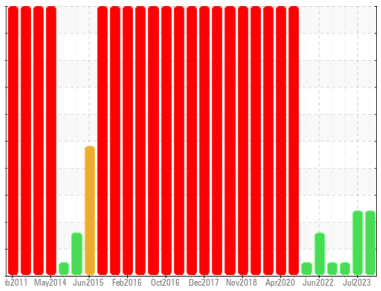
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Area
KEMP QUARRIES / MUSKOGEE SAND [66574]
Machine Id
WL042
Component
Front Right Final Drive
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

Sample Rating Trend



WATER

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: PM-1 sampled fluid. Axle was replaced. Oil was contaminated, changed)

Wear
Gear wear is indicated.

Contamination
There is a light concentration of water present in the oil.

Fluid Condition
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0087043**	PCA0084512	PCA0087106
Sample Date		Client Info		**24 Oct 2023**	11 Jul 2023	23 May 2023
Machine Age	hrs	Client Info		**33553**	32072	31670
Oil Age	hrs	Client Info		**33553**	32072	1720
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>800	▲ **903**	466	139
Chromium	ppm	ASTM D5185m	>10	**2**	2	<1
Nickel	ppm	ASTM D5185m	>5	**1**	2	<1
Titanium	ppm	ASTM D5185m	>15	**1**	2	1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>75	**8**	34	19
Lead	ppm	ASTM D5185m	>10	**0**	▲ 10	2
Copper	ppm	ASTM D5185m	>75	**14**	▲ 106	18
Tin	ppm	ASTM D5185m	>8	**<1**	▲ 6	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**4**	2	<1
Barium	ppm	ASTM D5185m	0	**19**	0	0
Molybdenum	ppm	ASTM D5185m	0	**2**	2	2
Manganese	ppm	ASTM D5185m	0	**8**	5	1
Magnesium	ppm	ASTM D5185m	9	**24**	25	19
Calcium	ppm	ASTM D5185m	3114	**3254**	2604	2620
Phosphorus	ppm	ASTM D5185m	1099	**986**	959	962
Zinc	ppm	ASTM D5185m	1245	**1174**	1160	1149
Sulfur	ppm	ASTM D5185m	7086	**7765**	4532	4252

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>400	**88**	210	94
Sodium	ppm	ASTM D5185m		**4**	2	0
Potassium	ppm	ASTM D5185m	>20	**3**	12	7
Water	%	ASTM D6304	>0.2	▲ **0.248**	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ **2480**	---	---

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	**0.2%**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

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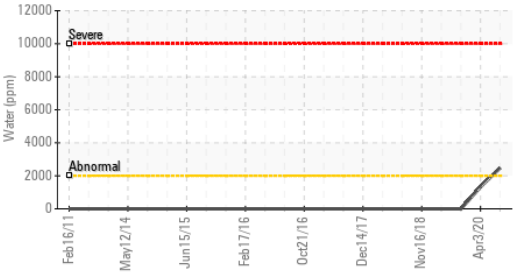
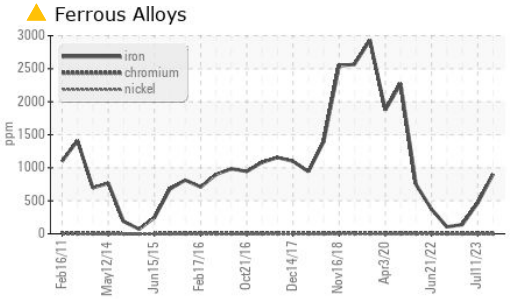
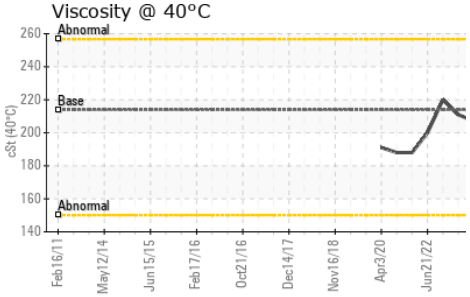
Water (KF)



Ferrous Alloys



Viscosity @ 40°C

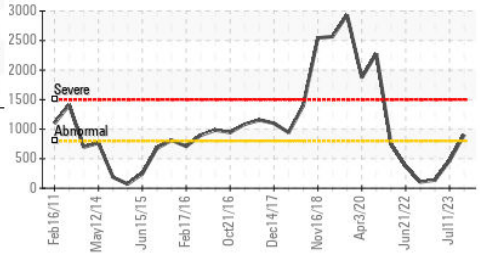


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	**197**	207	211

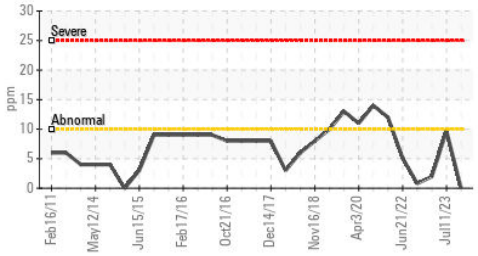
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			*no image*	*no image*	*no image*
Bottom			*no image*	*no image*	*no image*

GRAPHS

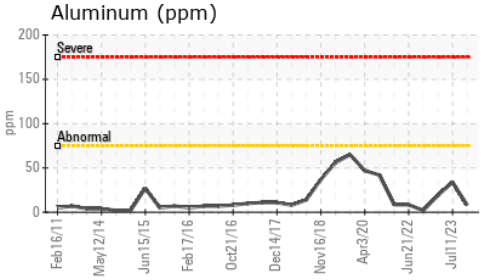
Iron (ppm)



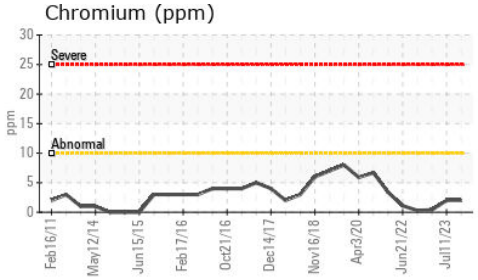
Lead (ppm)



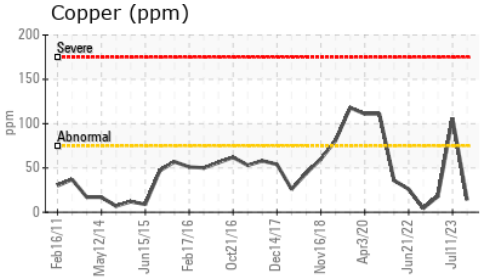
Aluminum (ppm)



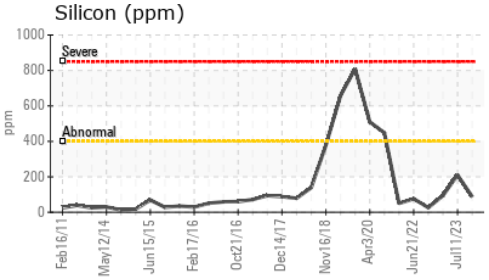
Chromium (ppm)



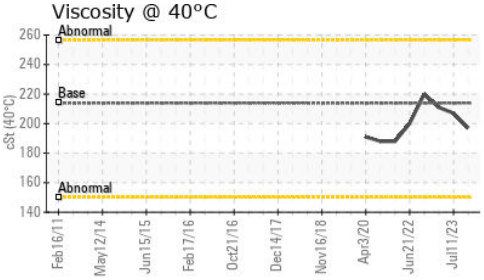
Copper (ppm)



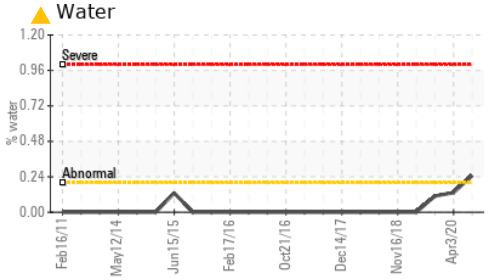
Silicon (ppm)



Viscosity @ 40°C



Water



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0087043 **Received** : 30 Oct 2023
Lab Number : 05993856 **Diagnosed** : 01 Nov 2023
Unique Number : 10722216 **Diagnostician** : Sean Felton
Test Package : MOB 1 (Additional Tests: KF)

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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