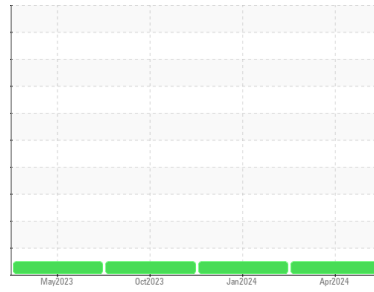




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
NORTH WEST CRANE 150
 Component
Diesel Engine
 Fluid
PETRO CANADA 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			WC0917246	WC0878822	WC0822242
Sample Date	Client Info			23 Apr 2024	23 Jan 2024	06 Oct 2023
Machine Age	hrs	Client Info		12296	11955	11705
Oil Age	hrs	Client Info		246	250	250
Oil Changed	Client Info			Changed	Changed	Changed
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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	9	8	7
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	1
Lead	ppm	ASTM D5185m	>40	8	4	4
Copper	ppm	ASTM D5185m	>330	3	3	2
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		3	6	9
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		56	60	57
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		915	944	933
Calcium	ppm	ASTM D5185m		1007	981	1018
Phosphorus	ppm	ASTM D5185m		980	919	1045
Zinc	ppm	ASTM D5185m		1168	1208	1248
Sulfur	ppm	ASTM D5185m		3289	2908	3100

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	4	3
Sodium	ppm	ASTM D5185m		2	0	2
Potassium	ppm	ASTM D5185m	>20	13	16	11
Glycol	%	*ASTM D2982		NEG	NEG	NEG

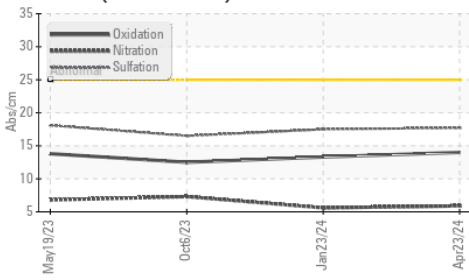
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	5.9	5.6	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.7	17.5	16.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.0	13.3	12.5
Base Number (BN)	mg KOH/g	ASTM D2896		9.3	9.2	10.3

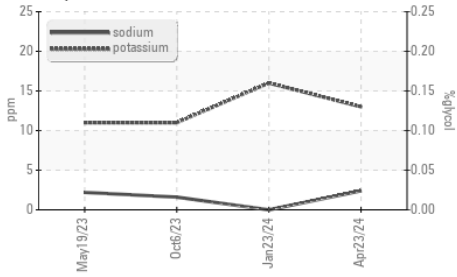


OIL ANALYSIS REPORT

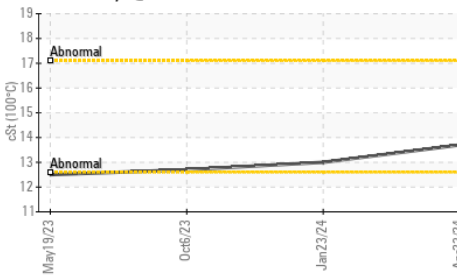
FT-IR (Direct Trend)



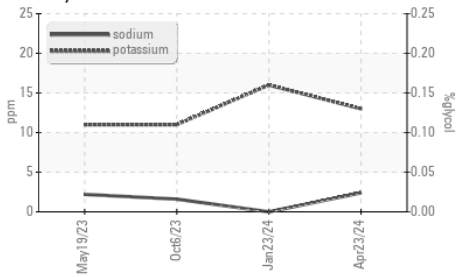
Glycol Contamination



Viscosity @ 100°C



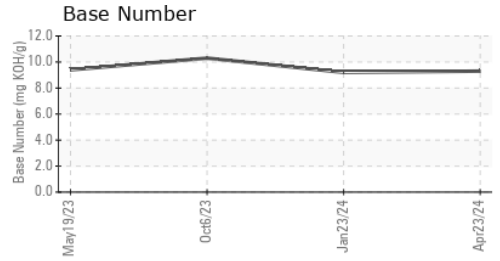
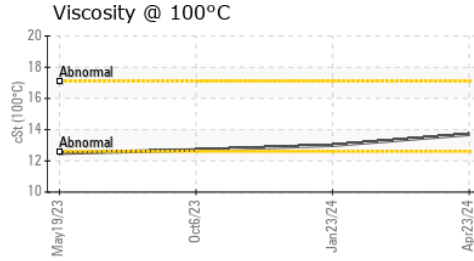
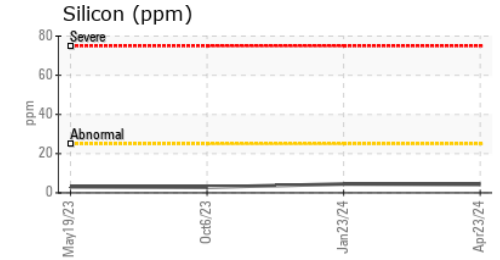
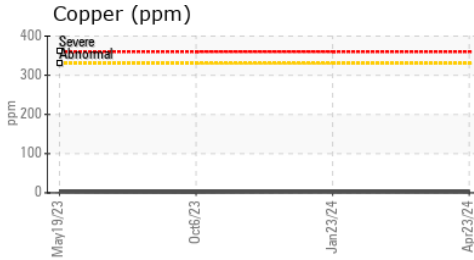
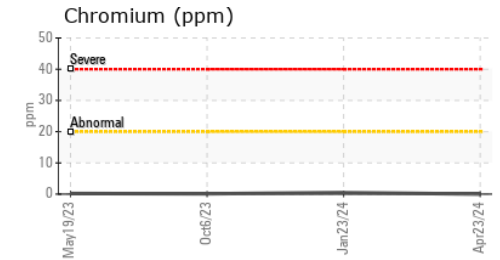
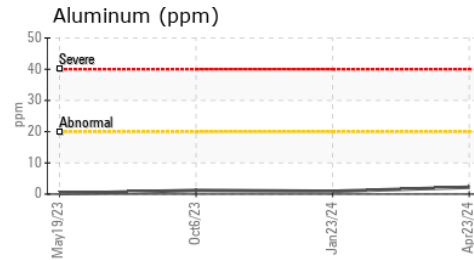
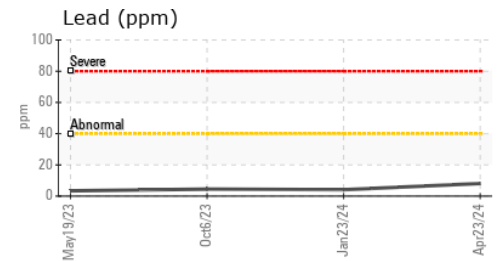
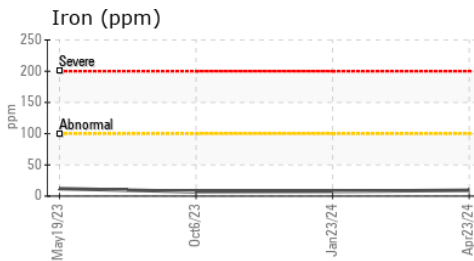
Glycol Contamination



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	13.7	13.0	12.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917246 **Received** : 17 May 2024
Lab Number : 06183816 **Tested** : 22 May 2024
Unique Number : 11035142 **Diagnosed** : 22 May 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

C.L. BENTON & SONS INC
 706 38TH AVE N
 MYRTLE BEACH, SC
 US 29577
 Contact: JAMIE HUCKS
 shop@clbenton.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)

T:
F: