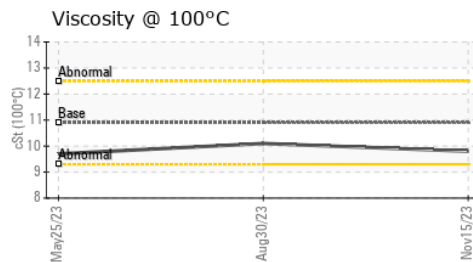
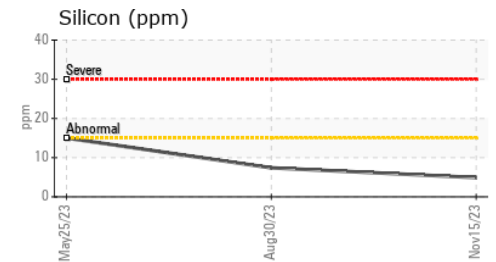
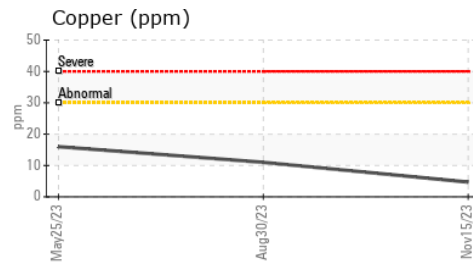
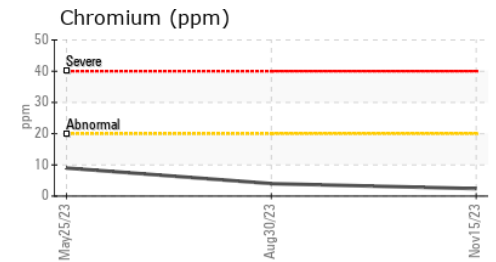
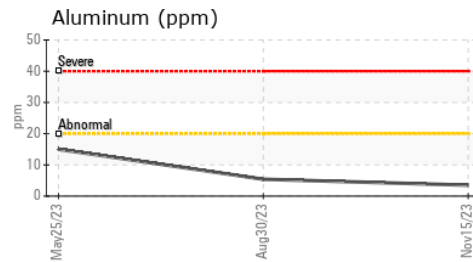
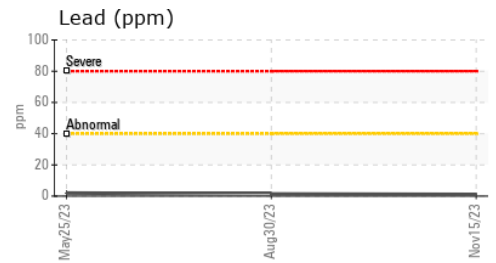
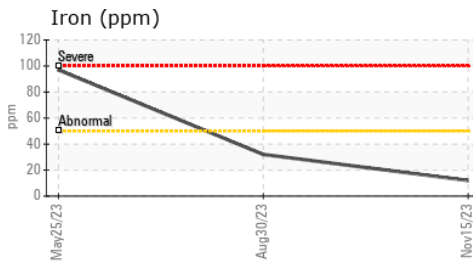
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	▲ MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	▲ 0.2%
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	10.9	9.8	10.1	9.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0113143 **Received** : 01 Feb 2024
Lab Number : **06076521** **Tested** : 01 Feb 2024
Unique Number : 10858612 **Diagnosed** : 02 Feb 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

NORTH AMERICAN STEVEDORING CO
 9301 S KREITER AVE
 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)

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F: