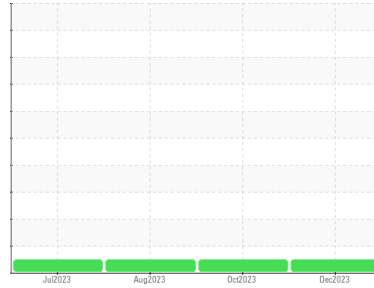


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
CHICAGO 95TH
 Machine Id
HYUNDAI HL740TM-9A L-139 (S/N HLN06VE0000079)
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (--- 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0102684	PCA0105647	PCA0105673
Sample Date	Client Info		26 Dec 2023	26 Oct 2023	31 Aug 2023
Machine Age	hrs	Client Info	9350	9098	0
Oil Age	hrs	Client Info	1000	250	500
Oil Changed	Client Info		Changed	Changed	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	29	23	30
Chromium	ppm	ASTM D5185m >20	2	<1	2
Nickel	ppm	ASTM D5185m >4	<1	<1	<1
Titanium	ppm	ASTM D5185m	<1	<1	2
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	4	3	3
Lead	ppm	ASTM D5185m >40	<1	<1	2
Copper	ppm	ASTM D5185m >330	<1	<1	1
Tin	ppm	ASTM D5185m >15	<1	<1	1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<1	6	7
Barium	ppm	ASTM D5185m	0	<1	0
Molybdenum	ppm	ASTM D5185m	51	55	47
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	888	903	798
Calcium	ppm	ASTM D5185m	980	1049	1050
Phosphorus	ppm	ASTM D5185m	989	1006	943
Zinc	ppm	ASTM D5185m	1142	1199	1112
Sulfur	ppm	ASTM D5185m	2697	2951	2679

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	14	10	11
Sodium	ppm	ASTM D5185m	2	0	2
Potassium	ppm	ASTM D5185m >20	1	<1	<1

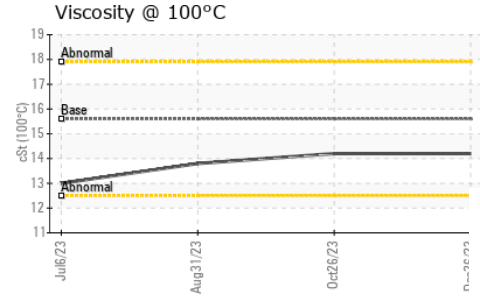
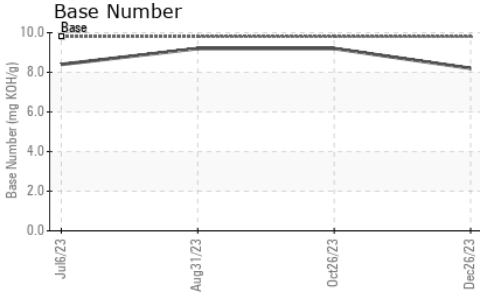
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624 >20	5.7	5.6	6.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.7	17.8	17.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.8	13.2	13.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.2	9.2	9.2

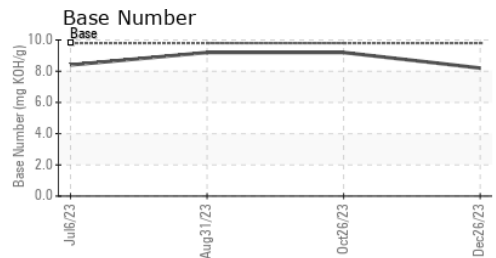
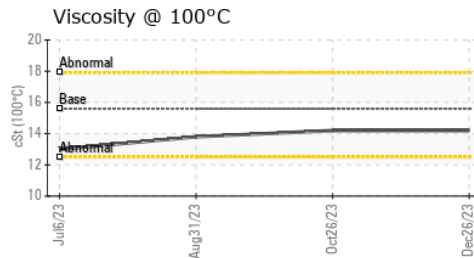
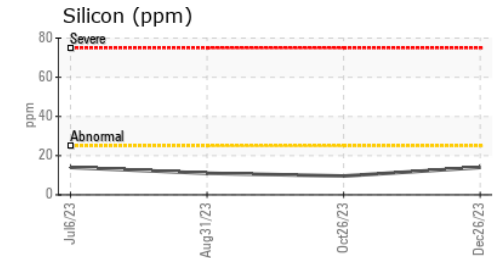
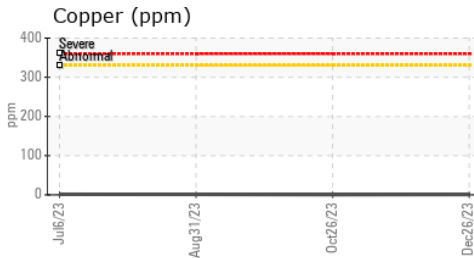
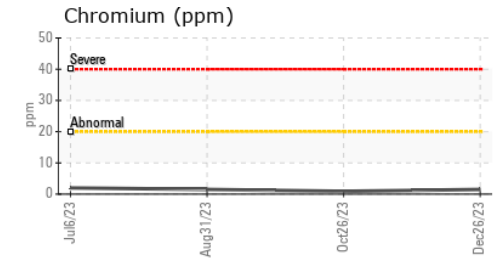
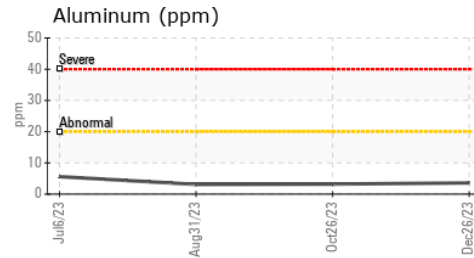
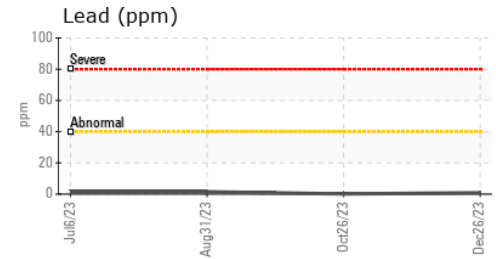
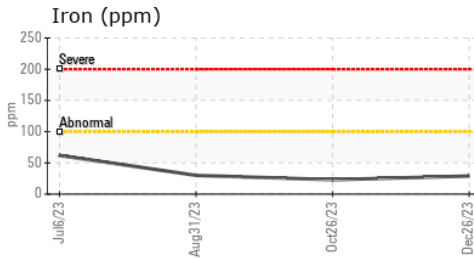
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.6	14.2	14.2	13.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0102684 **Received** : 01 Feb 2024
Lab Number : **06076512** **Tested** : 01 Feb 2024
Unique Number : 10858603 **Diagnosed** : 01 Feb 2024 - Wes Davis
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: